10th Edition

iMac®

For Dummies®

A Wiley Brand

Personalize your iMac and navigate macOS®

Surf the web, create Reminders, and make FaceTime® video calls

Store your photos and files within iCloud®

Mark L. Chambers

Author of *MacBook For Dummies, 7th Edition*

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Contents at a Glance

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Introduction

S keptical about your new anodized aluminum iMac, with that supercharged Intel processor? Perhaps you're thinking it's too doggone thin, or you're wondering where all the buttons are. Shouldn't there be places to plug in cables?

Ladies and gentlemen, I have great news for you: Not only did you make The Right Decision about which computer to buy, but you also shot a hole in one! Today's iMac and iMac Pro have everything a computer power user could want: speed, the latest in hardware and standards, a top-of-the-line LED screen, and all the connectors you need to add just about any device meant for today's computers.

I wrote this book especially for the proud iMac owner who wants to make the most of this stunning new aluminum computer, so this book is a guide to the iMac and iMac Pro, *Mojave* (the latest version of Apple's superb macOS operating system), and the digital lifestyle and productivity applications that Apple provides. I start by describing the basics that every iMac owner should know. Then I move on to chapters devoted to the software that comes with your iMac. Along the way, you come across a generous sprinkling of power-user tips and tricks that save you time, effort, and money.

Foolish Assumptions

So who is the target audience for this book? As in past editions, I make no assumptions about your previous knowledge of computers and software. I figure you've either just bought a brand-new iMac or iMac Pro (or you're considering buying one). Perhaps you've found a great bargain on a gently used older iMac model, and you'd like guidance as you learn the ropes. Those are the *only* assumptions I make . . . and unlike other books that require all sorts of technical experience and know-how, the only requirement between these covers is your desire to become an iMac *power user* (someone who produces the best work in the least amount of time and has the most fun doing it)!

By the way, if your friends and family told you that you're going to spend half your life savings on software — or that no "decent" software is available for Mac computers — just smile quietly to yourself! Both iMac models come complete with about a ton more software than any Windows box, and those applications are better than anything available on a PC!

This book was written using the latest iMac computer, so owners of older iMac computers might not be able to follow along with everything I cover. However, if you've upgraded an older Intel iMac with macOS Mojave (and the latest Apple applications) then you should be able to use most of the book with no problem.

About This Book

In writing about the iMac, I've kept one precept firmly in mind: macOS Mojave, the operating system you'll run, is just as important as the actual iMac computer itself. Therefore, you'll find that *iMac For Dummies* is just as much about familiarizing you with all the software you get as it is with introducing you to hardware features like your keyboard and mouse. After all, it's relatively easy to connect an entire forest of cables and turn on any new computer. What comes *next* is the challenging part!

As in my other *For Dummies* titles, I respect and use the same English language you do, avoiding jargon, ridiculous computer acronyms, and confusing techno-babble whenever possible.

If you're upgrading from a PC running the Windows operating system, I've got tips, tricks, and entire sections devoted to those hardy pioneers called *Switchers!* You'll discover both the similarities and differences between the iMac running Mojave and the PC running Windows. I also show you how to make the switch as easy and quick as possible.

A word about the conventions I use: Even with an absolute minimum of techno-speak, this book needs to cover the special keys that you have to press or menu commands that you have to choose to make things work. Therefore, please keep this short list of conventions in mind as you read:

>> **Stuff you type:** If I ask you to type (or enter) something, such as in a text box or field, that text appears in bold, like this:

Type me.

If I ask you to type a command within an application, that text appears like this (and note that you usually have to press the Return key before anything happens):

```
Type me.
```

>> **Menu commands:** I list menu paths and commands using another format. For example, this instruction indicates that you should click the Edit menu and then choose the Copy menu item:

Edit⇨Copy

>> **Web addresses:** No up-to-date book on a computer would be complete without a bag full of web addresses for you to check out. When you see these in the text, they look like this: www.m1cbooks.com.

Icons Used in This Book

Like other technology authors, I firmly believe that important nuggets of wisdom should *stand out on the page!* With that in mind, this *For Dummies* book includes margin icons for certain situations:

This is the most popular icon in the book, and you find it parked next to suggestions that I make to save you time and effort (and sometimes even cash!).

You don't have to know this stuff, but the technologically curious love high-tech details. (Of course, we're great fun at parties, too.)

Always **read the information before you take action!** I'm discussing something that could actually harm your hardware or throw a plumber's helper into your software.

Consider these nuggets to be highlighter stuff — not quite as universally accepted (or as important to the author) as a Mark's Maxim (described next), but good reminders nonetheless. I use these icons to reinforce what you should remember.

Mark's Maxims: These are *MFR*s (short for My Favorite Recommendations). In fact, I'll bet just about any iMac power user would tell you the same. Follow my Maxims to avoid the quicksand and pitfalls that I've encountered with all sorts of Macs for three decades!

Beyond the Book

Thanks to my good friends at Wiley, there's a ton of extra content to accompany this book that you won't find between the covers! Fire up your Safari browser and go online to find the following:

» **Cheat Sheet:** I've created several Cheat Sheet pages that cover things like common keystrokes and maintenance procedures that every iMac owner should follow on a regular basis. To get this Cheat Sheet, simply go to `www.dummies.com` and enter **iMac For Dummies Cheat Sheet** in the Search box.

» **Bonus Chapters:** If you're dying to find out how to share data among wireless devices via Bluetooth technology, check out the handy Bluetooth bonus chapter at the Wiley website (`www.dummies.com`) as well as at my website (`www.mlcbooks.com`). You'll also find a spiffy bonus chapter dedicated to running Windows on your iMac using Boot Camp!

Where to Go from Here

Each chapter in this book is written as a reference on a specific hardware or software topic. You can begin reading anywhere you like because each chapter is self-contained. However, I recommend that you read the book from front to back because the order of this book makes a great deal of sense.

1

Getting Started with Your iMac

IN THIS CHAPTER

» **Identifying the important parts of your iMac**

» **Locating the right home for your computer**

» **Plugging stuff in and getting hooked up**

» **Playing with your bundled software**

» **Buying additional stuff that you might need**

Chapter **1**

Okay, This Machine Looks Really, Really Weird

You bought a brand-new iMac or iMac Pro, and there it sits, in the box. Waiting. Waiting for you.

If you're a little nervous about unpacking that shiny aluminum and glass rectangle, I completely understand. Face it: The latest iMacs follow in the footsteps of many revolutionary iMac designs that have come before. In other words, it doesn't *look* like a computer at all, and that can be a bit disconcerting. And if you're switching from a Windows PC to the Apple universe, you might find yourself floating weightlessly in your office or your living room without a familiar bulky black PC case to anchor yourself — hence, the reluctance you might be feeling.

However, dear reader, let me assure you that you've indeed made the right choice. I commend you! Today's line of Intel iMacs are the fastest, leanest, and easiest-to-use self-contained all-in-one computer ever built. Practically everything's in

one shining panel (except for your keyboard and mouse). You have one of the best backlit LED screens on the planet, a super-fast processor, plenty of RAM (memory), and a regular laundry list of the latest technology. Best of all, you don't have to be a techno-nerd to use all that power!

In this chapter, I introduce you to your new dream machine – whether you choose the standard iMac or its powerful big brother, the iMac Pro – and give you an overview of the most important locations within iMac City. I show you how to unpack your new computer, what wires go where, and where your iMac should set up housekeeping. I preview the awesome software that's waiting within that powerful panel. Finally, I list the accessories that help keep both you *and* your new iMac computing smoothly.

iMac or iMac Pro – That Is the Question

Until recently, the iMac was offered in only a single model, identified by the year it was produced and the size of the screen. With the arrival of the iMac Pro, our venerable computer is now available in two models:

» The iMac is the standard home and small-office version, offering enough power for all of the Apple applications I cover in this book – as well as gaming, entry-level photography, music production and video editing work. This is "the iMac for Most Of Us," as I call it, with the right mix of performance and affordability. The iMac also offers two display sizes.

» The iMac Pro is the equivalent of a supercar, built for high-end, expensive applications that demand the best performance possible: professional-level video editing, 3D modeling, image editing and other processor-intensive programs. Apple jams plenty of memory and some of today's fastest processors into the iMac Pro. The downside? You're going to pay top dollar for an iMac Pro. *Period*.

Since both iMac models can run the applications I present later in the book, I won't be differentiating much between the iMac and iMac Pro (except when I'm describing hardware features in this chapter). If you haven't purchased your iMac yet, remember that the standard iMac model offers plenty of performance for the average Mac owner. (That's why I own an iMac!)

Here's a good yardstick for comparing the iMac to the iMac Pro, presented as a Mark's Maxim:

If you need the power of an iMac Pro, you're likely to know that already.

MARK'S
MAXIM

An Introduction to the Beast

The Intel iMac might look like a sculpture straight out of a museum of modern art, but it still sports everything that it needs to function as a computer. In this section, I identify the important stuff that you need to live your life — you know, write a term paper in Pages, hear the music you downloaded in iTunes, or manage the affairs of those lazy Sims.

Major parts of your major appliance

Every computer requires some of the same gizmos. Figure 1-1 helps you track them down. Of course, as you'd expect, a computer has a "body" of sorts in which all the innards and brains are stored (the screen, in this case), a display screen, a keyboard, a mouse or trackpad, and ports for powering and exchanging data with peripherals.
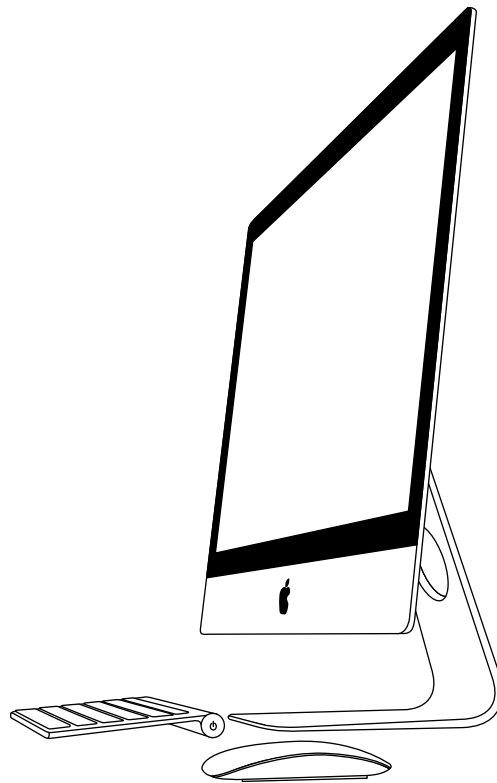
FIGURE 1-1: The charismatic form of your aluminum iMac.

That magnificent screen

What a view you have! The standard iMac is graced with either a 21.5″ Retina or 27″ 5K Retina display, and the iMac Pro uses a 27″ 5K Retina display. Both models feature display backlighting for outstanding color and brightness.

TECHNICAL STUFF

LED screens use far less electricity than their antique CRT ancestors, and they emit practically no radiation (less, in fact, than even the LCD screens Apple once used).

All of these displays offer a *widescreen* aspect ratio (the screen is considerably wider than it is tall), which augurs well for those who enjoy watching movies. (A favorite editor of mine loves it when I use the antique word *augur,* meaning *to predict or foretell.*) For example, both the 27″ iMac and the iMac Pro displays boast a whopping 5120 × 2880 resolution.

TIP

That reminds me: Throw away your printed dictionary! You won't need it because macOS Mojave includes both a handy Dictionary widget and a fantastic Dictionary application! (Each one uses the Internet to retrieve definitions.) More on launching applications and widgets in Chapter 3 . . . and yes, both do contain the word *augur.*

The keyboard and mouse

Hey, here's something novel for our favorite all-in-one computer — something *external* (outside the computer's case). Gotta have a keyboard and mouse (or trackpad), right? And you gotta love the options with iMac: You'll go nomadic . . . um, that is, wireless and free.

The iMac comes standard with a truly 21st-century combo of an Apple wireless Magic keyboard and a Magic Mouse 2. (The Magic Trackpad 2 is also available for $50 more.) This dynamic duo lets you sit back and relax with your keyboard in your lap and without being tied down by a cord. (Say it with me: "Death to cords, death to cords.") Just stay within about 30 feet of your iMac screen, and sweet freedom is yours. You can also feel safe using these wireless peripherals because they offer secure 128-bit, over-the-air encryption, which helps keep sensitive information safe while you type and click away. One downside of the wireless keyboard, though: Unlike older wired keyboards, the wireless model doesn't include any USB ports, and you will need a supply of batteries. (Go rechargeable!)

TIP

If you prefer using a wired keyboard and mouse, they'll work fine with your iMac (and you can forget batteries altogether). Don't forget, however, that your keyboard needs to be Mac-compatible.

The keyboard layout is a particular favorite of mine because from here:

» You can either control the sound volume (using the volume control buttons F11 and F12) or mute all that noise (using the Mute button F10).

» Mission Control, Launchpad, and Dashboard — three outstanding features of Mojave that you find out about later in the book — are each available with a single keystroke.

» A handy-dandy Media Eject key lets you eject a CD or DVD (if you have an external optical drive).

REMEMBER

Today's iMac models don't have a built-in optical drive. If you have one of these machines, don't drive yourself batty looking for a disc slot!

TECHNICAL STUFF

Both the wireless Magic Mouse 2 and Magic Trackpad 2 need a flat surface to rest upon, but that's what TV trays are for, right?

Yes, your computer has a foot . . . just one

You and I — normal human beings — would say that the iMac is supported by a sturdy aluminum *stand,* but Apple calls it a *foot.* The foot lets you tilt the iMac/iMac Pro panel up and down for the best viewing angle. Most important, though, the foot minimizes the computer's desk space requirements (or its *footprint*). (Engineers . . . sheesh.) And yes, that foot is perfectly balanced and quite stable, so there's no danger of your treasured aluminum supercomputer taking a dive.

If you decide to get really snazzy and mount your iMac Pro to the wall, you can remove the foot and install the VESA mounting adapter (available separately for about $80). You can use any VESA standard mounting bracket on your wall, too. You can be positioned within 30 feet or so of your wall-mounted iMac Pro with a wireless Apple keyboard and mouse (or trackpad).

Hey, Hewlett-Packard or Dell, can you mount one of those monolithic desktop PCs to the wall? *I think not.*

Food for your ears

A machine this nice had better have great sound, and the iMac doesn't disappoint. You have a couple of options for iMac audio:

» The iMac sports built-in stereo speakers (and a microphone to boot). The iMac Pro raises the bar with stereo speakers and four microphones.

>> Built-in ports connect your iMac audio to either:

- More powerful (and more expensive) external speaker systems

- A set of headphones (including the Apple iPhone headset)

- A home stereo system

You can also use wireless Bluetooth speakers with your iMac.

The power cable

Sorry, but you can't get a wireless power system . . . yet. (Apple's working hard on that one.) With the wireless keyboard and mouse/trackpad setup, though, the power cable is actually the only required cable that you need to run your computer! Now, that's *sassy.*

The power button

Yep, you have one of these, too. It's on the back of the case. (If you're looking at the screen, it's at the lower-left corner.)

Those holes are called ports

Our next stop on your tour of Planet iMac is Port Central — that row of holes on the back of your computer (see Figure 1-2). Each port connects a different type of cable or device, allowing you to easily add all sorts of extra functionality to your computer.
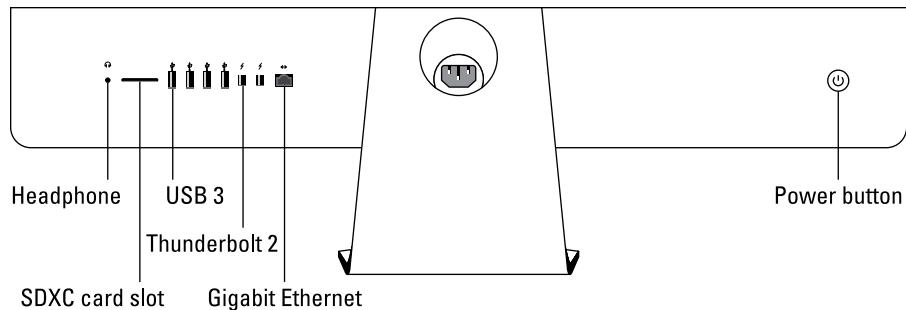
FIGURE 1-2: Only slightly less sexy — it's the back end of a standard iMac.

Headphone   USB 3   Power button

Thunderbolt 2

SDXC card slot   Gigabit Ethernet

One of the holes is an exception to the Rule of Ports: The iMac's SDXC card slot accepts the same type of SD memory cards as most of today's digital cameras and video cameras. (In other words, that hole is not for connecting a cable; you insert the card instead.) The SDXC slot appears as a tiny vertical slot.

Each of these stellar holes is identified by an icon. Here's a list of what you'll find as well as a quick rundown on what these ports do:

>> **USB:** Short for *Universal Serial Bus,* the familiar USB port is the jack-of-all-trades in today's world of computer add-ons. Most external devices (such as portable drives, scanners, and digital cameras) that you want to connect to your iMac use a USB port. Both current iMac models sport four USB 3.0 ports on the back. USB 3.0 connections are much faster than the old USB 2.0 standard, but you can still use your USB 2.0 devices with the faster ports (at the slower speed, of course).

For the specs on connecting your keyboard and mouse, see the upcoming section "Absolutely essential connections."

For more on USB ports, get the lowdown in Chapter 21.

>> **Ethernet:** The standard iMac includes a standard 10/100/1000 (1Gb) Ethernet port, so it's ready to join your existing wired Ethernet network. (Alternatively, you can go wireless for your network connection; find more on that in the next section and in Chapter 11.) On the iMac Pro side, hold onto your hat: the Pro also supports 2.5Gb, 5Gb and even an amazing 10Gb Ethernet connection! (Apple knows that professionals are more likely to use a superfast network between computers.)

>> **Thunderbolt 3:** Yes, I know, it's a dumb name, but it really *is* that fast. Thunderbolt 3 (also called USB-C) ports offer the absolute speediest connection between external devices and your iMac, including the fastest (and most expensive) external drives and storage systems. Thunderbolt 3's appeal doesn't end there, though: In case that splendid screen isn't quite big enough, you can add an adapter or cable to this port and send the video signal from your iMac to an Apple Thunderbolt monitor, a standard LCD/LED monitor, or a flat-screen TV. (Apple also offers different adapters that can connect your iMac to standard VGA monitors and projectors.) The standard iMac model sports two Thunderbolt 3 ports, while the iMac Pro includes four Thunderbolt 3 ports.

Connections for external audio

Your iMac comes equipped with two pretty powerful stereo speakers on the bottom of the case, but you're certainly not limited to them. Apple provides a Headphone/Audio Line Out jack, allowing you to send the high–quality audio from your rectangular beast to a set of standard headphones or to an optical digital audio device, such as a high–end home theater system.

You can also connect USB or Bluetooth speakers to your iMac.

Important hidden stuff

When you bought your new digital pride and joy, you probably noticed a number of subtle differences between the standard 21.5″ iMac, the 27″ iMac, and the über-expensive top-end iMac Pro. I call these differences the *Important Hidden Stuff* (or IHS, in case you prefer acronyms), and they're just as important as the parts and ports that you can see:

>> **Internal drive:** The current iMac can be equipped with either a traditional serial ATA (SATA) hard drive or flash storage (also called a *solid-state drive,* or SSD). Apple also offers a *Fusion Drive,* which is essentially a combination of a SATA drive and flash storage (offering the larger capacity of a SATA drive and the improved performance of flash storage).

TECHNICAL STUFF

As I type these words, the iMac product line offers several different storage capacities, depending on the processor speed and screen size you choose: anywhere from a standard 1TB SATA drive to an immense 4TB solid-state drive. (Yes, friends and neighbors, *TB* means *terabyte,* or 1,000GB.) The bigger, the better. (Remember, though, that the iMac has room for only one internal drive.)

>> **Wireless Ethernet:** "Look, Ma, no wires!" As I mention earlier, your iMac can join an existing wireless Ethernet network with its built-in wireless hardware. With wireless connectivity, you can share documents with another computer in another room, share a single high-speed Internet connection among several computers, or enjoy wireless printing. Truly *sassy!*

TIP

Although Apple would want you to build your wireless wonderland with an Apple AirPort Extreme Base Station or a Time Capsule unit — go figure — you can actually use your iMac with any standard 802.11g, 802.11n, or 802.11ac wireless network. And yes, PCs and Macs can intermingle on the same wireless network without a hitch. (Scandalous, ain't it?) Since Apple's AirPort devices have been discontinued, however, you'll have to do some searching online to locate an Apple Base Station or Time Capsule.

>> **Bluetooth:** Let's get the old "digital pirate" joke out of the way: "Arrgh, matey, I needs me a wireless parrot." (Engineers again . . . sheesh.) Although strangely named, Bluetooth is actually another form of wireless connectivity. This time, however, the standard was designed for accessories like your keyboard and mouse, and devices like your tablet and smartphone. Bluetooth is built into every Intel iMac.

>> **SDXC card slot:** As I mention earlier, this slot allows your iMac to read photos and video directly from standard SD memory cards. Photographers and video fans, rejoice!

>> **FaceTime HD camera:** The iMac built-in video and still camera appears as a tiny lens and activity light at the top of your computer.

» **Video card:** You'll be pleased as punch to find that your iMac comes equipped with either Intel Iris Plus or fast AMD Radeon Pro graphics hardware. The AMD Radeon Pro cards are well suited for entry-level 3D applications, and . . . well, honestly, blasting the enemy into small, smoking pieces with aplomb. Proud owners of iMac Pro models can choose from the Radeon Vega 56 or Vega 64, which are currently two of the most powerful video cards on the market for desktop computers. These cards are worthy of Hollywood-quality video editing and the most demanding 3D applications.

Choosing a Home for Your New Pet

If you pick the wrong spot to park your new iMac or iMac Pro, I can *guarantee* that you'll regret it later. Some domiciles and office cubicles obviously don't offer a choice — you've got but one desk at work, for example, and nobody's going to hand over another one — but if you can select a home for your iMac, consider the important placement points in this section.

Picking the right location

You know the mantra: Location, location, location.

WARNING

» **There's always the wall.** Your iMac Pro can disguise itself as a particularly interesting digital picture frame. With the right mounting adapter, you can hang your computer right on the wall and snub your desk altogether.

This wall-mounted solution has three big problems:

- Your VESA mounting plate must be installed safely and correctly (for example, using the studs within your walls).

  The iMac Pro is slim and trim, but it's no lightweight, and it doesn't bounce well. You don't want it to take a high dive!

- You may have to remove your iMac from the wall mount to connect or disconnect cables from the ports on the back.

- External peripherals aren't happy campers with a wall-mounted iMac Pro — that includes Thunderbolt and USB devices, which must either sit on the floor or on a nearby (and conspicuous) shelf. (Personally, I think the cables for external devices tend to spoil the appearance of a wall-mounted computer, so if you're using a wall mount, I recommend using a wireless Apple Time Capsule device for your backups!)

Your iMac Pro must be mounted at the proper height on the wall. It's not good ergonomic practice to sit more than two feet away from your screen, and the screen should be placed at (or slightly below) eye level.

My solution? Don't plan on using any external devices. Instead, opt for a wireless network with a remote printer and remote backup storage space, like a Time Capsule unit on your network.

» **Keep things cool.** Your new iMac is nearly silent, but that super-fast Intel processor generates quite a bit of heat. Fans inside the case draw the heat away. (Nothing like an overheated processor to spoil an evening of *Civilization VI.*)

Follow these three rules to keep your cool. Make sure that:

- The location you choose is far from heating vents.

- The location you choose is shielded from direct sunlight.

- You allow plenty of room below the machine (where the air enters the case) and behind the machine (where heated air escapes from the slot at the back of the case).

Hot air from a wall-mounted iMac Pro can discolor the wall.

Considering the convenience factor

Technology is nothing if you can't make it convenient:

» **Outlets, outlets, outlets!** Your computer needs a minimum of at least one nearby AC outlet and perhaps a nearby Ethernet jack (if you use the iMac's built-in Ethernet port for connecting to a wired Ethernet network). Oh, and don't forget a surge protector or uninterruptible power supply (UPS), which I discuss at the end of this chapter.

If you prefer to send your data over the airwaves, consider using wireless networking for your iMac. I discuss everything you need to know about wireless networking in Chapter 11.

» **Don't forget the lighting.** Let me act as your mom. (I know that's a stretch, but bear with me.) She'd say, "You can't possibly expect to work without decent lighting! You'll go blind!" She's right, you know. At a minimum, you need a desk or floor lamp.

» **Plan to expand.** If your iMac hangs out on a desk, allow an additional foot of space on each side. That way, you have space for external peripherals and more powerful speakers.

Unpacking and Connecting

You are going to love this section. It's short and sweet because the installation of an aluminum iMac on your desktop is a piece of cake. (Sorry about the cliché overload, but this really *is* easy.)

Unpacking your iMac For Dummies

Follow these guidelines when unpacking your system:

» **Check for damage.** I've never had a box arrive from Apple with shipping damage, but I've heard horror stories from others (who claim that King Kong must have been working for the shipping company). Check all sides of your box before you open it.

Take a photograph of any significant damage (just in case).

» **Search for all the parts.** When you're removing those chunks o' foam, make certain that you check all sides of each foam block for parts that are snuggled therein or taped for shipment.

» **Keep all those packing materials.** Do *not* head for the trash can with that box and those packing materials. Keep your box intact, complete with all the packing materials, for at least a year until your standard Apple warranty runs out. If you have to ship it to an Apple Service Center, the box with the original packing is the only way for your iMac to fly.

And now, a dramatic Mark's Maxim about cardboard containers:

Smart computer owners keep their boxes for the life of their machine.

For example, if you sell your iMac or move across the country, you'll want that box. *Trust me on this one.*

» **Store the invoice for safekeeping.** Your invoice is a valuable piece of paper indeed.

Save your original invoice in a plastic bag, along with your computer's manuals and original software, manuals, and other assorted hoo-hah. Keep the bag on your shelf or stored safely within that iMac box, and enjoy a little peace of mind.

» **Read the iMac manual.** "Hey, wait a minute, Mark — why do I have to read the manual from Apple along with this tome?" Good question, and here's the answer: There might be new and updated instructions in the documentation from Apple that override what I tell you in this book. (For example, *"Never* cut the red wire. Cut the blue wire instead." Or something to that effect.)

Besides, Apple manuals are rarely thicker than a restaurant menu. You can also download them from the Support section of the Apple website.

Connecting cables like a true nerd

The iMac makes all its connections really simple, but your computer depends on you to place the outside wires and thingamabobs where they go.

Absolutely essential connections

After your new iMac is resting comfortably in its assigned spot (I assume that's a desktop or a wall), you need to make a minimum of one connection: the power cable. Plug the cable into the corresponding socket on the iMac first; then plug 'er into that handy AC outlet.

> **TIP**
>
> Apple has thoughtfully already installed your batteries in your wireless keyboard and mouse (or trackpad). If you ordered your iMac with a wired Apple keyboard, of course, you have no batteries to worry about at all.

Adding the Internet to the mix

If you have Internet access or a local computer network, you need to make at least one of the following connections.

> **TIP**
>
> Your local cable and telephone companies can provide you more information on cable or DSL Internet service.

If you have high-speed Internet service, or if you're in an office or school with a local computer network, you'll probably connect through the iMac's built-in Ethernet port. You make two connections:

1. **Plug one end of the Ethernet cable into the Ethernet port on the iMac.**
2. **Plug the other end of the Ethernet cable into the Ethernet port from your network.**

    It's probably one of the following:

    - An Ethernet wall jack
    - An Ethernet switch
    - A cable or DSL Internet router (or sharing device)

> **TIP**
>
> Will you be joining a wireless network? If so, look to Chapter 11 to find all the details you need to configure Mojave for wireless networking.

Discovering All the Cool Things You Can Do

This section answers the most common of all novice computer questions: "What the heck will I *do* with this thing?" You find additional details and exciting factoids about the software that you get for free, software you'll want to buy, and stuff you can do on the Internet.

What software do I get?

Currently, all iMac computers ship with these major software applications installed and ready to use:

» **Apple's digital lifestyle applications:** You know you want these applications! They turn your iMac into a digital hub for practically every kind of high-tech device on the planet, including DV camcorders, digital cameras, portable music players, tablets, and even smartphones.

Chapters 13 through 16 of this book focus on the four major applications that accompany your iMac: iTunes, Photos, iMovie, and GarageBand.

» **Apple's productivity applications:** Apple's powerful office productivity applications can be downloaded for free from the App Store. You can create documents, spreadsheets, and presentations within Pages, Numbers, and Keynote. (It's much like that Other Office Suite from those guys in Redmond, but you didn't hear that from me.) Chapters 17–19 show you the basics of producing great documents with these three applications.

Figure 1-3 illustrates a flyer under construction in Pages.

FIGURE 1-3:
Pages is a great tool for home and office.

The installed software on your iMac might change as new programs become available.

Looking forward to fun on the Internet

What is a modern computer without the Internet? Apple gives you great tools to take full advantage of every road sign and off ramp on the Information Super-highway, right out of the box:

>> **Web surfing:** I use the Safari web browser every single day. It's faster and better designed than other browsers (although I might be biased). Safari includes tabbed browsing and offers shared bookmarks with your iOS devices through iCloud.

If *tabbed browsing* and *shared bookmarks* sound like ancient Aztec to you, don't worry. Chapter 8 is devoted entirely to Safari.

>> **Web searches:** Your Dashboard widgets can search the entire Internet for stocks, movie listings, business locations, and dictionaries.

>> **FaceTime:** You can videoconference with someone using another Mac, or even with those using iOS devices like the iPhone and the iPad. You'll find more on FaceTime in Chapter 12.

>> **Messages:** *Messages* lets you use your iMac to chat with others around the world for free via the Internet — by keyboard, voice, or (with your iMac's built-in FaceTime HD web camera) full-color video. This is awesome stuff straight out of Dick Tracy and Buck Rogers. If you've never seen a video chat, you'll be surprised by just how good your friends and family look!

Always wear a shirt when videoconferencing.

>> **Email:** Soldier, Apple's got you covered. The macOS Mail application is a full-featured email system, complete with defenses against the torrent of junk mail awaiting you. (Imagine a hungry digital saber-toothed tiger with an appetite for spam.) Send pictures and attached files to everyone else on the planet, and look doggone good doing it.

Applications that rock

Dozens of useful applications are included with macOS. I mention the most important of them in later chapters, but here are three good examples to whet your appetite:

>> **Calendar:** Keep track of your schedule and upcoming events, and even share your calendar online with others in your company or your circle of friends. Figure 1-4 illustrates Calendar in action.

>> **DVD Player:** Got an external optical drive for your iMac? Put all that wide-screen beauty to work and watch your favorite DVD movies with DVD Player! You have all the features of today's most expensive standalone DVD players, too, including a spiffy onscreen control that looks like a remote.

>> **Contacts:** Throw away that well-thumbed collection of fading addresses. The macOS Contacts application can store, search, and recall just about any piece of information on your friends, family, and acquaintances.

TIP

You can use the data you store in your Contacts in other Apple applications that are included with Mojave, such as Apple Mail and Messages.
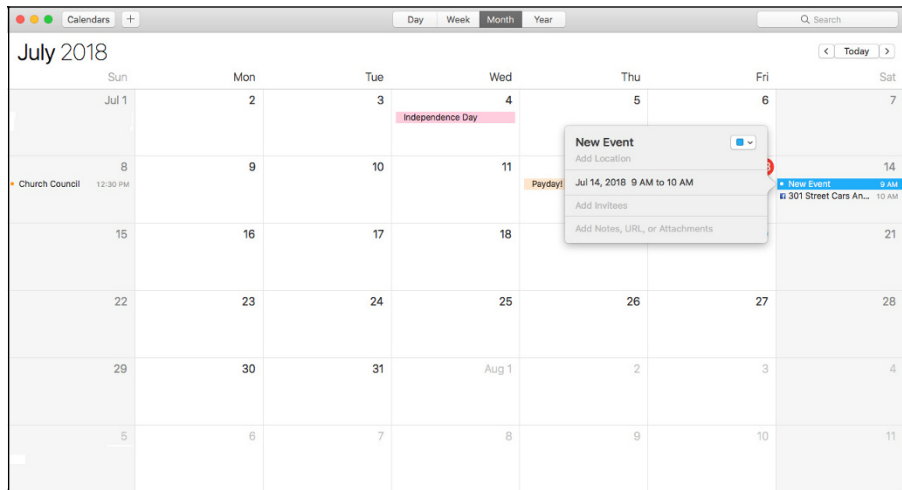
Would you like to play a game?

"All productivity and no play . . ." Hey, even a hard-working person like you enjoys a good challenging game, so you can look forward to playing Chess on your iMac right out of the box. Ah, but this isn't the chessboard your dad used! Play the game of kings against a tough (and configurable) opponent — your iMac — on a beautiful 3D board. Heck, your iMac even narrates the game by speaking the moves!

Stuff You Oughta Buy Right Now

Your new aluminum supercomputer may need an additional purchase or two — but fear not, we're not talking any outrageous expense here. I always recommend the same set of stuff for new PC and Mac owners. These extras

help keep your new computer clean and healthy (and some make sure you're happy as well):

- >> **Surge suppressor or uninterruptible power supply (UPS):** Even an all-in-one computer like your iMac can fall prey to a power surge. I recommend one of these:

  - A *basic surge suppressor* with a fuse can help protect your iMac from an overload.

  - A *UPS* costs a little more, but it does a better job of filtering your AC line voltage to prevent brownouts or line interference from reaching your computer.

    A UPS also provides a few minutes of battery power during a blackout so that you can save your documents and safely shut down your iMac.

- >> **Screen wipes:** Invest in a box of premoistened screen wipes. Your iMac Pro's awe-inspiring 5K Retina display can pick up dirt, fingerprints, and other unmentionables faster than you think.

  Make sure your wipes are especially meant for flat-panel monitors or laptop computer screens.

- >> **Blank optical discs and USB flash drives:** Many folks still consider an optical drive important, so if you'll miss watching DVD movies and importing/recording audio CDs, I'll bet you've already bought an external drive — and you'll need blank discs for recording music, video, and data. USB flash drives come in many different capacities, and your iMac treats a flash drive just like a traditional external drive. If you want the best performance from a flash drive, buy a USB 3.0 drive; they're significantly faster than the older 2.0 drives. (All current iMac models sport USB 3.0 ports.)

- >> **Cables:** Depending on the external devices and wired network connectivity you'll be using, these are:

  - A standard Ethernet cable (for wired networks or high-speed Internet)

  - Thunderbolt or USB cables for devices you already have

  Most hardware manufacturers are nice enough to include a cable with their products, but there are exceptions, especially USB printers. *Shame on those cheapskates!*

- >> **A wrist rest for both your keyboard and mouse:** You might have many reasons to buy a new iMac, but I know that a bad case of carpal tunnel syndrome is *not* one of them. Take care of your wrists by adding a keyboard and mouse rest (even for a wireless keyboard/mouse combo hanging out on a TV tray).

Chapter **2**

Life! Give My iMac Life!

I f you've already been through Chapter 1, you got as far as unpacking your iMac and connecting at least one cable to it. And unless you bought this computer solely as a work of modern art, it's time to actually turn on your iMac and begin living The Good iLife. (Plus you still get to admire that Apple design whilst using iTunes.) After you get your new beauty powered on, I help you here with an initial checkup on your iMac's health.

I also familiarize you with the initial chores that you need to complete — such as using macOS Setup as well as moving the data and settings from your existing computer to your iMac — before you settle in with your favorite applications.

In this chapter, I assume that macOS Mojave (version 10.14) was preinstalled on your iMac or that you just completed an upgrade to Mojave. (If you're upgrading, your iMac is already turned on — and you can skip the next section!)

Throwing the Big Leaf Switch

Your iMac's power switch is located on the back of the computer, at the lower-left corner of the case (as you look at the screen). Press it now to turn on your iMac, and you hear the pleasant startup tone that's been a hallmark of Apple computers

for many years now. Don't be alarmed if you don't immediately see anything onscreen because it takes a few seconds for the initial Apple logo to appear.

REMEMBER In my experience, a simple, quick press of the power button on some iMacs sometimes just doesn't do it. Instead, you actually have to hold down the button for a count of two or so before the computer turns on.

While the Apple logo appears, you see the familiar "moving bar" progress indicator appear. That's the sign that your iMac is loading Mojave. Sometimes the bar can take a bit to disappear. As long as it's moving, though, something good is happening — after all, Mojave has to load file sharing, networking, and printing components (and such).

At last, your patience of a whole 5 to 10 seconds is rewarded, and you see the Mojave Setup Assistant appear.

Mark's Favorite Signs of a Healthy iMac

Before you jump into the fun stuff, don't forget an important step: a quick preliminary check to make sure that your iMac survived shipment intact and happy. Although the shipping box that Apple uses for the iMac series is one of the best I've ever encountered in 40 years of swapping computer hardware, your computer could still have met with foul play from its shipping travels.

If you can answer yes to each of these questions, your iMac likely made the trip without serious damage:

1. **Does the computer's chassis appear undamaged?**

   It's pretty easy to spot damage to your iMac Pro's svelte metal and glass design. Look for scratches, puncture damage, and misalignment of the screen.

2. **Does the LED screen work, and is it undamaged?**

   I'm talking about obvious scratches or puncture damage to your screen. Additionally, you should check whether any individual dots (or *pixels*) on your LED monitor are obviously malfunctioning. Bad pixels either appear black or in a different color from everything surrounding them.

   TECHNICAL STUFF Techs call these irritating anarchists *dead pixels.* Unfortunately, many new LED screens include one or two. After all, even the low-end 21.5" iMac screen sports more than 1 million pixels.

3. **Can you feel a flow of air from the vent on the back?**

Your iMac's Intel processor, internal drive, and power supply generate quite a bit of heat, so the fan system never turns off completely. If you don't feel warm air from the fan system after your iMac has been on for a minute or two, you might have a problem.

4. **Do the keyboard and mouse work?**

Check your iMac's Bluetooth connection by moving the mouse (or running your finger across the trackpad); the cursor should move on your screen. To check the keyboard, press the Caps Lock key and observe whether the green Caps Lock light turns on and off. (Don't forget to check for good batteries in all your wireless input devices and make sure they're turned on.)

If your iMac reports that there's no Bluetooth keyboard, mouse, or trackpad present, remember that you can always connect a standard Mac USB keyboard and pointing device to help you troubleshoot the problem. You'll find information on connecting (or *pairing*) Bluetooth accessories in the Bluetooth Bonus Chapter, available at www.dummies.com and my website, www.mlcbooks.com.

If you do notice a problem with your iMac (and you can still use your Safari browser and reach the web), you can make the connection to an Apple support technician at www.apple.com. If your iMac is lying on its back with its foot in the air and you can't get to the Internet, you can check your phone book for a local Apple service center, or call the AppleCare toll-free number at (800) 275-2273. Chapter 20 also offers troubleshooting information.

Harriet, It's Already Asking Me Questions!

After your iMac is running and you've given it the once-over for obvious shipping damage, your next chore is to set up your iMac. Unlike most other tasks in this book, I don't cover the setup process step by step. Apple "tweaks" the questions that you see during setup on a regular basis, and the questions are really very easy to answer. Everything is explained onscreen, complete with onscreen Help if you need it.

However, I do want you to know what to expect as well as what information you need to have at hand. I also want you to know about support opportunities, such as the AppleCare Protection Plan and Apple's iCloud Internet services — hence, this section. Consider it a study guide for whatever your iMac's setup procedure has to throw at you.

Setting up macOS Mojave

After you start your iMac for the first time — or if you just upgraded from an ear-lier version of macOS — your iMac will likely automatically launch the Mojave setup procedure. The setup process takes care of several tasks:

>> **Setup provides Mojave your personal information.**

As I mention in Chapter 1, your iMac ships with a bathtub full of applications, and many of those use your personal data (like your address and telephone number) to automatically fill out your documents.

Apple has recently strengthened its efforts to guard your privacy online. If personal stored information starts you worrying about identity theft, I congratulate you. If you're using your common sense, it *should.* However, Apple doesn't disseminate this information anywhere else, and the applications that use your personal data won't send it anywhere, either. And the Safari web browser fills out forms on a web page automatically only if you give your permission — and security-conscious iMac owners like me prefer to enter things manually. I applaud Apple's decades-long commitment to privacy and security, and I trust them with my personal data.

>> **Setup configures your language and keyboard choices.**

macOS Mojave is a truly international operating system, so Setup offers you a chance to configure your iMac to use a specific language and keyboard layout.

>> **Setup configures your email accounts within Apple Mail.**

If you already have an email account set up with your Internet service provider (ISP), keep that email account information handy to answer these questions. (The list should include the incoming POP3/IMAP and outgoing SMTP mail servers you'll be using, your email address, and your login name and password. Don't worry about those crazy acronyms, though, because your ISP will know exactly what you mean when you ask for this information.) Mojave can even automatically configure many email accounts for you — including web-based services such as Google Mail, Yahoo! Mail, and AOL Mail — if you supply your account ID and password. *Sweet.*

>> **Setup allows you to sign up for an iCloud ID and Apple's iCloud service.**

iCloud makes it easy to share data automatically between your iMac and devices like an iPhone or iPad, along with Apple email accounts (through both web mail and the Apple Mail application). I go into all these in more detail in Chapter 9. For now, just create your iCloud ID (also often called an Apple ID), sign up for iCloud, and take the opportunity to feel smug about owning an Apple computer.

>> **Setup sends your registration information to Apple.**

As a proud owner of an iMac, take advantage of the year of hardware warranty support and the free 90 days of telephone support. You have to register to use 'em, but rest assured that all this info is confidential.

>> **Setup launches Migration Assistant.**

This assistant guides you through the process of *migrating* (an engineer's term for *copying*) your existing user data from your old Mac or PC to your new iMac. Naturally, if your iMac is your first computer, you can skip this step with a song in your heart! (Read more on Migration Assistant in the section "Importing Documents and Data from Your Old Mac.")

Registering your iMac

I'll be honest here: I know that many of us (myself included) don't register every piece of computer hardware we buy. However, your iMac is a different kettle of fish, and I *strongly* recommend that you register your purchase with Apple during the setup process. You spent a fair amount of moolah on your computer, and it's an investment with a significant number of moving parts.

Even the hardiest of techno-wizards would agree with this important Mark's Maxim:

If you don't register your iMac, you can't receive support from Apple.

Rest assured that Apple is not one of those companies that constantly pesters you with email advertisements and near-spam. I've registered every Apple computer I've owned, and I've never felt pestered. (And I have an *extremely* low tolerance for pester.) However, just in case your tolerance is even lower than mine, Apple's registration process allows you to disable this email communication.

Importing Documents and Data from Your Old Mac

If you're upgrading from an older Mac computer running macOS to your new iMac, I have great news for you: Apple includes the Migration Assistant utility application that can help you copy (whoops, I mean, *migrate*) all sorts of data

from your old Mac to your new machine. The list of stuff that gets copied over includes:

>> **User accounts:** If you set up multiple user accounts (so that more than one person can share the computer), the utility ports them all to your new iMac.

>> **Network settings:** Boy howdy, this is a real treat for those with manual network settings provided by an ISP or network administrator! Migration Assistant can re-create the entire network environment of your old Mac on your new iMac.

>> **System Preferences settings:** If you're a fan of tweaking and customizing macOS to fit you like a glove, rejoice. Migration Assistant actually copies over all the changes that you've made within System Preferences on your old Mac! (Insert sound of angelic chorus of cherubim and seraphim: *Hallelujah!*)

>> **Documents:** The files in your Documents folder(s) are copied to your new iMac.

>> **Applications:** Migration Assistant tries its best to copy over the third-party applications that you've installed in your Applications folder on the older Mac. I say *tries its best* because you might have to reinstall some applications, anyway. Some developers create applications that spread out all sorts of files across your hard drive, and Migration Assistant just can't keep track of those nomadic files. Also, some other applications make the trek just fine, but you might have to re-enter their serial numbers.

TIP

Setup launches Migration Assistant automatically if you indicate that you need to transfer stuff during the setup process, but you can also launch Migration Assistant manually at any time. Click the Launchpad icon on the Dock (which bears a rocket-ship icon); then click the Search box at the top of the screen and type the word *Migration*. Click the Migration Assistant icon to launch the application. Note that Migration Assistant will close any running applications, so make sure to save and close any open documents.

To use Migration Assistant to copy your system from your older Mac, you need one of the following:

>> **Wired or wireless network connection between the computers:** If you've already hooked up your new iMac to your wired or wireless Ethernet network while using Setup Assistant, eschew cables completely and click Use Network instead. (Note, however, that a Wi-Fi migration will be much slower than migrating with either a direct cable connection or a wired network connection.)

>> **Thunderbolt cable** (compatible with all recent iMac, Mac mini, Mac Pro and MacBook models): A Thunderbolt connection will transfer your data between the two computers at lightning speed! (Bad pun intended.) Apple sells a Thunderbolt cable that's perfect for the job for $49 at the Apple Store.

> ❯❯ **Time Machine external drive or an AirPort Time Capsule backup unit:** If you're using Time Machine on the older Mac with an external drive, you can migrate directly from your most recent backup — just plug your external Time Machine drive into your new iMac. The same option applies if you've invested in Apple's Time Capsule wireless backup device.

If you'll be using a Thunderbolt cable, make sure that the two machines are connected with the cable first. If you're using a network connection, both computers should be connected to the same network. Typically, you'll also have to load Migration Assistant on the source Mac (or a free Windows program downloaded from `www.apple.com`, if the source computer is a PC.)

After the two computers are connected, simply follow the onscreen instructions displayed within the Migration Assistant window. The application will lead you through the process step by step. If you need to return to the previous step at any time, click the Back button that appears at the bottom of the screen.

Manually Importing Documents and Data from Windows

If you're a classic Windows-to-Mac *Switcher,* you made a wise choice, especially if you're interested in the creative applications supplied by Apple. Although you can choose to start your Apple computing life anew, you probably want to migrate some of your existing documents and files from that tired PC to your bright, shiny new iMac.

If you're switching from a PC to a Mac, you can run the Windows version of the Migration Assistant on your PC (available from Apple's website) to automatically handle most of your migration tasks for you, and you should witness the miracle of your PC's photos, video, music, and documents suddenly appearing on your iMac. Unfortunately, you'll have some exceptions. Some stuff won't make the move because the Windows Migration Assistant simply can't recognize and transfer files and folders from some nonstandard locations. For example, folders you created yourself at the root of your PC's hard drive likely won't be recognized, and naturally, your Windows programs won't run under macOS (without creating a Boot Camp partition, which I discuss in the nearby sidebar titled "Switching from a PC to . . . an Apple PC?").

Here's the good news, though: You can easily copy those files that weren't transferred! Moving items manually from a USB flash drive or over a network is easy.

TIP

The macOS Help system contains an entire subsection on specific tricks that you can use when switching from Windows to Mac, including how to connect to a Windows network and how to directly connect the two computers.

In general, you can move documents, movies, photos, and music without a problem. Table 2-1 illustrates what can be moved between Windows (versions 7, 8, 8.1, and 10) and macOS, as well as the application that you use in Mojave to open those files and documents.

TABLE 2-1 **Moving Media and Documents betwixt Computers**

File Type	Windows Location	macOS Location	Mac Application
Music files	My Music folder	Music folder	iTunes
Video and movie files	My Videos folder	Movies folder	QuickTime/DVD Player/iTunes
Digital photos	My Pictures folder	Pictures folder	Photos
Office documents	My Documents folder	Documents folder	Mac Office/Open Office/Pages, Numbers and Keynote

SWITCHING FROM A PC TO . . . AN APPLE PC?

With the Mojave Boot Camp feature, you can actually create a full Windows 10 system on your iMac. Yup, Windows and Mojave coexist peacefully *on the same computer*. However, you have to reboot your computer to use your iMac as a Windows system, and you can't install Windows at all without retaining at least a basic macOS system. (All this is covered in detail in the Boot Camp Bonus Chapter, which you can download at www.dummies.com.)

This capability brings a whole new meaning to the term *Switcher* because some iMac owners are moving their stuff from Windows (running on their old PC) to . . . well, Windows (running on their new iMac) rather than Mojave. If you do decide to create a Windows system on your iMac by using Boot Camp, the files and folders on your existing PC can be copied directly by using a good old-fashioned Windows wizard. You can use the Windows Easy Transfer utility (in Windows 7 and 8). Windows 8.1 and 10 users will need a third-party application to move files and folders, such as PCmover Express from Laplink (www.laplink.com).

Chapter **3**

The Basics Behind macOS Mojave

A h, the Finder. Many admire its scenic beauty. But don't ignore its unsur-passed power or its many moods. And send a postcard while you're there.

Okay, so the Mojave Finder might not be *quite* as majestic as the mighty desert region it's named after, but it's the basic toolbox you use every day while piloting your iMac. The Finder includes the most common elements of macOS: window controls, common menu commands, icon fun (everything from launching applications to copying files), keyboard shortcuts, and even emptying the Trash. In fact, you could say that if you master the Finder and learn how to use it efficiently, you're on your way to becoming a power user!

This chapter is your Finder tour guide, and we're ready to roll. I satisfy your curiosity about your new playground and introduce you to the basic elements of the Mojave Desktop, and I outline the resources available if you need help with macOS.

Oh, and I promise to use honest-to-goodness English in my explanations, with a minimum of engineer-speak and indecipherable acronyms. (In return, promise that you will boast about Mojave to your family and friends. Aunt Harriet might not be as technologically savvy as we are.)

Your Own Personal Operating System

Mojave is a special type of software called an *operating system* (or *OS,* as in *macOS*). This means that Mojave essentially runs your iMac or iMac Pro and allows you to run all your other applications, such as iTunes and Photoshop. It's the most important computer application — or *software* — that you run.

TIP

Think of a pyramid, with Mojave as the foundation and other applications running on top.

You're using the OS when you aren't running a specific application, such as these actions:

>> Copying files from a USB flash drive (also called a *thumb drive*) to your internal drive

>> Navigating through files and folders on your drive

>> Choosing a different screen saver

Sometimes, Mojave even peeks through an application while it's running. For example, macOS controls application actions such as these:

>> The Open, Save, and Save As dialogs you see when working with files in Photoshop

>> The Print dialog that appears when you print a document in Pages (Apple's desktop publishing application)

In the following sections, I escort you around the most important hotspots in Mojave, and you meet the most interesting onscreen thingamabobs you use to control your laptop. (I told you I wouldn't talk like an engineer!)

The Mojave Desktop

The Mojave Desktop isn't made of wood, and you can't stick your gum underneath. However, this particular desktop does work much like the surface of a traditional desk. You can store things there, organize things into folders, and take care of important tasks such as writing and drawing (using tools called *applications*). Heck, you even have a clock and a trash can.

Gaze upon Figure 3-1 and follow along as you venture to your Desktop and beyond. I discuss each of these Desktop elements in more detail later in this chapter.
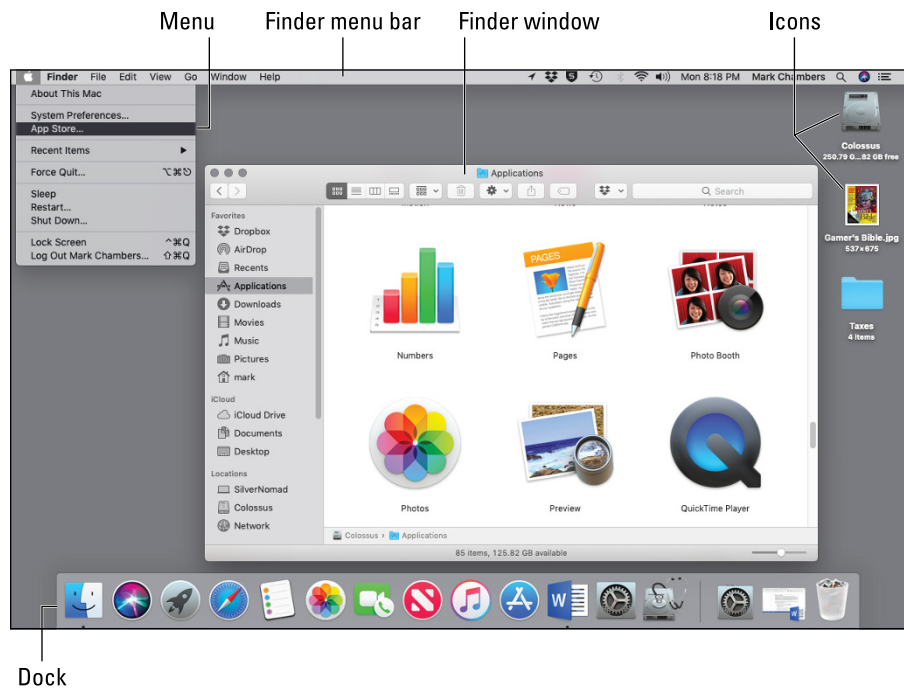
FIGURE 3-1: Everything Mojave starts here — the macOS Desktop.

Meet me at the Dock

The Dock is a versatile combination: one part organizer, one part application launcher, and one part system monitor. From the Dock, you can launch applications — for example, the postage stamp icon represents the Apple Mail application, and clicking the spiffy compass icon launches your Safari web browser. Icons in the Dock also allow you to see what's running, and display or hide the windows shown by your applications.

Each icon in the Dock represents one of the following (many of which are proudly displayed in Figure 3-2):

>> An application you can run (or that is running)

>> An application window that's *minimized* (shrunk)

>> A web page URL link

>> A document or folder on your system

>> A network server, shared document, or shared folder

>> Applications you've recently launched

>> Your Trash

The Dock is highly configurable:

>> It can appear at different edges of the screen.

>> It can disappear until you move the pointer to the edge to call it forth.

>> You can resize it.

Dig those crazy icons

By default, Mojave always displays at least one icon on your Desktop: your iMac's internal drive. To open a drive and view or use the contents, you double-click the icon. Each icon is a shortcut of sorts that represents something, including:

>> CDs and DVDs (if you have an optical drive).

>> External drives and USB flash drives.

» Applications and documents.

» Files and folders.

» Network servers you access.

Note that an icon can represent applications you run and documents you create. Sometimes you **single**-click an icon to watch it do its thing (as in the Dock), but usually you **double**-click an icon to make something happen.

There's no food on this menu

The menu bar isn't found in a restaurant. You find it at the top of the Desktop, where you can use it to control your applications. Virtually every application you run on your iMac has a menu bar.

To use a menu command, follow these steps:

1. **Click the menu title (such as File or Edit).**

2. **Choose the desired command from the list that appears, as shown in Figure 3-3.**
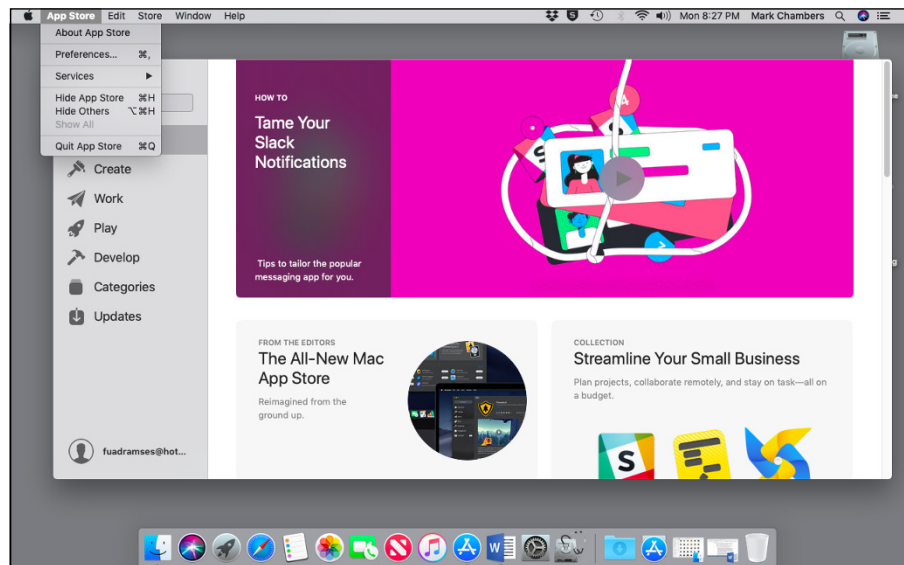
FIGURE 3-3:
Clicking a menu displays a list of menu commands.

When you click a menu, it extends down so that you can see the commands it includes. While the menu is extended, you can choose any enabled menu item (just click it) to perform that action. You can tell that an item is enabled if its

name appears in black(or white, if you're using the Dark Mode color scheme). Conversely, a menu command is disabled if it appears grayed out. Clicking it does nothing.

REMEMBER

When you see a menu path printed in this book (such as File⇨Save), it's just a visual shortcut that tells you to click the File menu and then choose Save from the drop-down menu that appears.

Virtually every Mac application has some menus, such as File, Edit, and Window. You're likely to find similar commands within these menus. However, only two menus are in *every* macOS application:

» The *Apple menu,* which is identified with that jaunty Apple Corporation icon (). This is a special menu because it appears in both the Finder menu bar and the menu bar in every application you run. It doesn't matter whether you're in iTunes or Photoshop or Word. If you can see a menu bar, the Apple menu is there. The Apple menu contains common commands to use no matter where you are in Mojave, such as Restart, Shut Down, and System Preferences. Figure 3-3 proudly displays the Apple icon at the upper left.

» The *Application menu,* which always bears the name of the active application. For instance, the DVD Player menu group appears when you run the Mojave DVD Player, and the Word menu group appears when you launch Microsoft Word. Figure 3-3 illustrates the Application menu for the App Store.

TIP

You can also display a context or shortcut menu — which regular human beings call a *right-click menu* — by right-clicking the Mojave Desktop, an application, a folder, or a file icon with your mouse. (If your iMac is equipped with a trackpad, you can right-click by tapping the trackpad with two fingertips. I'll explain more on clicking and tapping later in the section, "Wait a Second: Where the Heck Are the Mouse Buttons.")

The Finder menu bar is your friend

Whenever the Finder itself is ready to be used (or, in Mac-speak, whenever the Finder is the *active* application), the Finder menu bar appears at the top of the screen. You know the Finder is active and ready when the word *Finder* appears at the left of the menu bar.

There's always room for one more window

You're probably already familiar with the ubiquitous window itself. Both Mojave and the applications you run use windows to display things such as:

» The documents you create

» A web page

» Your photographs

» The contents of your drive

For example, the window shown in Figure 3-1 is a Finder window, where Mojave gives you access to the applications, documents, and folders on your system. You use Finder windows to launch applications, to perform disk chores such as copying and moving files, and to navigate your drives.

Wait a Second: Where the Heck Are the Mouse Buttons?

Mojave takes a visual approach to everything, and what you see in Figure 3-1 is designed for point-and-click convenience. That's because the mouse (or track-pad) are your primary navigational tools while you're using your iMac. Of course, you move the body of the mouse and the pointer follows like an obedient pup. Likewise, you move your finger over the surface of the trackpad to move the pointer. (The faster you move your finger, the farther the pointer goes.) When your pointer is over the desired item, you tap it (or *click* it, if you prefer the more familiar term), it opens, you do your thing, and life is good.

But wait! If you've grazed on the other side of the fence — one of Those Who Were Once Windows Users — you're probably accustomed to using a mouse with at least two buttons. This brings up the nagging question: "Hey, Mark! Where the heck are my mouse buttons?" Or perhaps you're thinking even farther out of the box, and you ordered a Magic Trackpad 2 as your pointing device of choice. Again, no buttons!

In a nutshell, the "buttons" on your iMac's Magic Mouse 2 (or Magic Trackpad 2) are the entire top surface! Although you won't see any separate buttons for clicking, your Magic pointing device can tell when you tap with one finger (to single-click). iMac owners should think "tap" whenever they read "click" in the Apple world. If you've used an iPhone, iPad, or iPod touch, the idea of *tapping* something onscreen makes perfect sense. (In this book I refer to the *pointer* whether you're using the trackpad or a mouse.)

TIP

To configure everything Magic Mouse 2 — including all your buttons and your double-click/tracking/scrolling speeds — visit the Mouse pane within System Preferences. You can also configure your wireless mouse from here as well. Similarly, you can configure your wireless Magic Trackpad 2 using the Trackpad pane.

Speaking of right-clicking, you can easily configure your Apple pointing device to recognize a right-click (also called a *secondary click*) within System Preferences. Tapping the top-right corner (of a Magic Mouse 2) or tapping with two fingers (on the Magic Trackpad 2) performs the same default function in Mojave that clicking the right mouse button does in Windows. Namely, when you right-click most items — icons, documents, even your Desktop — you get a *shortcut menu* of things. That is, you get more commands specific to that item. (To keep familiar things familiar, I call it the "right-click menu," and I promise to refer to it as such for the rest of the book.)

Figure 3-4 shows a typical convenient right-click menu in a Finder window. I have "extra" cool items at my disposal on this menu because of the applications I've installed that make use of a right-click menu.

WARNING

If you're using a Magic Trackpad 2 with your iMac, never use any object other than your finger (or a trackpad stylus) on the trackpad surface! That means no pencils (no, not even the eraser end), pens, or chopsticks; they can damage your trackpad in no time at all. And no, that doesn't bode well for long fingernails.

But that's not all. Apple's series of Multi-Touch gestures for your Magic Mouse 2 and Magic Trackpad 2 include all sorts of handy time-saving commands! Depending on the changes you make within the Mouse and Trackpad panes in System Preferences, these gestures can include:

FIGURE 3-4:
Welcome to your
shortcut menu!
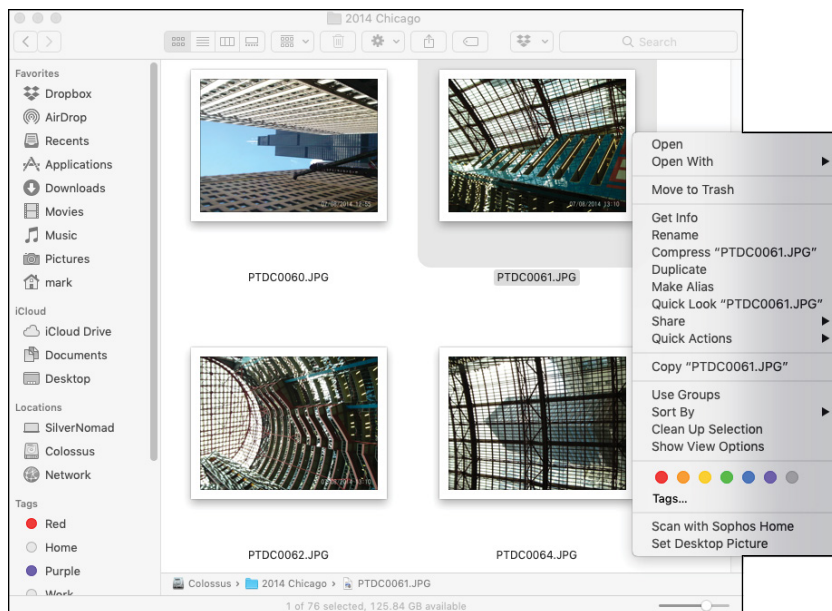
>> **Select the Tap to Click check box:** Now, when you tap once quickly any-
where on the mouse, your Mac counts that as a click. Tap twice quickly, and
your iMac recognizes that as a double-click.

>> **Select the Secondary Click check box:** A single tap with two fingers displays
the right-click menu (which I cover in more detail in a page or two).

>> **Enable the Look Up check box:** Tap the trackpad with three fingers to look
up a selected word in the Dictionary.

>> **Enable the Three Finger Drag check box:** (Sounds like a dance from the '60s,
doesn't it?) By using three fingers, you can drag around windows on your
Desktop to reposition them.

>> **Adjust your tracking speed:** Click and drag the Tracking speed slider to
speed up or slow down the rate at which the pointer moves.

In this book I refer to the *pointer* whether you're using the trackpad or a mouse.
I also use the term *button* from time-to-time for clarity — even though I've
already pointed out there aren't physical buttons on either of these devices, it's an
easy concept that we all recognize.

Launching and Quitting Applications with Aplomb

Now it's time to pair your newly found mouse or trackpad acumen with the Mojave Finder window. Follow along with this simple exercise. Move the pointer over the iTunes icon in the Dock. (This icon looks like a circle with a musical note on it.) Then tap the surface of your mouse or trackpad once (see the preceding section for how to set this preference). Whoosh! Mojave *launches* (or starts, or runs) the iTunes application, and you see a window much like the one shown in Figure 3-5.
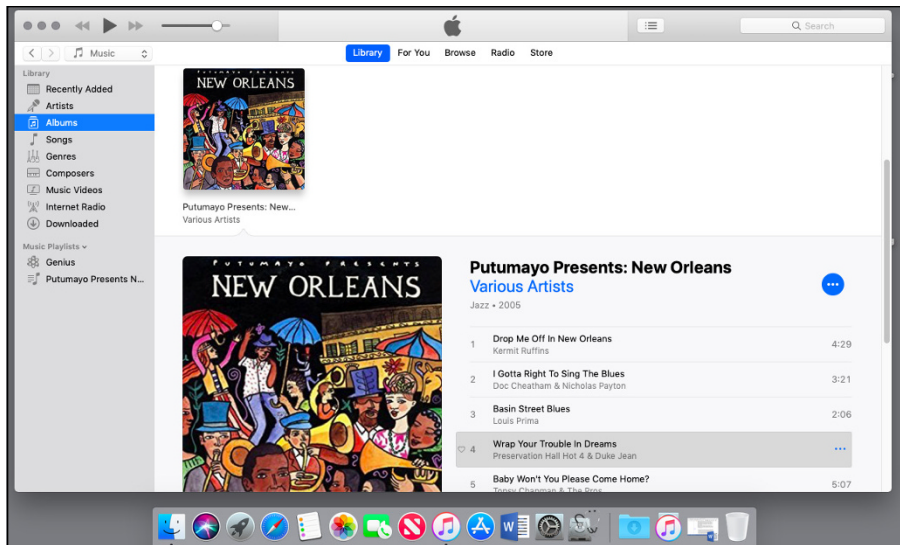
FIGURE 3-5: Click a Dock icon to launch that application.

If an application icon is already selected (which I discuss later in the chapter), you can simply press ⌘+O to launch it. The same key shortcut works with documents, too.

Besides the Dock, you have a plethora of other ways to launch an application or open a document in Mojave:

» **From the Apple menu (🍎):** You can launch a number of applications from anywhere in Mojave using the Apple menu. Click *System Preferences* to change all sorts of settings, such as your display background and how icons appear. Click *App Store* to launch the macOS App Store and display software that you can download for your iMac. (Most are commercial applications that you have to pay for, but many great free applications are available as well.) You can also use the App Store to see whether update patches are available for your Apple software.

» **From the Launchpad:** Arrange all your application icons in a full-screen display. (The Launchpad icon in the Dock bears a spiffy rocket.) If you have more than one screen (or *page*) worth of applications, press the arrow keys to move between Launchpad pages. To launch an application, just click the icon. (If you're the proud owner of an iPhone or iPad, the Launchpad is familiar, because it corresponds directly to the iOS Home screen on those devices.) The Magic keyboard sports a Launchpad button – press F4 to display or hide the Launchpad.

» **From the Desktop:** If you have a document you created or an application icon on your Desktop, you can launch or open it from the Desktop by *double-clicking* that icon (tapping the surface of the mouse or trackpad twice with one finger in rapid succession when the pointer is on top of the icon).

TIP

Double-clicking a device or network connection on your Desktop opens the contents in a Finder window. This method works for CDs and DVDs you've loaded, as well as external drives and USB flash drives. Just double-click 'em to open them and display their contents in a Finder window. Applications and documents typically launch from a CD, a DVD, or an external drive just like they launch from your internal drive (the one that's typically named *Macintosh HD*). So you don't have to copy stuff from the external drive just to use it. Note, however, that running an application directly from your optical or external drive usually causes the application to run significantly slower. (Oh, and don't forget that you can't change the contents of CDs and DVDs you buy in the store; they're read-only, so you can't write to them.)

» **From Siri:** Click the Siri icon at the right side of the Finder menu bar. When you see the Siri box appear (with the words *What Can I Help You With?* and the waveform), say "Launch" and the name of the application. For example, you can open Pages by saying "Launch Pages" – you'll see Siri display the words it hears.

» **From the Recent Items selection:** When you click the Apple menu and hover the pointer over the Recent Items menu item, the Finder displays all the applications and documents you used over the past few computing sessions. Click an item in this list to launch or open it.

» **From the Recent Applications group in the Dock:** If you enable the Recent Applications check box within the Dock pane in System Preferences, you'll see the icons for the last three applications you used at the right side of the Dock. Click one of these icons to launch that application.

» **From the Login Items list:** Login items are applications that Mojave launches automatically each time you log in to your user account. I cover login items in detail in Chapter 10.

» **From the Finder window:** You can also double-click an icon within the confines of a Finder window to open it (for documents), launch it (for applications), or display the contents (for a folder).

DIG THAT CRAZY LAUNCHPAD!

You can customize your Launchpad display by dragging icons to arrange them in the order you prefer. (For example, I have all the applications I use the most on the first Launchpad page.) Drag an application icon to the right or left side of the screen to move it to another page.

Launchpad, like a Finder window, allows you to create folders to help organize your applications. To create a folder in Launchpad, drag one application icon on top of another, and then add other icons by dragging them to the folder (or remove them by dragging them out of the folder). To run an application within a folder, click the folder icon to display the icons within it, and then click the desired application. To change a folder name, click the folder to open it, click the folder name to display a text-editing box, type the new moniker for the folder, and press Return.

If you want to remove an application from Launchpad — *which also deletes the application from your iMac entirely* — click the icon and continue pressing until the icons start to wiggle. (Yes, you read that correctly; I wrote *wiggle.* iPhone and iPad owners know what I mean.) Click the tiny delete (X) button that appears next to the icon whose application you want to delete, and the icon — and its application — disappear. Press Esc to stop all that wiggling. (Note that applications supplied with Mojave can't be deleted this way.)

TIP

The macOS Quick Look feature can display the contents of just about any document or file — but without actually opening the corresponding application! *Sweet.* To use Quick Look from a Finder window, click a file to select it, and then press the spacebar. (Quick Look is also incorporated into the new Mojave Gallery view, which I discuss in a page or two.)

After you finish using an application, you can quit that application to close its window and return to the Desktop. Here are a number of different ways to quit an application:

» **Press ⌘+Q.** This keyboard shortcut quits virtually every Mac application. Just make sure that the application you want to quit is currently active first (the application name should appear immediately to the right of the Apple menu).

» **Choose the Quit command from the application's menu.** To display the Quit command, click the application's named menu from the menu bar. As I just mentioned, this menu is always to the immediate right of the Apple menu. For example, Safari displays a Safari menu, and that same spot in the menu bar is taken up by Calendar when Calendar is the active application. Refer to Figure 3-3, and look for the App Store menu, right next to the Apple menu (🍎) at the very top of the figure.

>> **Choose Quit from the Dock.** You can right-click an application's icon in the Dock and then choose Quit from the menu that appears.

A running application displays a small dot under its icon in the Dock.

>> **Click the Close button in the application window.** Some applications quit entirely when you close their window, such as the System Preferences window or the Apple DVD Player. Other applications might continue running without any window, such as Safari or iTunes; to close these applications, you have to use another method in this list. (More on window controls like Close in the next section.)

>> **Choose Force Quit from the Apple menu.** *This is a last-resort measure!* Use this method only if an application has frozen and you can't use another method in this list to quit. Force-quitting an application doesn't save any changes to any open documents in that application!

Performing Tricks with Finder Windows

In the following sections of your introduction to macOS, I describe basic windows management in Mojave: how to view the contents of your iMac, move things around, how to close windows, and how to make windows disappear and reappear like magic.

Viewing your stuff

The default appearance of a Finder window in macOS uses the familiar large-format icons that have been a hallmark of the Mac since Day One. You can display the contents of a Finder window in *Icon view* by clicking the Icon View button on the Finder window toolbar. The Finder window shown in Figure 3-1 is using Icon view.

List view displays the folders in a hierarchical fashion, with each subfolder appearing indented underneath its parent folder. You can expand and collapse each folder by clicking the disclosure triangle next to the folder name. (Thanks, Apple, for such a unique name.) You can change to this view by clicking the List icon in the Finder toolbar.

Column view is my favorite — thanks, Apple! It's efficient and fast as all get-out. Click the Column icon in the Finder toolbar, and drives on your Mojave system are displayed on the left. Each column on the right represents a lower level of subfolders. When you click to select a file or program (rather than a folder), the Finder

displays a preview, a quick summary of the selected item and any Quick Actions in the right-most column.

Each column has its own, individual scroll bar (for those *really* big folders), and you can drag the column handle at the bottom of the separators to resize the column width to the left. When you hold down the Option key and drag a column handle, all columns are adjusted at one time.

Gallery view is new in macOS Mojave – click the Gallery View icon in the Finder toolbar to display a row of thumbnails at the bottom of the screen, which you can scroll through with the scroll bar at the bottom of the window. A click on any item displays a preview of the item that fills most of the window, along with file information (or metadata, if the item is an image) and any Quick Actions associated with the item.

Scrolling in and resizing windows

Can you imagine what life would be like if you couldn't see more than a single window's worth of stuff? Shopping would be curtailed quite a bit — and so would the contents of the folders on your iMac's drives!

That's why Mojave includes *scroll bars* that you can click and drag to move through the window's contents. (By default, scroll bars don't appear in Mojave until you move the pointer close to them.) You can:

» Click the scroll box and drag it. For the uninitiated, that means clicking the darker portion of the bar and holding down your finger on the mouse or trackpad surface while you move your finger in the desired direction.

» Click anywhere in the empty area above or below the scroll box to scroll pages one at a time.

» Hold down the Option key and click anywhere in the empty area above or below the bar to scroll to that spot in the document.

Figure 3-6 shows two vertical scroll bars in a typical Finder window, as well as the Sidebar and three Finder Tabs.

Often, pressing the Page Up and Page Down keys moves you through a document one page at a time. Also, pressing the arrow keys moves the insertion cursor one line or one character in the four compass directions.

You can also resize most Finder and application windows by enlarging or reducing the window frame itself. Move the pointer over any corner or edge of a window, and then drag the edge in any direction until the window is the precise size you need. (More information on dragging pops up later in this chapter.)

Close
Minimize
Zoom/Full screen
Finder tabs
New Tab
Sidebar
Scroll bars
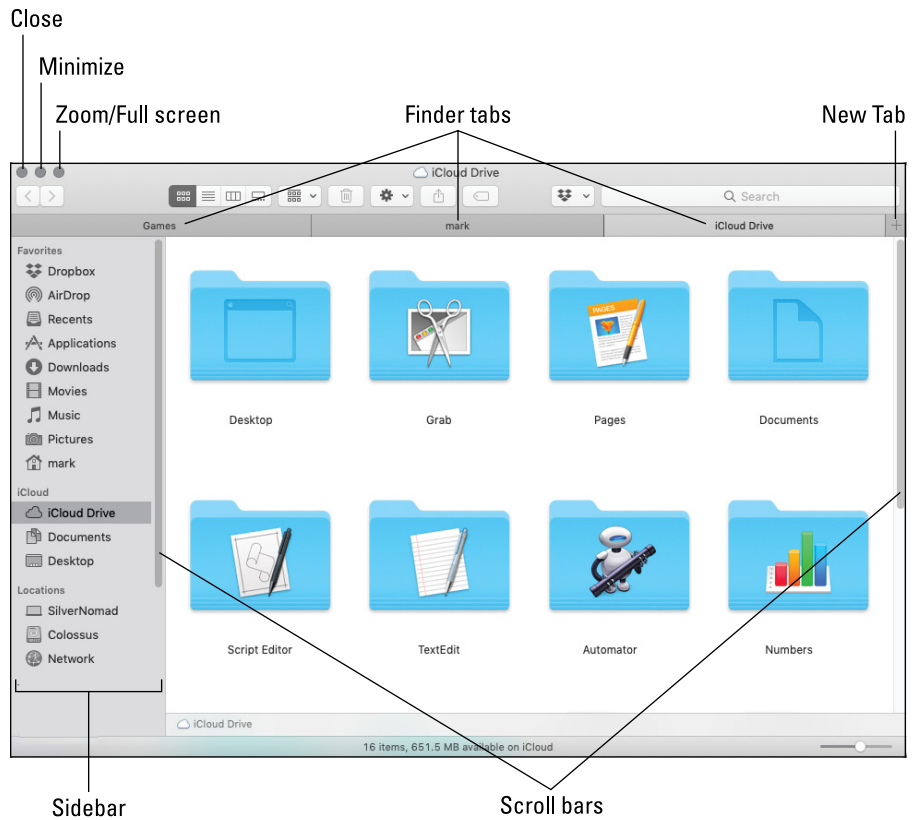
FIGURE 3-6:
A plethora of helpful window controls.

Minimizing and restoring windows

Resizing a window is indeed helpful, but maybe you simply want to banish the doggone thing until you need it again. That's a situation for the Minimize button, which also appears earlier, in Figure 3-6. A *minimized* window disappears from the Desktop but isn't closed; it simply reappears in the Dock as a miniature icon. Minimizing a window is easy: Move the pointer over the Minimize button (the second of the three buttons at the upper-left corner of the window) — a minus sign appears in the button to tell you you're on target — and then click.

TIP

You can set your Dock preferences so that double-clicking the window's *title bar* (the top frame of the window, which usually includes a document or application name) minimizes the window. (I cover Dock preferences in Chapter 5.)

To restore the window to its full size (and its original position on the Desktop), just click its window icon in the Dock.

Moving and zooming windows

Perhaps you want to move a window to another location on the Desktop so that you can see the contents of multiple windows at the same time. Click the window's title bar and drag the window anywhere you like. Then release the button. (Don't click the icon in the center of the title bar, though. You'll move just the icon itself, not the window.)

TIP

Many applications can automatically arrange multiple windows for you (examples include Microsoft Word and PowerPoint). Choose Window⇨Arrange All (if this option appears).

To see everything a window can show you, use the Zoom feature to expand any Finder or application window to its maximum practical size. Note that a zoomed window can fill the entire screen, or, if that extra space isn't applicable for the application, the window might expand to only a larger part of the Desktop.

To zoom a window, move your pointer over the third button at the top-left corner of the window. Again, refer to Figure 3-6, which struts its stuff and illustrates the position. (Man, that is one versatile figure.) A double-arrow icon appears on the Zoom/Full-Screen button. Click to expand your horizons to full-screen, or hold down the Option key while clicking to zoom the window to maximum size.

Speaking of *full-screen* mode, it comes in very handy on your iMac's beautiful widescreen display — that's where a single application fills the entire screen, without displaying a window frame or traditional Finder menu bar. The method you use to switch to full-screen mode varies depending on the application, so there's no One Menu Command or One Keyboard Shortcut that will always do the deed. Most of the applications included with macOS Mojave use View⇨Enter Full Screen, and many applications have a button you can click in the window to switch back and forth. A click on the Zoom/Full-Screen button switches most Apple applications into full-screen. Finder windows can also be switched to full-screen mode in Mojave! To exit full-screen mode, just press Esc.

So how do you switch between applications if they're all in full-screen mode?

» Move your pointer to the bottom of the screen to display the Dock, where you can click another application to switch to it.

» Invoke Mission Control and choose another application from there. (More about Mission Control later in this chapter.)

>> If you're using a trackpad, swipe three fingers to the left or right across the trackpad surface.

>> From the keyboard, use the ⌘+Tab shortcut to cycle through the applications you have running.

Closing windows

When you're finished with an application or you no longer need to have a window open, move the pointer over the Close button at the upper-left corner of the window (it's the first of the three circular buttons). When the X appears in the button, click it. And yes, I can make *one more* reference to Figure 3-6, which I'm thinking of nominating as Figure of the Year.

TIP
Perhaps you have more than one window open in the same application, and you want to close 'em all in one fell swoop. Hold down the Option key while you click the Close button in any of the windows.

REMEMBER
If you haven't saved a document, and you try to close that application's window, the application gets downright surly and prompts you for confirmation. "Hey, human, you don't really want to do this, do you?" If you answer in the affirmative — "Why, yes, machine. Yes, indeed, I do want to throw this away and not save it." — the application discards the document you were working on. If you decide to keep your document (thereby saving your posterior from harm), you can cancel the action and then save the document within the application.

ONLY ONE WINDOW CAN BE ACTIVE AT ONCE

MARK'S MAXIM

Here's a very special Mark's Maxim in the macOS universe:

Only one application window can be active in Mojave at any time.

You can always tell which window is active:

- The active window is on top of other windows. (You can still use a window's Close, Minimize, and Zoom buttons when the window is inactive.)

- Any input you make by typing or by moving your finger on the trackpad appears in the active window.

- macOS *dims* the title bars of inactive windows you haven't minimized.

Juggling Folders and Icons

Finder windows aren't just for launching applications and opening the files and documents you create. You can also use the icons in a Finder window to select one or more specific items or to copy and move items from place to place within your system.

A field observer's guide to icons

Not all icons are created equal. Earlier in this chapter, I introduced you to your iMac's drive icon on the Desktop. Here's a little background on the other types of icons you might encounter during your travels:

- » **Hardware:** These icons are your internal storage devices (such as your drive) as well as external peripherals — like an external DVD drive or a USB flash drive.

- » **Applications:** These icons represent the applications (or programs) you can launch. Most applications have a custom icon that incorporates the company's logo or the specific application logo. Double-clicking an application usually doesn't load a document automatically; you typically get a new blank document or an Open dialog box from which you can choose the existing file you want to open.

- » **Documents:** Many of the files on your hard drive are documents that can be opened in the corresponding application, as shown in Figure 3-7. Double-clicking a document automatically launches the associated application (that is, as long as macOS recognizes the file type).
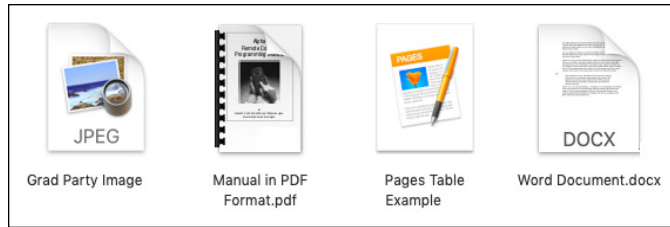
>> **Files:** Most of the file icons on your system are mundane things such as preferences and settings files, text files, log files, and miscellaneous data files. Yet most are identified with at least some type of recognizable icon that lets you guess what purpose the file serves. You'll also come across generic file icons that look like a blank sheet of paper (used when Mojave has no earthly idea what the file type is).

>> **Aliases:** An *alias* acts as a link to another item elsewhere on your system. For example, to launch Adobe Acrobat, you can click an Adobe Acrobat alias icon that you can create on your Desktop instead of clicking the actual Acrobat application icon. The alias essentially acts the same way as the original icon, but it doesn't take up the same amount of space — only a few bytes for the icon itself, compared with the size of the actual application. Plus, you don't have to go digging through folders galore to find the original application icon. (Windows switchers know an alias as a *shortcut.* The idea is the same, although Macs had it first. Harrumph.) You can always identify an alias by the small curved arrow at the base of the icon, and the icon might also sport the tag `alias` at the end of its name.

You have two ways to create an alias. Here's one:

1. *Select the item. (More on selecting items in the next section.)*

2. *Choose File⇨ Make Alias, or press ⌘+L.*

Figure 3-8 shows aliases for four macOS applications, complete with that fashionable alias arrow.

Here's another way to create an alias:

1. *Hold down ⌘+Option.*

2. *Drag the original icon to the location where you want the alias.*

Note that this funky method doesn't add the `alias` tag to the end of the alias icon name unless you drag the icon to another spot in the same folder.

Final Cut Pro   GarageBand   Pages   Safari

So why bother to use an alias? Two good reasons:

>> **You can launch an application or open a document from anywhere on your drive.** For example, if you occasionally need to use another application while working on a Pages project, you can add an alias and launch the other application directly from the folder where you store those Pages documents. Speed, organization, and convenience. Life is good.

>> **You can send an alias to the Trash without affecting the original item.** When that school project is finished, you can safely delete the entire folder without worrying about whether Pages will run the next time you double-click the application icon!

Selecting items

Often, the menu or keyboard commands you perform in the Finder need to be per-formed *on* something. Perhaps you're moving an item to the Trash, getting more information on the item, or creating an alias for that item. To identify the target of your action to the Finder, you need to select one or more items on your Desktop or in a Finder window. In the following sections, I show you just how to do that.

Selecting one thing

Mojave gives you a couple of options when selecting just one item for an upcom-ing action:

>> **Move the pointer over the item and click.** A dark border (or *highlight*) appears around the icon, indicating that it's selected.

>> **If an icon is already highlighted on your Desktop or in a window, move the selection highlight to another icon in the same location by using the arrow keys.** To shift the selection highlight alphabetically, press Tab (to move in order) or press Shift+Tab (to move in reverse order).

REMEMBER

Selecting items in the Finder doesn't actually *do* anything to them by itself. You have to perform an action on the selected items to make something happen.

Selecting a whole bunch of things

You can also select multiple items with aplomb by using one of these methods:

» **Adjacent items:**

- *Drag a box around them.* If that sounds like ancient Sumerian, here's the explanation: Click a spot above and to the left of the first item. Keep holding down your finger on the mouse or trackpad surface, and drag down and to the right. (This is called *dragging* in Mac-speak.) A box outline like the one shown in Figure 3-9 appears, indicating what you're selecting. Any icons that touch or appear within the box outline are selected when you release the button.

- *Click the first item to select it, and then hold down the Shift key while you click the last item.* Mojave selects both items and everything between them.

» **Nonadjacent items:** Select these by holding down the ⌘ key while you click each item.
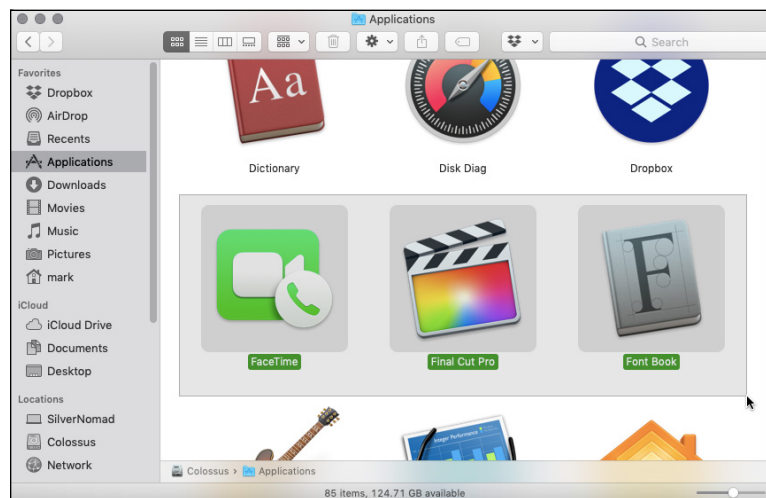
TIP

Check out the status bar (which can appear at the top or bottom of a Finder window, depending on whether the toolbar is hidden). It tells you how much space is available on the drive you're working in, as well as how many items are displayed in the current Finder window. When you select items, it shows you how many you highlighted. (If you don't see a status bar, choose View ⇨ Show Status Bar.)

Copying items

Want to copy items from one Finder window to another, or from one location (like a flash drive) to another (like your Desktop)? Très easy. Just use one of these methods:

» **On the same drive**

- *To copy one item to another location:* Hold down the Option key (you don't have to select the icon first), and then click and drag the item from its current home to the new location.

  To put a copy of an item in a folder, just drop the item on top of the receiving folder. If you hold the item you're dragging over the destination folder for a second or two, Mojave opens a new window so that you can see the target's contents. (This is called a *spring-loaded* folder. Really.)

- *To copy multiple items to another location:* Select them all (see the preceding section), hold down the Option key, and then drag-and-drop one of the selected items where you want it. All the items you selected follow the item you drag. (Rather like lemmings. Nice touch, don't you think?)

  To help indicate your target when you're copying files, Mojave highlights the location to show you where the items will end up. (This works whether the target location is a folder or a drive icon.) If the target location is a window, Mojave adds a highlight to the window border.

» **On a different drive**

- *To copy one or multiple items:* Click and drag the icon (or the selected items if you have more than one) from the original window to a window you open on the target drive. (No need to hold down the Option key while copying to a different drive.) You can also drag one item (or a selected group of items) and simply drop the items on top of the drive icon on your Desktop.

  The items are copied to the top level, or *root,* of the target drive.

  If you try to move or copy something to a location that already has an item with the same name, you see a dialog that prompts you to decide whether to replace the file or to stop the copy/move procedure and leave the existing file alone. (Heck, you can even keep *both* — macOS performs the copy or move, but also appends the word *copy* to the item being copied.) Good insurance, indeed.

TIP

REMEMBER

Moving things from place to place

Moving things from one location to another location on the same drive is the easiest action you can take. Just drag the selected item or items to the new location. The item disappears from the original spot and reappears in the new spot.

Duplicating in a jiffy

If you need more than one copy of the same item in a folder, use the Mojave Duplicate command. I use Duplicate often when I want to edit a document but want to ensure that the original document stays pristine, no matter what. I just create a duplicate and edit that file instead.

To use Duplicate, you can:

» Click an item to select it and then choose File⇨Duplicate.

» Right-click the item and choose Duplicate from the menu.

» Hold down the Option key and drag the original item to another spot in the same window. When you release the button, the duplicate file appears like magic!

The duplicate item has the word `copy` appended to its name. A second copy is named `copy2`, a third is `copy3`, and so on.

REMEMBER

Duplicating a folder also duplicates all the contents of that folder. Therefore, creating a duplicate folder can take some time if the original folder was stuffed full (or contained files several hundred megabytes or larger in size). The duplicate folder has `copy` appended to its name, but the contents of the duplicate folder keep their original names.

Using Finder Tabs

Mojave includes a powerful feature you can use to display multiple locations in the same window. *Finder Tabs* work just like the tabs in Safari (as well as other popular browsers for both Macs and PCs), allowing you to switch between multiple locations on your Mac *instantly* by clicking a tab to switch to that location. You can even drag files and folders from tab to tab!

To open a new tab in a Finder window, you have a wealth of choices:

>> Click the desired location and press ⌘+T.

>> Right-click the location and choose Open in New Tab.

>> Select the location and click the New Tab button (which bears a plus sign) at the right side of the window.

>> Click the Action icon (which bears a gear icon) in any Finder window toolbar, and choose Open in New Tab.

For example, suppose that you're working on an iMovie project. You might create tabs using the Applications item in the Finder window Sidebar and a folder (or even a DVD or shared drive) named Work that contains your video clips. The location appears as a new tab immediately under the toolbar. You can open as many tabs as you like, and you can also drag the Finder Tabs themselves to reorder them. To switch between tabs using the keyboard, press Ctrl+Tab. To close a tab, hover the pointer over it and click the X button that appears. That hardworking Figure 3-6 (shown earlier in the chapter) shows three Finder Tabs at work.

TIP

You can also set new folders to open in tabs instead of windows. Just click the Finder menu at the top of the Desktop, choose Preferences, click the General tab and then click the Open Folders in Tabs Instead of New Windows check box to enable it.

Keys and Keyboard Shortcuts to Fame and Fortune

Your iMac's keyboard might not be as glamorous as the mouse, but any Mac power user will tell you that using keyboard shortcuts is usually the fastest method of performing certain tasks in the Finder, such as saving or closing a file. I recommend committing these shortcuts to memory and putting them to work as soon as you begin using your iMac so that they become second nature to you as quickly as possible.

Special keys on the keyboard

The Apple standard keyboard has a number of special keys that you might not recognize — especially if you've made the smart move and decided to migrate from the chaos that is Windows to macOS! Table 3-1 lists the Apple keyboard's function keys and describes what they do.

TABLE 3-1   **Too-Cool Function Keys**

Action/Key Name	Symbol	Purpose
Audio Mute	🔇	Mutes (and restores) all sound produced by your iMac
Volume Up	🔊	Increases the sound volume
Volume Down	🔉	Decreases the sound volume
Ctrl	Ctrl	Displays the right-click/Control+click menu with the trackpad
Command	⌘	Primary modifier for menus and keyboard shortcuts
Delete	Delete	Deletes selected text
Option	Option	Modifier for shortcuts

Using the Finder and application keyboard shortcuts

The Finder is chock-full of keyboard shortcuts that you can use to take care of common tasks. Some of the handiest shortcuts are listed in Table 3-2, along with the locations where the corresponding menu entries appear in Mojave.

TABLE 3-2   **Mojave Keyboard Shortcuts of Distinction**

Key Combination	Location	Action
⌘+A	Edit menu	Selects all items (works in the Finder, too)
⌘+C	Edit menu	Copies the selected items to the Clipboard
⌘+H	Application menu	Hides the current application window
⌘+M	Window menu	Minimizes the active window to the Dock (also works in the Finder)
⌘+O	File menu	Opens or launches an existing document, file, or folder (also works in the Finder)
⌘+P	File menu	Prints the current document
⌘+Q	Application menu	Exits (quits) the application, and prompts you to save any changes
⌘+T	File menu	Opens a new Finder tab with the currently selected location
⌘+V	Edit menu	Pastes the contents of the Clipboard at the current pointer position
⌘+X	Edit menu	Cuts the highlighted item to the Clipboard
⌘+Z	Edit menu	Reverses (undoes) the effect of the last action you took
⌘+?	Help menu	Displays the Help system (works in the Finder, too)
⌘+Tab	Finder	Switches between open applications
⌘+Option+M	Finder	Minimizes all Finder windows to the Dock
⌘+Option+W	Finder	Closes all Finder windows

TIP

But wait; there's more! Most of your applications also provide their own set of keyboard shortcuts. While you're working with a new application, display the application's Help file and print a copy of the keyboard shortcuts as a handy cheat sheet.

If you've used a PC before, you're certainly familiar with three-key shortcuts. The most infamous is Ctrl+Alt+Delete, the beloved reboot/Task Manager shortcut

nicknamed the *Windows three-finger salute.* Three-key shortcuts work the same way in Mojave (but you'll be thrilled to know you don't need to reboot by using that notorious Windows shortcut!). If you're new to computing, to use a three-key shortcut, hold down the first two keys and then press the third key.

TIP

You're not limited to the keyboard shortcuts I've listed. In System Preferences, visit the Keyboard pane and then click the Shortcuts tab to list them (as well as change an existing shortcut or add a shortcut).

Home, Sweet Home Folder

Each user account you create in Mojave is actually a self-contained universe. For example, each user has a number of unique characteristics and folders devoted to just that person, and Mojave keeps track of everything that user changes or creates. (In Chapter 10, I describe the innate loveliness of multiple users living in peace and harmony on your laptop.)

This unique universe includes a different system of folders for each user account on your system. The top-level folder uses the short username Mojave assigns when that user account is created. Naturally, the actual folder name is different for each person. Mac techno types typically call this folder your *Home folder.* (On the Sidebar, look for the teeny house icon under the Favorites heading, marked with your account name.)

REMEMBER

When you're on the hunt for your Home folder, don't look for a folder that's actually named *Home.* Instead, look for the short username that was assigned when you created the user account.

Each account's Home folder contains a set of subfolders, including:

» Movies

» Music

» Pictures

» Downloads (for files you download by using Safari or through Apple Mail attachments)

» Public (for files you want to share with others on your network)

» Sites (for web pages created by the user)

» Documents (for files created by the user)

Although you can store your stuff at the *root* (top level) of your drive — or even on your Desktop — that gaggle of files, folders, and aliases can get crowded and confusing quickly. Here's a Mark's Maxim to live by:

Your Home folder is where you hang out and where you store your stuff. Use it to make your computing life *much* easier!

Create subfolders within your Documents folder to organize your files and folders even further. For example, I create a subfolder in my Documents folder for every book I write so that I can quickly and easily locate all the documents and files associated with that book project.

I discuss security in your Home folder and what gets stored where in Chapter 10. For now, remember you can reach your Home folder easily, because it appears in the Finder window Sidebar. One click on the Sidebar entry for your Home folder, and all your stuff is within easy reach. (If your Home folder doesn't appear in the Sidebar, that's easy to fix: Choose Finder➪Preferences, click the Sidebar tab, and then select the check box to display your Home folder.)

In addition to using the Finder window Sidebar, you can reach your Home folder in other convenient ways:

» **From the Go menu:** Choose Go➪Home to display your Home folder immediately from the Finder window. Alternatively, you can press ⌘+Shift+H to accomplish the same thing.

» **From the Open dialog:** The Mojave standard File Open dialog also includes the same Home folder (and subfolder) icons as the Finder window Sidebar.

» **In any new Finder window you open:** If you like, you can set every Finder window you open to automatically display your Home folder:

1. *Choose Finder➪Preferences and click the General tab.*

2. *Click the arrow button at the right side of the New Finder Windows Show pop-up menu.*

   A menu pops up (hence the name).

3. *Click the Home entry (with the house icon and your short username) in the menu.*

4. *Click the Close button at the upper-left corner of the dialog.*

   You're set to go. From now on, every Finder window you open displays your Home folder as the starting location!

> **TIP**
>
> Here's another reason to use your Home folder to store your stuff: *default locations!* Mojave expects your stuff to be there when you migrate your files from an older Mac to a new iMac, and all Apple applications can use your Home folder when loading and saving projects.

Working with Mission Control, Spaces, and Dashboard

For those power users that often work with a passel of applications, allow me to turn your attention to one of the sassiest features in Mojave: Mission Control. Figure 3-10 shows off the Mission Control screen:

» **Press F3 (or Control+↑, depending on your keyboard)** to show *all* open windows using Mission Control, grouped by application; then click the one you want. Figure 3-10 illustrates the tiled All Windows display on my iMac after I press F3. Move the pointer on top of the window you want to activate — the window sports a blue border and its name is displayed when it's selected — and click once to switch to that window. You can specify which keys you want to use in the Mission Control pane in System Preferences.

» **Press Ctrl+F3 (or Control+↓, depending on your keyboard)** to show all open windows from the application that you're currently using; click the one you want to activate. This Mission Control function is great for choosing from all the images you've opened in Photoshop or all the Safari web pages populating your Desktop!

Astute observers will notice that the application menu bar also changes to match the now-active application.

> **TIP**
>
> Besides the F3 and Control+F3 hot keys that I just discussed, Mission Control provides one more nifty function: Press ⌘+F3, and all your open windows scurry to the side of the screen. Now you can work with drives, files, and aliases on your Desktop — and when you're ready to confront those dozen application windows again, just press the keyboard shortcut a second time.

Naturally, these key combinations can be viewed and customized – visit the comfortable confines of System Preferences and click on the Mission Control icon to choose what key sequence does what.
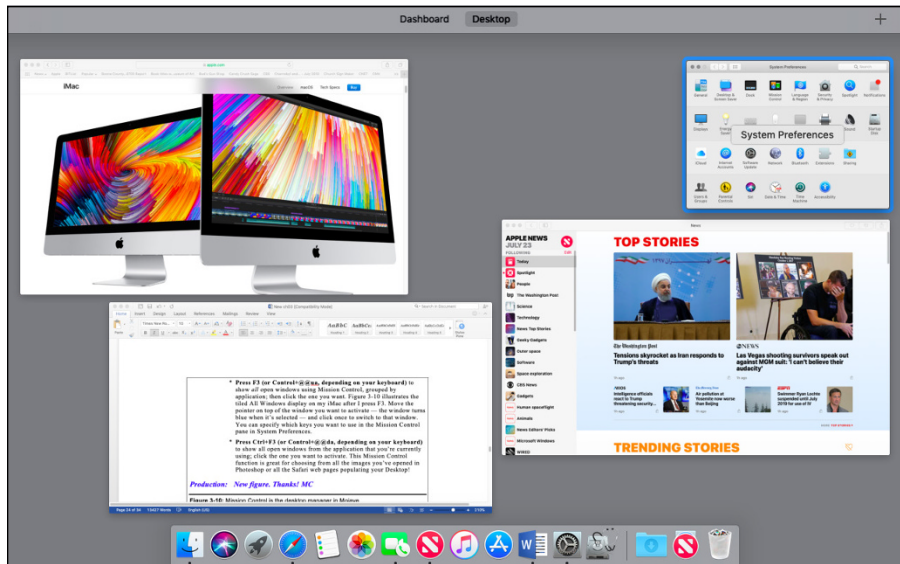
Although the Mission Control screen appears automatically when necessary, you can launch it at any time from your iMac's Launchpad display or by pressing the Mission Control key on your keyboard. From the trackpad, display the Mission Control screen by swiping up with three fingers.

Switching Desktops with Spaces

Ah, but what if you want to switch to a different *set* of applications? For example, suppose that you're slaving away at your pixel-pushing job — say, designing a magazine cover with Pages. Your page design Desktop also includes Adobe's Photoshop and InDesign, which you switch between often using one of the techniques I just described. Suddenly, however, you realize you need to schedule a meeting with others in your office, using Calendar, and you want to check your email in Apple Mail. What to do?

Well, you could certainly open Launchpad and launch those two applications on top of your graphics applications and then minimize or close them. But with Mission Control's *Spaces* feature, you can press the Control+← or Control+→ sequences to switch to a different "communications" Desktop, with Calendar and Apple Mail windows already open and in your favorite positions. (I've also created a custom "music" Desktop for GarageBand and iTunes.) Figure 3-10 illustrates multiple Spaces Desktops at the top of the Mission Control screen.

After you set up your meeting and answer any important email, simply press Control+← or Control+→ again to switch back to your "graphics" Desktop, where

all your work is exactly as you left it. (And yes, Virginia, Spaces does indeed work with full-screen applications.)

To create a new Desktop for use in Spaces, click the Launchpad icon on the Dock and then click the Mission Control icon. Now you can set up new Spaces Desktops. Move your pointer to the top right of the Mission Control screen, and click the Add button (with the plus sign) that appears. (If you relocated your Dock to the right side of the screen, the Add button shows up in the upper-left corner instead.) Spaces creates a new empty Desktop thumbnail. Switch to the new Desktop by clicking the label at the top of the Mission Control screen, and then open those applications you want to include. (Alternatively, you can drag the applications from Mission Control onto the desired Spaces label.) That's all there is to it!

To switch an application window between Spaces Desktops, drag the window to the edge of the Desktop and hold it there. Spaces automatically moves the window to the next Desktop. (Applications can also be dragged between Desktops within the Mission Control screen.) You can also delete a Desktop from the Mission Control screen. Just hover your pointer over the offending Spaces label to display the thumbnail, and click the Delete button (with the X) that appears.

REMEMBER

You can jump directly to a specific Spaces Desktop by clicking its thumbnail in your Mission Control screen or by holding down the Control key and pressing the number corresponding to that desktop. Finally, you can always use the Control+← or Control+→ shortcuts to move between Desktops and full-screen applications.

Stick it on the Dashboard

Dashboard is a favorite feature of mine within Mojave — I use it to hold widgets and display them with the press of a button. (Okay, I know that sounds a little wacky, but bear with me.) *Widgets* are small applications — dubbed by some as "applets" — that typically provide only one function. For example, Dashboard comes complete with a calculator, dictionary, clock, weather display, and quick-and-simple calendar.

By default, Dashboard is turned off in Mojave. To enable Dashboard, open the Mission Control pane in System Preferences, click the Dashboard pop-up menu and select As Space (which displays your widgets as a separate Space in Mission Control). You can also choose overlay mode if you prefer your widgets to "float" over your Desktop instead.

You can display and use these widgets at any time by pressing the Dashboard shortcut; by default, that's Function-F12 (hold down the FN key and press F12). You can modify the Dashboard key on the Mission Control pane in System Prefer-ences. Dashboard also appears as a Desktop in the Spaces strip on the Mission

Control screen and as an icon in Launchpad, and you can add it to your Dock from the Applications folder.

You can add widgets to your Dashboard by clicking the Add button (which bears a plus sign, naturally) at the lower-left corner of the Dashboard screen. Then Dashboard displays your entire collection of widgets, and you can click a widget to add it directly onto your Dashboard.

While you're adding widgets, rearranging the widgets that are already populating Dashboard is easy: Drag them to the desired spot. When it's time to go back to work (or play), you can return to your Mojave Desktop by pressing the Dashboard key again, or by clicking anywhere on the Dashboard background.

Most widgets have an option button that allows you to change things, such as borders, zip codes, display columns, and the like; look for a tiny circle with a lowercase letter *i*. Click this information icon, and you can then tweak whatever options are available for that widget.

To remove a widget from the Dashboard display, just click the Delete button (which bears a minus sign) and you'll notice that a tiny X button appears next to each widget on your Dashboard. Click the X button next to the widget you want to remove, and it vanishes from the display. Note, however, that deleting a widget doesn't remove it from your Mac entirely! You can add that deleted widget back again at any time by clicking the Add button. To return to your Dashboard, click the Delete button again.

Personalizing Your Desktop

Many folks put all their documents, pictures, and videos on their Mojave Desktop because the file icons are easy to locate! Your computing stuff is right in front of you . . . or *is* it?

Call me a finicky, stubborn techno-oldster — go ahead, it's true — but I prefer a clean macOS Desktop without all the iconic clutter. In fact, my Desktop usually has just three or four icons even though I use my iMac several hours every day, often on multiple book projects. It's an organizational thing; I work with literally hundreds of applications, documents, and assorted knickknacks daily. Sooner or later, you'll find that you're using that many, too. When you keep your stuff crammed on your Desktop, you end up having to scan your screen for a particular file, alias, or type of icon. You end up taking more time to locate it on your Desktop

than in your Documents folder! And don't forget, open windows hang out on your Desktop too. To find anything, you have to close or move those windows!

Plus, you'll likely find yourself looking at old icons that no longer mean anything to you or stuff that's covered in cobwebs that you haven't used in years. Stale icons — *yuck.*

TIP

I recommend that you arrange your Desktop so that you see only a few icons for the files or documents you use the most. Leave the rest of the Desktop for that cool image of your favorite actor or actress.

Besides keeping things clean, I can recommend a number of other favorite tweaks that you can make to your Desktop:

» **Keep Desktop icons arranged as you like.**

1. *From the Finder menu, choose View ⇨ Show View Options.*

2. *From the Sort By pop-up menu, choose the criteria that Mojave uses to automatically arrange your Desktop icons, including the item name, the last modification date, or the size of the items.*

   I personally like things organized by name, but many iMac owners prefer to see things organized by date (putting the most recently modified item at the top, for example).

» **Choose a favorite background.**

1. *Right-click any open spot on your Desktop and choose Change Desktop Background.*

   The Desktop & Screen Saver pane appears, as shown in Figure 3-11.

2. *Browse through the various folders of background images that Apple provides, open a folder of your own images, or use an image from your Photos library.*

» **Display all the peripherals and network connections on your system.**

1. *Choose Finder ⇨ Preferences.*

2. *Make sure that all four of the top check boxes are selected: Hard Disks; External Disks; CDs, DVDs, and iPods; and Connected Servers.*

   If you're connected to an external network, or if you've loaded an external drive or device, these external storage locations show up on your Desktop. You can double-click that Desktop icon to view your external stuff.
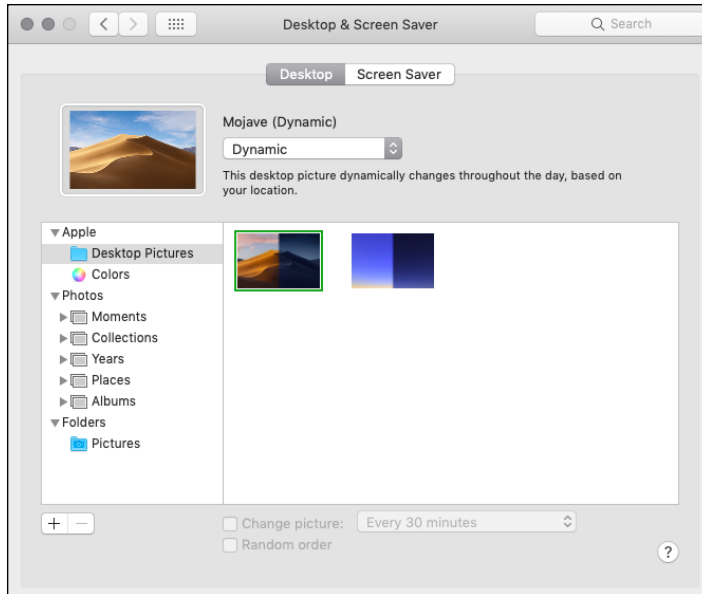
Customizing the Dock

In terms of importance, the *Dock* — the quick-access strip for applications and documents that appears on your Desktop — ranks right up there with the cockpit of a modern jetliner. As such, it had better be easy to customize, and naturally, macOS doesn't let you down.

Adding applications and extras to the Dock

Why be satisfied with just the icons that Apple places on the Dock? You can add your own applications, files, and folders to the Dock as well:

>> **Adding applications:** You can add any application to your Dock by dragging its icon into the area to the *left* side of the Dock (that's to the left side of the vertical line on the Dock). You'll know when you're in the proper territory because the existing Dock icons obligingly move aside to make a space for it.

Attempting to place an application directly on the right side of the Dock sends it to the Trash (if the Trash icon is highlighted when you release the button), so beware. Note, however, that you can drop an application icon inside a Stack (more on that in a bit) or a folder that already exists at the right side of the Dock. (If you've repositioned the Dock to the left or right side of the screen, consider the top of the Dock as the "left side" and the bottom of the Dock as the "right side.")

>> **Adding individual files and volumes:** Individual files and volume icons can be added to the Dock by dragging the icon into the area to the *right* side of the Dock. (Attempting to place these to the left side of the Dock opens the application associated with the contents, which typically isn't what you intended.) Again, the existing Dock icons move aside to create a space when you're in the right area.

To open the Dock item you've added in a Finder window, right-click the icon to display a Dock menu, where you can open documents, run applications, and have other assorted fun, depending on the item you choose.

>> **Adding several files or a folder:** Mojave uses a feature called *Stacks,* which I discuss in the next section, "Keeping track with Stacks," to handle multiple files or add an entire folder to the Dock.

>> **Adding websites:** You can drag any URL from Safari directly into the area at the right of the Dock. Clicking that Dock icon automatically opens your browser and displays that page.

To remove an icon from the Dock, just click and drag it off the Dock. Note, however, that the original application, folder, or volume is *not* deleted — just the Dock icon itself is permanently excused. If you like, you can delete almost any of the default icons that macOS installs on the Dock; only the Finder and Trash icons must remain on the Dock.

TIP

Mojave introduces Recent Applications to your Dock —this feature displays the last three applications you've used on the right side of the Dock (convenient as all get-out if you're launching the same applications on a regular basis). To enable Recent Applications, visit the Dock pane in System Preferences and enable the Show Recent Applications check box.

Keeping track with Stacks

Mojave offers *Stacks,* which are groups of items (documents, applications, and folders) that you want to place on the Dock or your Desktop for convenience — perhaps the files needed for a project you're working on, or your favorite game applications. For example, I have a Stack named Wiley on my Dock that holds all the project files I need for the book I'm currently writing.

Using Desktop Stacks

To create Stacks on the Desktop, you first need to enable them. From the Finder menu, click View ⇨ Use Stacks. Mojave automatically moves all the items on your Desktop into Stacks grouped by file type — you can change the grouping criteria by clicking View ⇨ Group Stacks By (or by right-clicking on the Desktop Stack and selecting the same option). Items that you copy or move to your Desktop are added

to the appropriate Desktop Stack (if it exists), or a new Desktop Stack is created to hold them.

To display the items in a Desktop Stack, click it to open the Stack. The contents appear on your Desktop as individual icons again, while the Stack itself remains selected (and gains a down arrow icon to indicate that it's open). To close a Desktop Stack, click the Stack icon again. Note that individual Stacks cannot be removed from your Desktop; you must completely disable the feature by choosing View⇨Use Stacks from the Finder menu, which returns all the individual items to your Desktop.

To open a document or folder from a Desktop Stack, display the contents and double-click the desired icon.

Using Dock Stacks

To create a Stack in the Dock, just select a folder containing the items and drag the folder to the right side of the Dock. As always, the Dock opens a spot on the right side of the Dock to indicate you're in the zone.

To display the items in a Dock Stack, just click it:

>> **If the Stack holds relatively few items,** they're displayed in a really cool-looking arc that Apple calls a *fan*, and you can click the item you want to open or launch. Figure 3-12 illustrates a typical Stack on the Dock unfurled as a fan.

>> **If the Stack is stuffed full of many items,** the Stack opens in a grid display, allowing you to scroll through the contents to find what you need.

You can open a document or folder from a Dock Stack by displaying the contents and clicking the desired icon.

TIP

Mojave provides a number of options for an individual Dock Stack, as well. Right-click the Stack icon, and you can choose to sort the contents by name, date created or added, date modified, or file type. If you'd prefer a grid display for a Dock Stack (no matter how many items the Stack contains), you can choose Grid view mode. Choose List to display the Stack's contents in much the same way as List view in a Finder window. List view mode also allows you to view folders in a Dock Stack as nested menu items. Choose Automatic to return to the default view mode. When set to Display as Stacks, the Stack icon is displayed using icon images from the contents of the folder; if security is an issue, however, choose Display as Folder from the right-click menu to display the Dock Stack as a plain folder icon instead.

You can remove a Stack from the Dock by right-clicking the Stack icon and choosing Options from the menu that appears. Choose Remove from Dock from the submenu that appears. Alternatively, just drag that sucker right off the Dock.

You can also display the contents of a Dock Stack in a Finder window. Right-click the Stack icon, and choose the Open item at the bottom of the pop-up menu.

TIP

If you add a folder full of items to the Dock, the Stack is named after the folder; otherwise, Mojave does the best job it can in figuring out what to name the Stack.

Apple provides a Dock Stack already set up for you: The Downloads folder, situated next to the Trash, is the default location for any new files that you download using Safari or receive in your email. Mojave bounces the Download Stack icon to indicate that you've received a new item.

Resizing the Dock

You can change the size of the Dock from the Dock settings in System Preferences — but here's a simpler way to resize the Dock, right from the Desktop.

Move your pointer over the vertical solid line that separates the left side of the Dock from the right side; the pointer turns into a funky vertical line with arrows pointing up and down. This is your cue to click and drag while moving up and down, which expands and shrinks the Dock, respectively.

You can also right-click when the funky line pointer is visible to display a menu of Dock preferences. This allows you to change your Dock preferences without the hassle of opening System Preferences and displaying the Dock settings.

What's with the Trash?

Another sign of an iMac power user is a well-maintained Trash can. It's a breeze to empty the discarded items you no longer need, and you can even rescue something you suddenly discover you still need!

The translucent Mojave Trash icon resides in the Dock, and it works just like the Trash has always worked in macOS: Simply drag selected items to the Trash to delete them.

REMEMBER

Note one *very* important exception: If you drag a Desktop icon for an external device or a removable media drive to the Trash (such as an iPod, DVD, or external drive), the Trash icon turns into a giant Eject icon, and the removable device or medium is ejected or shut down — not erased. Repeat, *not erased.* (That's why the Trash icon changes to the Eject icon — to remind you that you're not doing anything destructive.)

Here are other ways to chuck items you select to go to the wastebasket:

» Choose File⇨Move to Trash.

» Click the Action button on the Finder toolbar, and choose Move to Trash from the list that appears.

» Press ⌘+Delete.

» Right-click the item and choose Move to Trash from the menu that appears.

You can always tell when the Trash contains at least one item, because the basket icon is full of crumpled paper. However, you don't have to unfold a wad of paper to see what the Trash holds. Just click the Trash icon in the Dock to display the contents of the Trash. To rescue something from the Trash, drag the item(s) from the Trash folder to the Desktop or any other folder in a Finder window. (If you're doing this for someone who's unfamiliar with Mojave, remember to act like it was a lot of work, and you'll earn big-time DRP, or *Data Rescue Points.*)

When you're sure that you want to permanently delete the contents of the Trash, use one of these methods to empty the Trash:

» Choose Finder⇨Empty Trash.

» Press ⌘+Shift+Delete.

» Right-click the Trash icon in the Dock and choose Empty Trash from the menu that appears.

All You Really Need to Know about Printing

Since we're near the end of this chapter, I turn now to a task that most folks need to tackle soon after buying their iMac or installing Mojave: printing documents. Because basic printing is so important (and in most cases, so simple), allow me to demonstrate how to print a document.

Most of us have a Universal Serial Bus (USB) printer — the USB being the favored hardware connection in macOS. As long as your printer is supported by macOS, setting it up is as easy as plugging it into one of your iMac's USB ports.

TIP Before you print, *preview!* Would you jump from an airplane without a parachute? Then why would you print a document without double-checking it first? Most applications now have their own built-in Preview thumbnails in the Print sheet, as shown in Figure 3-13 — this is definitely a good thing because you see what the printed document will look like, possibly saving you both paper and some of that hideously expensive ink or toner.
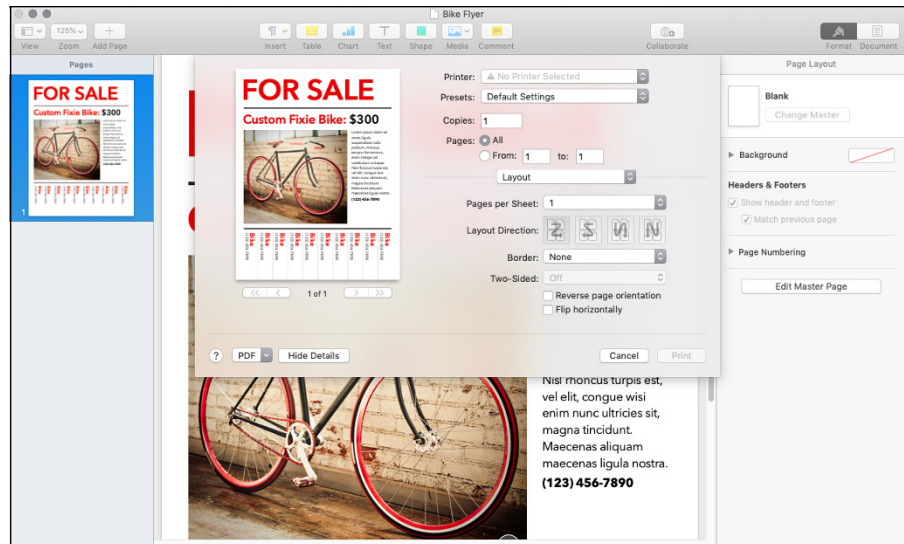
FIGURE 3-13:
The Print sheet is available from any application with any real guts.

To print from any application using the default page characteristics — standard 8½ x 11–inch paper, portrait mode, no scaling — follow these steps:

1. **In your application, choose File⇨Print or press the ⌘+P keyboard shortcut.**

   In most applications, macOS displays the simple version of the Print sheet. (To display all the fields you see in Figure 3-13, click the Show Details button at the bottom of the sheet.) Some applications use their own custom Print dialogs, but you should see the same general settings.

2. **Click in the Copies field, and enter the number of copies you need.**

   You can also enable or disable collation, just as you can with those oh-so-fancy copiers.

3. **Decide what you want to print.**

   - *The whole shootin' match:* To print the entire document, use the default Pages radio button setting of All.

   - *Anything less:* To print a range of selected pages, select the From radio button and enter the starting and ending pages (or, if the application allows it, a selection of individual pages).

4. **(Optional) Choose application-specific printing parameters.**

   Each macOS application provides different panes so you can configure settings specific to that application. You don't have to display any of these extra settings to print a default document, but the power is there to change the look dramatically when necessary. To display these settings, open the Layout pop-up menu in the center of the Print sheet and choose one of these panes. For example, if you're printing from Contacts, you can choose the Contacts entry from the pop-up menu and elect to print a phone list, an envelope, mailing labels, or an email list.

5. **When everything is go for launch, click the Print button.**

   Of course, there are more settings and more functionality to the printing system in macOS. However, I can tell you from my experiences as a consultant and hardware technician that this short introduction to printing will likely suffice for 90 percent of the Mac owners on Earth. 'Nuff said.

And Just in Case You Need Help . . .

You can call on the resources described in this section if you need additional help while you're discovering how to tame Mojave.

Some of the help resources are located on the Internet, so your Safari web browser will come in handy when you search for answers.

The Mojave built-in Help system

Sometimes the help you need is as close as the Help menu on the Finder menu bar. You can get help for either of the following:

» **A specific application:** From the application, just click Help. Then click in the Search box and type a short phrase that sums up your query (such as *startup keys*). You see a list of help topics on the menu. Just click a topic to display more information.

» **General topics:** Click a Finder window, and then click Help on the menu bar. Again, you see the Search box, and you can enter a word or phrase to find in the Help system. To display the Help Center window, click the Help Center item under the Search box.

The Apple web-based support center

Apple has online product support areas for every hardware and software product it manufactures. Visit `www.apple.com` and click the Support link at the top of the web page.

The Search box works just like the macOS Help system, but the knowledge base that Apple provides online has *a lot* more answers.

Magazines

Many magazines and publications (both in print and online) offer tips and tricks on using and maintaining macOS Mojave.

My personal online favorites are Macworld (`www.macworld.com`) and the Wiley *For Dummies* website (`www.dummies.com`).

Local Mac user groups

I'd be remiss if I didn't mention your local Mac user group. Often, a user group maintains its own website and discussion forum. If you can wait until the next meeting, you can even ask your question and receive a reply from a *real live human being*. This is quite a thrill in today's web-centric world!

To locate a local user group using your Internet connection, launch Safari, click in the Address box, and type

Mac User Group *location*

Instead of *location*, type the desired spot on the map, like

Mac User Group Columbia Missouri

Don't forget to press Return!

2

Shaking Hands with macOS

IN THIS CHAPTER

» **Changing the look of macOS with Dark Mode**

» **Scrolling through content using Gallery view**

» **Adding new iOS applications to Mojave**

» **Using Quick Actions with one click**

» **Browsing the new App Store**

Chapter **4**

What's New in Mojave?

Have you upgraded to Mojave from the previous version of macOS, High Sierra? Or have you just bought a new iMac or iMac Pro with Mojave pre-installed? Either way, you've opened the door to a number of new features, and this chapter was written especially for you. (And if you're not rubbing your hands together with gleeful anticipation, you *should* be — I know I am.) Here, you'll find descriptions of my favorite new features that ship with the latest version of macOS.

Note that a number of other new Mojave features appear elsewhere in the book — for example, the discussion of the new website icons appears within the Safari chapter. The new features you find here, however, are what I consider the *real* standouts, so they're showcased separately.

Let the fun begin!

Come to the Dark Mode

With the arrival of Mojave, you can cheerfully invite darkness to your desktop! Notice I didn't say "evil darkness" — in this case, Apple has simply introduced a system-wide Dark Mode that affects just about all the macOS graphical elements you see. Dark Mode will remind you of a photograph negative, changing the familiar white background for windows and menus to a dark charcoal with white or light-colored text and lines (as shown in Figure 4-1). You can easily switch between the Light and Dark Modes from the General pane in System Preferences (making your iMac yin or yang at will).

"So Mark," you may ask, "why all the hubbub? Why is Dark Mode one of the key new features of Mojave?" (Actually, dark desktops have been available in the Linux world for many years, and have already appeared on iPhones and iPads within applications like Maps. Some individual macOS applications - like Adobe Acrobat DC - also offer dark schemes already.) The primary attraction is for those using their iMacs in a low-light environment, where the traditional white backgrounds on windows and menus resulted in eyestrain and glare. Dark Mode greatly reduces the brightness of the iMac desktop without a significant loss of contrast. As a secondary attraction . . . well, the Dark Mode just looks doggone cool!

REMEMBER

At the time of this writing, only applications from Apple will use the Dark Mode — for example, the System Preferences window will appear with a charcoal background, but your Microsoft Word window will still appear white. You can expect many macOS software developers to add support for the Dark Mode in the future.
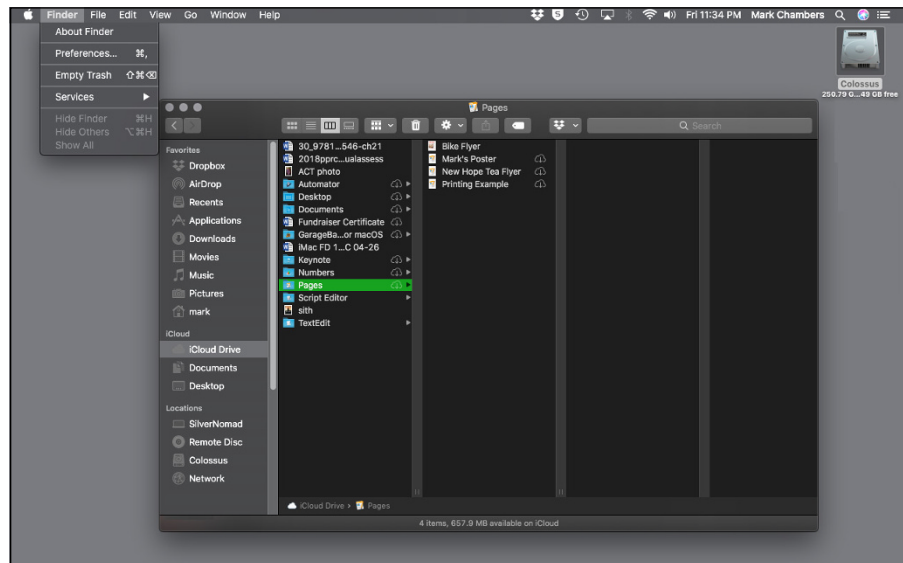
FIGURE 4-1: Welcome to the Dark side — ideal when working in a low-light environment.

Showing Off Gallery View

I've always considered Quick Look to be one of the neatest features inside macOS: select a file within a Finder window or your desktop and press the space bar, and ZAP! You're looking at the content of that file instantly, without the hassle or time required to open it with the associated application. Well, dear reader, hold on to your hat — Apple has taken that convenience to a whole new level in Mojave with Gallery view. When you switch a Finder window to Gallery view (as I describe in Chapter 3), the content of each file is displayed in a similar fashion, but within a preview pane that fills most of the window. Figure 4-2 illustrates a Pages file displayed within Gallery view. You can move through the files in the current location by pressing the left and right arrow keys, or you can click on the scrolling thumbnail strip below the preview pane.
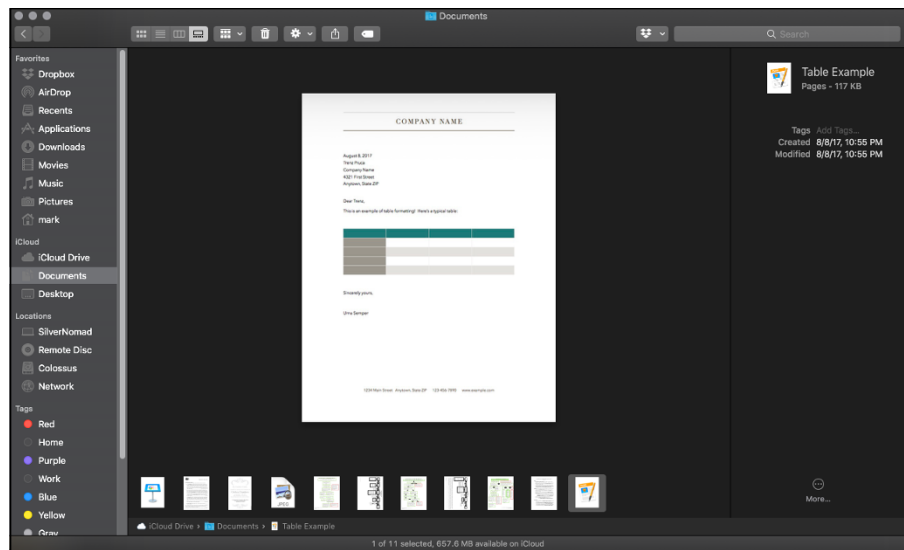
FIGURE 4-2:
Stroll through the contents of an entire folder with Gallery view.

TIP

While you're admiring your photos in Gallery view, don't forget to check the image metadata in the Preview pane on the right side of the window.

Welcome New iOS Apps

One stellar observation I've made about our favorite computer manufacturer: when Apple comes up with a good idea in the iOS world of iPhones and iPads, it doesn't take long before Apple carries that idea over to the macOS world. Previous versions of macOS included features pulled directly from iOS — for example, Maps and the Notification Center. Likewise, Mojave introduces a set of new crossover applications to your iMac. The new arrivals include:

» **News.** The News application displays the latest news (both text and video) from an impressive list of sources.

» **Stocks.** Tracks daily, monthly, and yearly prices and news items on the stocks you choose.

» **Voice Memos.** This new application allows you to record your voice — perfect for making quick audio memos and notes, recording meetings or creating audio for use in GarageBand.

» **Home.** Your iMac can now control HomeKit-compatible devices, including lights, thermostats, and security hardware.

Quick Actions Are the Cat's Meow

Convenience is a big plus in my book, and Mojave's new Quick Actions feature makes it easy to handle common tasks on many types of documents and files with just a single click. When you select one or more items in the Finder window, Quick Actions appear on the Preview pane. (If you're not displaying the Preview pane, you can open it by choosing View ⇨ Show Preview from the Finder menu bar, or by pressing Command+Shift+P.) Figure 4-3 illustrates the Quick Actions available for a JPEG image at the lower-right corner of the Finder window — in this case, Rotate Left, Markup, and More. Click the button to perform the action.

Note that the default Quick Actions that appear change depending on the file type or folder you've selected. However, you can click the More button that appears at the right and choose Customize to specify additional functions!
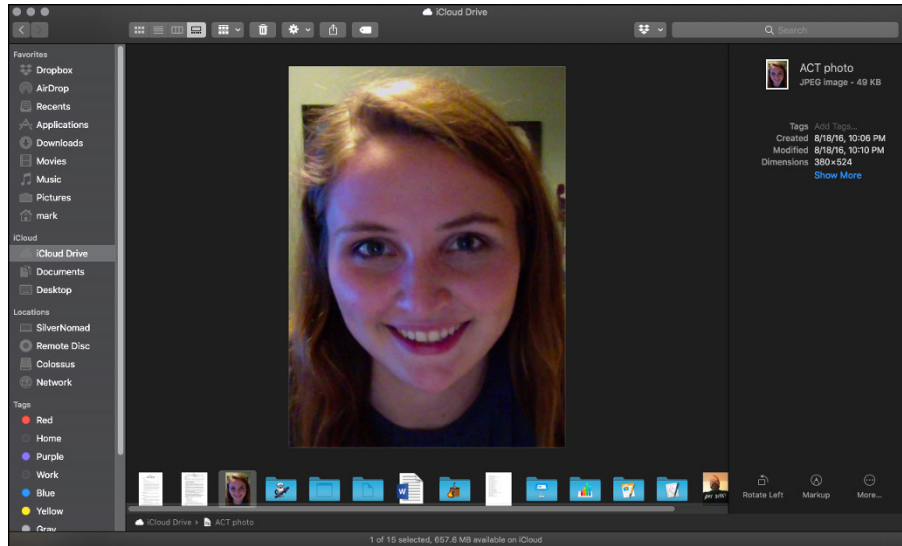
Strolling Through the Improved App Store

If you've used macOS before, you're familiar with the App Store — you can browse software available for your iMac and download it directly, as well as update existing software you've already installed. With Mojave, however, the App Store has come of age! The new Store offers better reviews, videos you can watch that summarize features, and even biographical information on the developers that produce the applications (and the artists and professionals who use their products). Plus, the new App Store "learns" what types of software interest you, and over time highlights applications that might fit your needs.

TIP

I especially like the new "how-to" headings in the Create section, which offer a quick rundown of the software available for accomplishing a specific task (as well as helpful tips and tricks).

REMEMBER

macOS system updates are no longer handled within the App Store. Instead, you can use the Software Update pane in System Preferences to update Mojave.

Chapter **5**

A Nerd's Guide to System Preferences

Remember the old TV series *Voyage to the Bottom of the Sea*? You always knew you were on the bridge of the submarine *Seaview* because it had an entire wall made up of randomly blinking lights, crewmen darting about with clipboards, and all sorts of strange and exotic-looking controls on every available surface. You could fix just about anything by looking into the camera with grim determination and barking an order. After all, you were *On the Bridge.* That's why virtually all the dialog and action inside the sub took place on that one (expensive) set: It was the nerve center of the ship, and a truly happenin' place to be. Just like the bridge of your favorite starship from an entire host of TV shows and movies.

In the same vein, I devote this chapter to the System Preferences window and the most commonly used settings within it. After all, if you want to change how Mojave works or customize the features in our favorite operating system, you should head toward System Preferences. This one window is the nerve center of macOS and a truly happenin' place to be. Sorry, no built-in wall of randomly blinking lights — but you *do* find exotic controls just about everywhere.

An Explanation — without Jargon, No Less

The System Preferences window, shown in Figure 5-1, is a self-contained beast. You can reach it in the following ways:

>> Click the Apple menu and choose System Preferences.

>> Click the Time and Date display in the menu bar, and then choose Open Date and Time Preferences. In fact, you can also click most of the other menu status icons — including Bluetooth and Wi-Fi — and then choose Open Preferences.

>> Right-click any uninhabited area of your Desktop and choose Change Desktop Background.

>> Last, but not least, click the Launchpad icon in the Dock, and then click the System Preferences icon (it looks like a collection of gears).
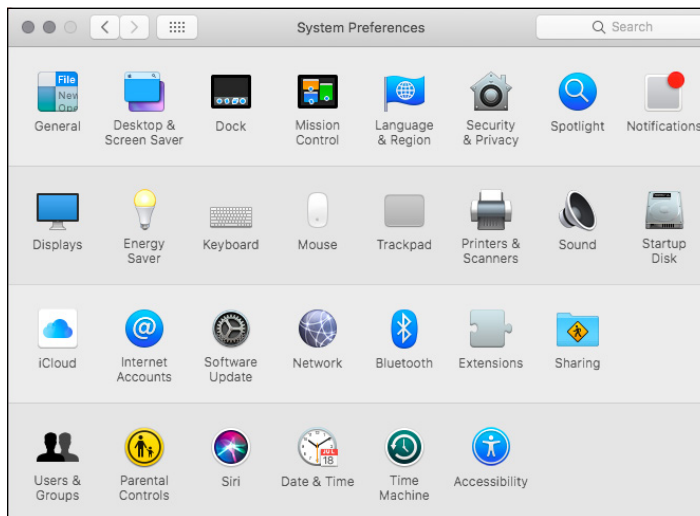
FIGURE 5-1:
The powerhouse of settings and switches: System Preferences.

When the System Preferences window is open, you can click any of the icons to switch to that *pane.* The entire window morphs to display the settings for the selected pane. For example, Figure 5-2 shows the Sound pane, which allows you to set a system alert sound, configure your iMac's built-in microphone, and choose from several different output options.
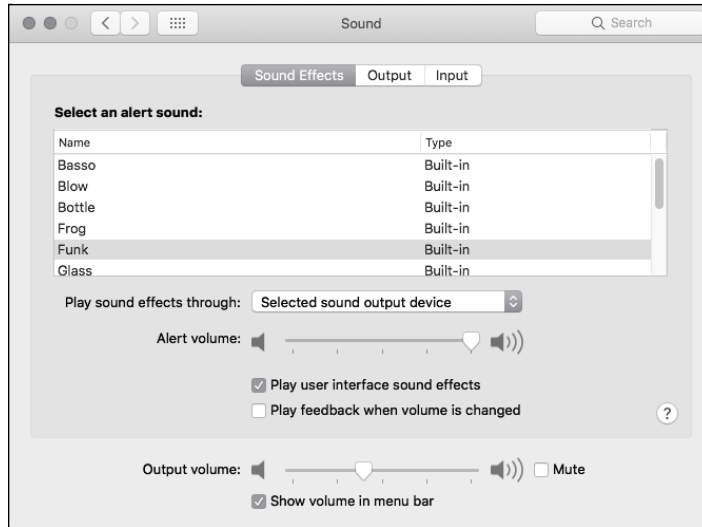
Many panes also include a number of tabbed buttons at the top — in this case, Sound Effects, Output, and Input. You can click these tabs to switch to another section in the same pane. Many panes in System Preferences have multiple sections. This design allows our friends at Apple to group a large number of related settings in the same pane (without things getting too confusing).

To return to the top-level System Preferences pane from any other pane, just click the Show All button (located in the upper-left corner of the pane) or press ⌘+L. You can also click the familiar Previous and Next buttons to move backward through the panes you've already visited and then forward again, in sequence. (Yep, these buttons work just like the browser controls in Safari. Sometimes life is funny that way.)

Although the System Preferences panes are arranged by category when you first install Mojave, you can also display the panes in alphabetical order. To arrange the panes in this way, choose View➪Organize Alphabetically. Note that you can also select any pane directly from the View menu. Choose View➪Customize, and you can hide specific icons from the System Preferences window. Just deselect the check box next to each icon you want hidden, and then click Done. You can still reach hidden icons from the System Preferences View menu, so they're not banished forever.

You can right-click the System Preferences icon in the Dock to jump to any pane from the shortcut menu. *Wowzers!*

You won't find an OK button that you have to click to apply any System Preferences changes. Apple's developers do things the right way. Your changes to the settings in a pane are *automatically* saved when you click Show All or when you click the Close button in the System Preferences window. You can also press ⌘+Q to exit the window and save all your changes automatically. This is one of my favorite shortcuts.

REMEMBER

If you see an Apply button in a pane, you can click it to immediately apply any changes you made, without exiting the pane. This is perfect for settings you might want to try before you accept them, like many of the controls in the Network pane. However, if you're sure about what you changed and how those changes will affect your system, you don't have to click Apply. Just exit the System Preferences window or click Show All as you normally would.

Locating That Certain Special Setting

Wouldn't it be great if you could search through all the different panes in System Preferences — with those countless radio buttons, check boxes, and slider controls — from one place, even when you're not quite sure what you're looking for?

Figure 5-3 shows exactly that kind of activity taking place. Just click in the System Preferences Spotlight Search box (located in the upper-right corner of the pane, with the magnifying glass icon), and type just about anything. For example, if you know part of the name of a particular setting you need to change, type that. Mojave highlights the System Preferences panes that might contain matching settings. And if you're a *switcher* from the Windows world, you can even type what you might have called the same setting in Windows.

The System Preferences window dims, and the icons that might contain what you're looking for stay highlighted. *Slick.*
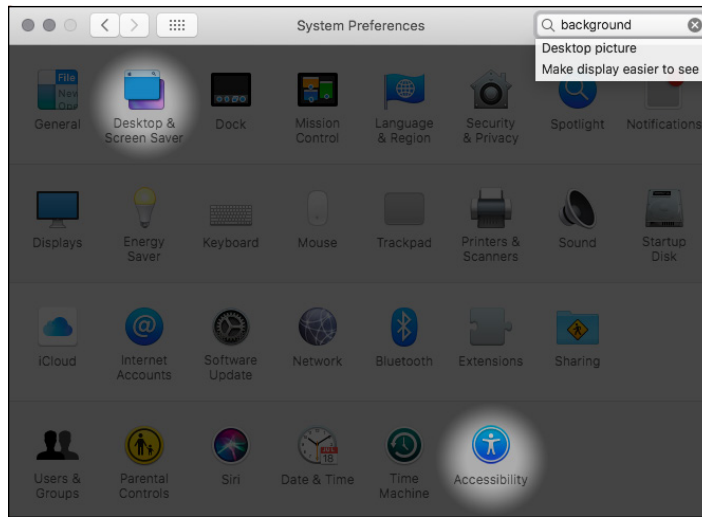
TIP You can also search for System Preferences controls by using the Spotlight Search box from the Finder menu. Find more on this cool feature in Chapter 6.

If you need to reset the Spotlight Search box to try again, click the X icon that appears at the right side of the box to clear it.

Popular Preferences Panes Explained

It's time to get down to brass tacks: Let's open the most often-used panes in System Preferences to see what magic you can perform. I won't discuss every pane, because I cover many of them in other chapters. In fact, you might never need to open some System Preferences panes, such as the Language & Region pane. This chapter covers just about all the settings you're likely to use on a regular basis.

The Displays pane

If you're a heavy-duty gamer, or you work with applications such as Keynote or Photoshop, you probably switch your monitor's characteristics regularly. To switch easily, visit the Displays pane, shown in Figure 5-4. It includes three sections:

» **Display:** To allow Mojave to choose the best resolution for your display, select the Default for Display radio button. To manually select a resolution, select the Scaled radio button, and then click the resolution you want to use from the Resolutions list that appears. In most cases, you want to use the highest resolution.

FIGURE 5-4:
The Display pane makes it easy to change your screen resolution.

Move the Brightness slider to adjust the brightness level of your iMac's display. If you like, you can enable the Automatically Adjust Brightness check box to allow your iMac to select a brightness level.

TIP

Ready to stream content to your TV directly from your iMac — *without cables?* You can use Mojave's wireless AirPlay feature to send the display from your desktop to your HD-TV. AirPlay requires an Apple TV unit that supports this feature. You can also send the audio from your iMac directly to an AirPlay-enabled receiver or speaker system. To make it easier to control AirPlay, select the Show Mirroring Options in the Menu Bar When Available check box. (Note that the icon will only appear in your menu bar when you have an Apple TV unit within range.)

» **Color:** Click a display ColorSync profile to control the colors on your screen. To load a ColorSync profile, click the Open Profile button. To create a custom ColorSync profile and calibrate the colors that you see, click the Calibrate button to launch the Display Calibrator. This easy-to-use assistant walks you step by step through creating a ColorSync profile matched to your iMac's gamma and white-point values.

» **Night Shift:** The Night Shift feature allows Mojave to automatically adjust your display to provide warmer colors during nighttime operation. Click Schedule to choose either Sunset to Sunrise operation or create your own custom schedule. You can also turn on Night Shift manually using the Turn On Until Tomorrow check box. Finally, adjust the Color Temperature slider to increase or decrease the warmth of colors on your display.

If you connect your iMac or iMac Pro to an external monitor, don't be surprised to see the Arrangement section appear as well. You can drag the output to a different monitor, or drag the menu bar to another screen, or you can choose to mirror the same output to all displays connected to your computer.

The Desktop & Screen Saver pane

No offense to the awesome Mojave "desert dunes" background, but who doesn't want to choose his or her own background? And what about that nifty screen saver you just downloaded from the Apple website? You can change both the background and screen saver by using these options in the Desktop & Screen Saver pane.

The settings on the Desktop section, shown in Figure 5-5, are:

» **Current Desktop picture:** You can click a picture in the thumbnail list at the right half of the screen to use it as your Desktop background. The Desktop is immediately updated, and the thumbnail appears in the *well* (the upper-left box in Figure 5-5). To display a different image collection or open a folder of your own images, click the Add Folder button at the lower-left corner of the window (a plus sign) and browse for your heart's desire; then click Choose to select a folder and display the images it contains.
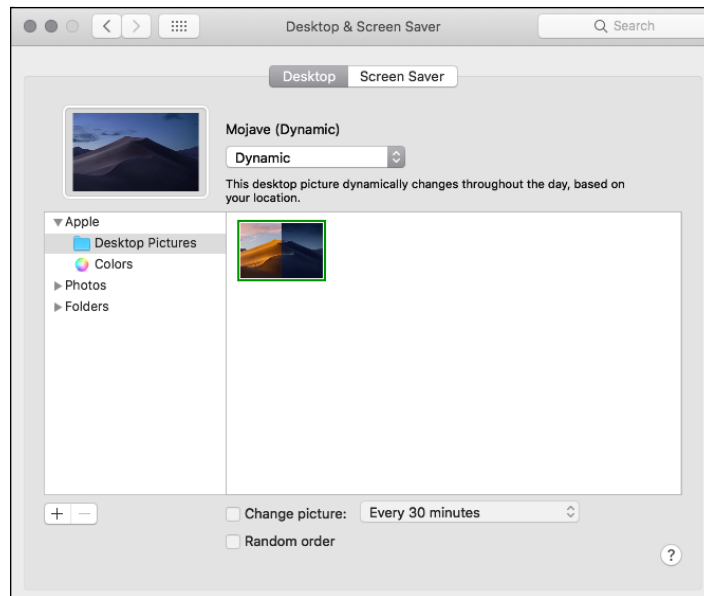
FIGURE 5-5:
Pick your own Desktop background.

>> **Layout:** You can tile your background image, center it, fill the screen with it (cropping the edges if necessary), and stretch it to fill the screen (without cropping). Note that filling the screen in either case may distort the image. The layout pop-up menu appears only when you're using your own pictures, so you don't see it if you're using a Desktop image supplied by Apple.

>> **Change Picture:** Change the Desktop background automatically after the delay period that you set, including each time you log in and each time your Mac wakes up from sleep mode.

>> **Random Order:** To display screens randomly, enable the Random Order check box. Otherwise, the backgrounds are displayed in the sequence in which they appear in the thumbnail list.

> The new Dynamic Desktop selection automatically changes your desktop image based on the time of day, offering you a subtle change in mood, as well!

The settings on the Screen Saver section are:

>> **Screen Saver:** In the Screen Saver list at the left, click any screen saver to preview (on the right). To try out the screen saver in full-screen mode, hover your pointer over the display on the right and click the Preview button that appears. (You can end the test by moving the cursor.) If the screen saver module you select has any configurable settings, click the Screen Saver Options button to display them. (A screen saver is *not* configurable if the Screen Saver Options button doesn't appear.) Enable the Use Random Screen Saver check box to display a different screen saver module each time the screen saver is activated.

>> **Start After:** Specify the period of inactivity that triggers the screen saver. To disable the screen saver, choose the Never setting at the top of the list. (Your Start After delay should be a shorter time than the Display Sleep delay you set in the System Preferences Energy Saver pane. Otherwise, you won't see the great screen saver at all. I describe the Energy Saver pane later in this chapter.)

>> **Show with Clock:** If you want your selected screen saver to display the time as well, select this check box.

>> **Hot Corners:** Click the Hot Corners button, and then click any of the four pop-up menus at the four corners of the screen. Doing so designates that corner as an *activation hot corner* (immediately activates the screen saver) or as a *disabling hot corner* (prevents the screen saver from activating). As long as the cursor stays in the disabling hot corner, the screen saver doesn't kick in, no matter how long a period of inactivity passes. Note that you can also set the Sleep, Mission Control, Launchpad, Notification Center, and Dashboard activation hot corners from here. For the scoop on these features, see the next section.

TIP

For additional security, check out the Security & Privacy pane in System Preferences, where you find the Require Password After Sleep or Screen Saver Begins check box. When you select this check box, Mojave requires your user account password before allowing anyone to turn off the screen saver (a great idea in an office environment, as you can imagine).

Mission Control preferences

Figure 5-6 shows the Mission Control, Spaces, and Dashboard settings you can configure in this group. You can use Mission Control to view all the application windows you're using at one time so that you can select a new active window. Or you can move all windows aside so that you can see the Desktop. Dashboard presents a number of mini-applications (or *widgets*), which you can summon and hide by pressing a single key.
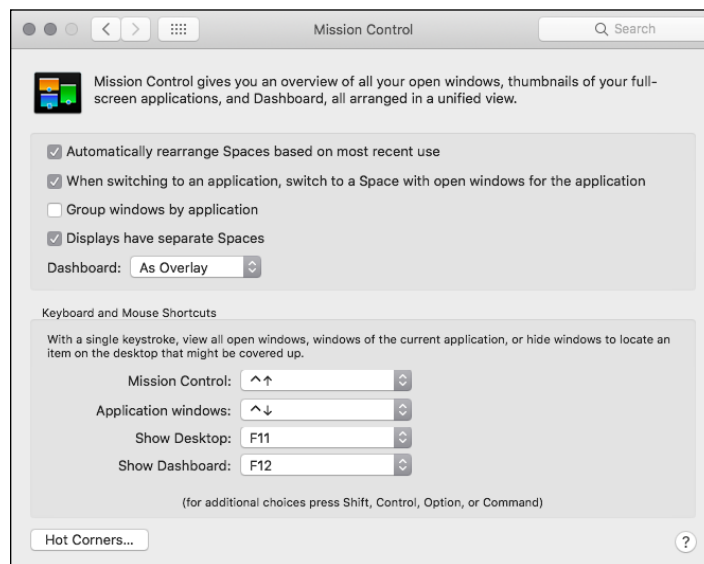
FIGURE 5-6:
Set your Mission Control preferences here.

The settings are:

» **Automatically Rearrange Spaces Based on Most Recent Use:** If this check box is selected, Mission Control presents your most recently used Spaces first in the thumbnails at the top of the screen.

>> **When Switching to an Application:** When selected, this check box allows you to switch applications between Spaces desktops by using the ⌘+Tab shortcut. Yosemite jumps to the Desktop that has an open window for the application you choose, even if that Desktop is not currently active.

>> **Group Windows by Application:** When selected, this check box automatically arranges windows in the Mission Control screen by the application that created them.

>> **Displays Have Separate Spaces:** If you have multiple monitors connected to your Mac, you can select this check box to create a separate Spaces display for each monitor.

To display your Dashboard as a Space (a virtual desktop) in the Mission Control screen, click the Dashboard pop-up menu and choose the As Space option. If you prefer your Dashboard widgets to appear as an overlay over your Desktop, select the As Overlay option from the pop-up menu.

>> **Keyboard Shortcuts:** From each pop-up menu, set the key sequences for Mission Control, Application Windows, Show Desktop, and Show Dashboard.

You're not limited to keyboard and mouse shortcuts in the pop-up menus. Press the Shift, Control, Option, and ⌘ keys while a pop-up menu is open, and you see these modifiers appear as menu choices! (Heck, you can even combine modifiers, such as ⌘+Shift+F9 instead of just F9.)

>> **Hot Corners:** Click the button at the lower-left corner of the pane to specify your hot corner settings. These four pop-up menus operate just like hot corners and active screen corners in the Desktop & Screen Savers pane, allowing you to control the operation of the screen management features within Mojave. Click one to designate that corner as one of the following:

● *A Mission Control corner* displays the Mission Control screen.

● *An Application Windows corner* displays only the windows from the active application.

● *A Desktop corner* moves all windows to the outside of the screen to uncover your Desktop.

● *A Dashboard corner* displays your Dashboard widgets.

● *A Launchpad corner* activates the Launchpad screen.

● *A Notification Center corner* displays the Notification Center strip at the right side of your Desktop.

Note that you can also set the Screen Saver Start and Disable corners from here, as well as put your display to sleep.

The General pane

The talented General pane, shown in Figure 5-7, determines the look and operation of the controls that appear in application windows and Finder windows. It looks complex, but I cover each option here.
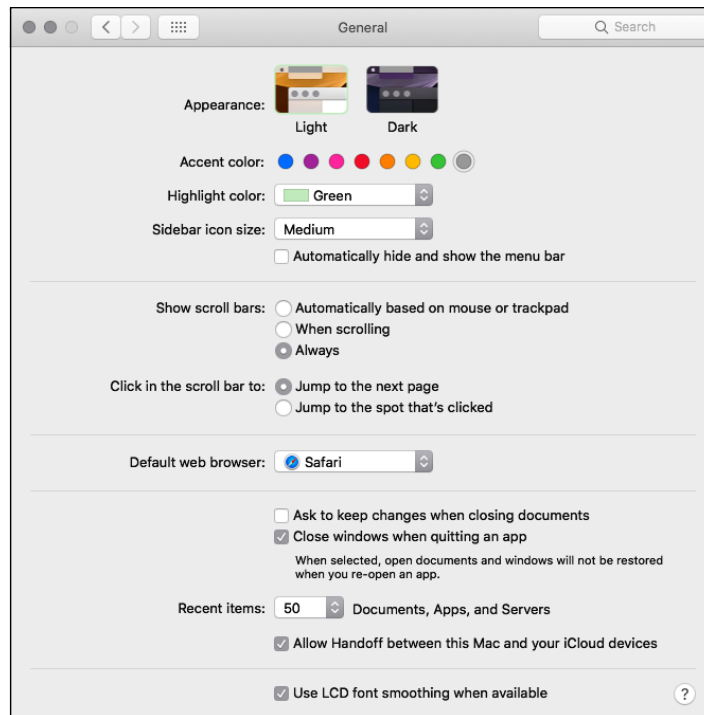
The settings are:

» **Appearance:** Click the Light or Dark option to switch between Light or Dark mode for your Finder menu bar, window buttons and window background, and your Dock. You can also choose to hide the Finder menu bar — to display it while hidden, move your pointer to the top of the screen.

» **Accent Color:** Click on an Accent color to use for buttons and menus.

» **Highlight Color:** Choose a color to highlight selected text in fields and pop-up menus.

» **Sidebar Icon Size:** Select the size of the icons in the Finder window Sidebar. It's the strip to the left of the Finder window that displays your devices and favorite locations on your system. If you have a large number of hard drives,

or if you've added several folders to the Sidebar, reducing the size of the icons allows you to display more of them without scrolling.

>> **Show Scroll Bars:** Specify when Mojave should display scroll bars in a window. By default, they're placed automatically when necessary, but you can choose to display scroll bars always or only when you're actually scrolling through a document.

>> **Click in the Scroll Bar To:** By default, macOS jumps to the next or previous page when you click in an empty portion of the scroll bar. Select the Jump to the Spot That's Clicked radio button to scroll the document to the approximate position in relation to where you click.

>> **Default Web Browser:** Click this pop-up menu to specify which application Mojave should use to display web pages. By default, macOS uses the Safari web browser.

>> **Ask to Keep Changes When Closing Documents:** If you select this check box, Mojave prompts you for confirmation if you attempt to close a document with unsaved changes. If the check box is deselected, Mojave allows the unsaved document to be closed without saving a new version.

>> **Close Windows When Quitting an App:** If this check box is deselected, the macOS Resume feature automatically saves the state of an application when you quit. When you relaunch the application again, Mojave restores all application windows and opens the documents you were working on when you quit. In effect, you can continue using the application just as if you had never quit. If you select the check box, Mojave does not restore your work, and you have to reload your document.

>> **Recent Items:** The default number of recent applications, documents, and servers (available from the Recent Items item in the Apple menu) is 10. To change the default, open the pop-up menus here and choose up to 50. (I like 20 or 30.)

>> **Allow Handoff Between this Mac and Your iCloud Devices:** If this check box appears within the General pane, you can enable it to turn on Handoff functionality within Mojave. (I discuss Handoff within the confines of Chapter 9.)

>> **Use LCD Font Smoothing When Available:** By default, this check box is enabled, making the text on your iMac's display appear more like the printed page. You can turn off this feature to speed up text display slightly.

The Energy Saver pane

I'm an environmentalist — it's surprising how many techno types are colored green — so the controls on this pane are pretty doggone important. When you use them correctly, you not only conserve power but also invoke the Power of Mojave to automatically start up and shut down your iMac whenever you like!

Move the Computer Sleep slider, shown in Figure 5-8, to specify when Mojave should switch to sleep mode. The Never setting disables sleep mode. To choose a separate delay period for blanking your screen, drag the Display Sleep slider to the desired period. You can also power down the drive to conserve energy and prevent wear and tear (an especially good feature for magnetic hard drives).
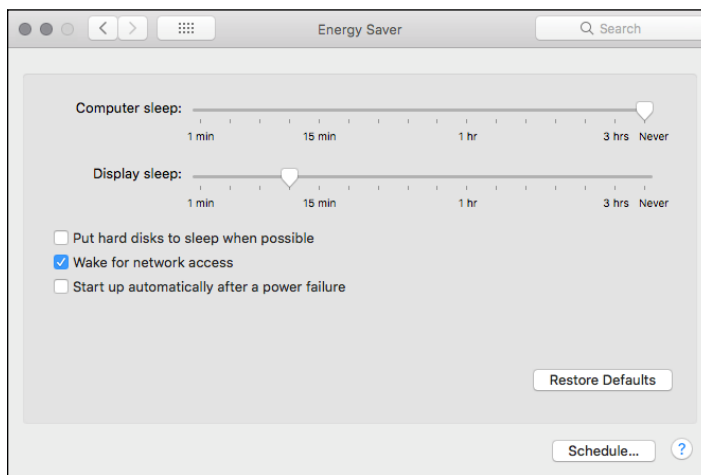
If you want to start up or shut down your iMac at a scheduled time, click the Schedule button. Select the desired schedules (the Start Up or Wake check box and the Shut Down/Sleep check box) to enable them. Then click the up and down arrows next to the time display to set the trigger time. Click OK to return to the Energy Saver pane.

The Dock pane

I'll come clean: I think the Dock is the best thing since sliced bread. (I wonder what people referred to before sliced bread was invented?) You can use the settings shown in Figure 5-9 to configure the Dock's behavior until it fits your personality like a glove:

>> **Size:** Pretty self-explanatory. Just drag the slider to change the Dock's scale.

>> **Magnification:** When you select this check box, each icon in the Dock swells like a puffer fish when you move the cursor over it. (The Magnification slider determines just how much it magnifies.) I really like this feature because I resize my Dock smaller, and I have a large number of Dock icons.

>> **Position on Screen:** Select a radio button here to position the Dock on the left, bottom, or right edge of the Desktop.
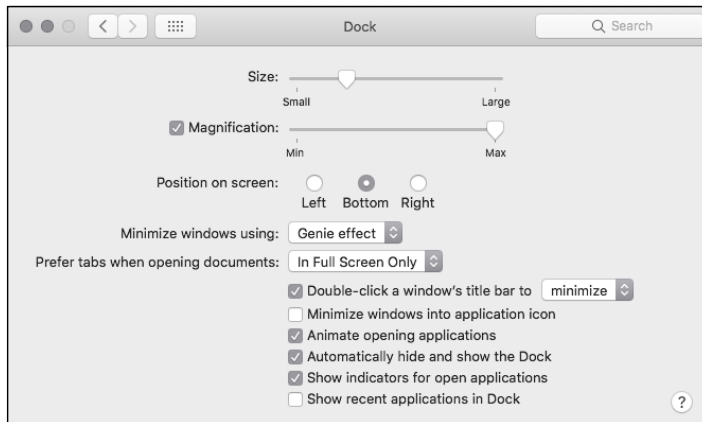
FIGURE 5-9:
Customize your Dock with these controls.

>> **Minimize Windows Using:** Mojave includes two cool animations that you can choose from when shrinking a window to the Dock (and expanding it back to the Desktop). Click the Minimize Windows Using pop-up menu to specify the genie-in-a-bottle effect or the scale-up-or-down-incrementally effect.

>> **Prefer Tabs when Opening Documents:** This setting allows you to specify when your applications should open documents in a new tab display or within a new document window. You can choose to use tabs always, only when using full-screen mode, or only when you actually create a new tab in the application itself. (Note that if an application doesn't support tab display, new documents will open in a window.)

>> **Double-Click a Window's Title Bar to Minimize/Zoom:** Select this check box to minimize or zoom a Finder or application window by simply double-clicking the window's title bar.

>> **Minimize Windows into Application Icon:** If this check box is not enabled, minimized application windows appear as thumbnail icons on the Dock. To minimize application windows into the application icon on the Dock — which can save space on your Dock — select this check box. (To restore a window that's been minimized into the application icon, right-click the icon on the Dock and choose Restore from the menu that appears.)

>> **Animate Opening Applications:** Active souls who like animation probably get a kick out of the bouncing application icons in the Dock, which indicate that you've launched an application and that it's loading. If you find this effervescence overly buoyant or distracting, deselect this check box.

>> **Automatically Hide and Show the Dock:** Select this check box, and the Dock disappears until you need it. (Depending on the size of your Dock, the Desktop real estate you gain can be significant.) To display a hidden Dock, move the cursor over the corresponding edge of the Desktop.

>> **Show Indicators for Open Applications:** macOS indicates which applications are running in the Dock with a small gray dot in front of the icon. To disable these indicators, deselect this check box.

>> **Show Recent Applications in Dock:** Enable this check box to park the icons for the three applications you used last at the right side of the Dock (a real boon for those of us who use the same group of applications often). macOS automatically updates the three icons as you use your iMac.

The Sharing pane

So you're in a neighborly mood, and you want to share your toys with others on your local wired or wireless network. Perhaps you'd like to start your own website or protect yourself from the Bad Guys on the Internet. All these fun diversions are available from the Sharing pane in System Preferences, as shown in Figure 5-10.
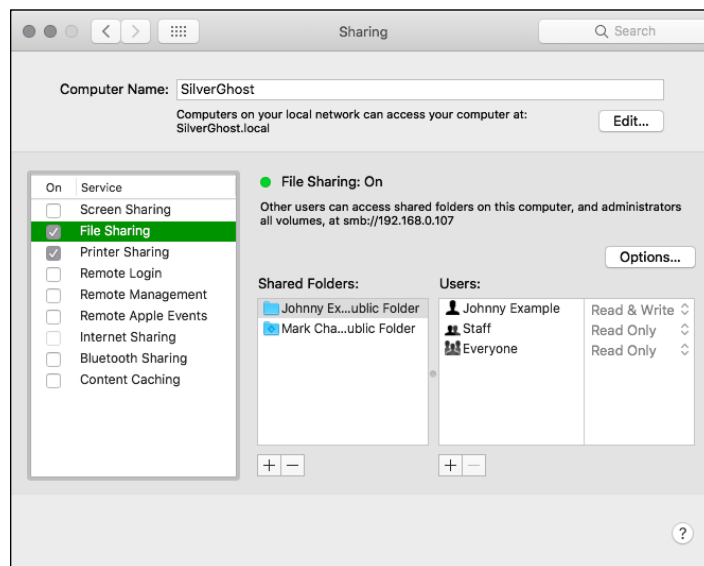
FIGURE 5-10:
Use controls on the Sharing pane to share your toys.

Click the Edit button to change the default network name assigned to your iMac during the installation process. Your current network name is listed in the Computer Name text field.

Each entry in the services list controls a specific type of sharing, including DVD and CD Sharing (if you have an optical drive, which I don't, so this option is not shown in the figure), Screen Sharing, File Sharing (with other Macs and PCs

running Windows), Printer Sharing, Remote Login, Remote Management (using Apple Remote Desktop), Remote Apple Events, Internet Sharing, Bluetooth Sharing and Content Caching (which stores updates and other content for later installation). To turn on any of these services, select the On check box for that service. To turn off a service, click the corresponding On check box to deselect it.

From a security standpoint, I highly recommend that you enable only the services you actually use. Each service you enable automatically opens your Mojave firewall for that service. Here's a Mark's Maxim to remember:

Poking too many holes in your firewall is not A Good Thing.™

When you click one of the services in the list, the right side of the Sharing pane changes to display the settings you can specify for that particular service.

The Time Machine pane

iMac owners are thrilled with the Time Machine automatic backup feature that's built in to Mojave. It's saved *all* my stuff numerous times. You can easily configure how Time Machine handles your backups from this pane, as shown in Figure 5-11. Chapter 21 covers how to use Time Machine. Of course, you need an external drive (or an AirPort Time Capsule wireless backup device) for the best backup security. Note that Time Machine doesn't work with a CD or DVD rewriteable drive; you must use a USB or Thunderbolt external hard drive.
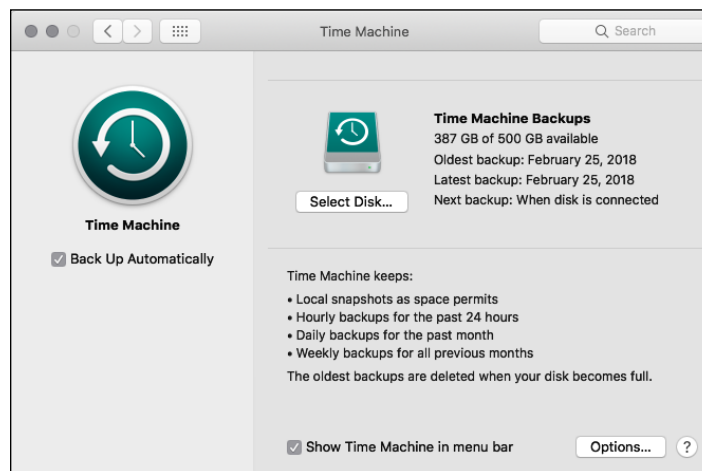
FIGURE 5-11:
Put Time Machine to work, and your data is always backed up.

To enable Time Machine, click the Back Up Automatically check box to enable it, and then select a disk to hold your Time Machine backup data on the sheet that appears. (You can also switch backup disks at any time by clicking the Select Disk button.) Click Use Disk to confirm your choice – if you have an external Time Capsule wireless unit, click Set Up instead and follow the on-screen steps.

REMEMBER Your external backup drive should be at least twice the capacity of your internal drive, thus ensuring that your backup files have the elbow room they need.

By default, Time Machine backs up all the drives on your system; however, you may not need to back up some folders on your iMac. To save time and backup drive space, Time Machine allows you to exclude specific folders from the backup process. Click Options, and then click the Add button (with the plus sign) to select the drives or folders you want to exclude. They appear in the Exclude These Items From Backups list.

TIP To remove an exclusion, select it in the list and click the Delete button (with the minus sign). Note that the Estimated Size of Full Backup figure increases, and Time Machine adds the item you deleted from the list to the next backup.

TIP If you enable the Show Time Machine in Menu Bar check box, you can elect to back up your Mac immediately by clicking the Time Machine icon in the Finder menu bar and then choosing Back Up Now.

By default, Mojave warns you when deleting older backup files, but you can turn this off from the Options sheet as well.

REMEMBER Would you like your data to be safe in case of fire or stolen hardware? You can always create copies of your most important files and documents in your iCloud Drive, or copy them to a USB flash drive and store it in another location!

iCloud preferences

From the Mojave System Preferences iCloud pane, shown in Figure 5-12, you can specify which types of data are automatically pushed to your iMac Pro and iOS devices. If you haven't created an iCloud account yet — or if you signed out of an existing account earlier — System Preferences prompts you to enter your Apple ID and password. Click Sign In to display the contents of the iCloud pane.

Mojave allows you to set up Family Sharing, where up to six accounts can share photos, iTunes media and apps, and a common calendar — group members can even display the current location of other members who are carrying MacBooks or iOS devices! Click the Set Up Family button, and then click Continue to launch the Family Sharing setup assistant.

The check boxes for each category are:

- » **iCloud Drive:** Enable and disable iCloud Drive access system-wide, or click the Options button to set access for specific applications.

- » **Photos:** Push the latest photos and video clips you've added in Photos to other devices, and update your Photos library with photos and video clips pushed from your iOS devices.

- » **Mail:** Synchronize your Mail account settings between devices.

- » **Contacts:** Push your Contact cards between devices.

- » **Calendars:** Push your calendar events to and from your iOS devices.

- » **Reminders:** Synchronize the reminders you've set between devices.

- » **Safari:** Synchronize your Safari bookmarks.

- » **Notes:** Synchronize your Notes between devices.

- » **Siri:** Synchronize your Siri configuration.

- » **Keychain:** Share passwords for applications and websites between your devices.

- » **Find My Mac:** If your iMac is stolen, you can locate it from a web browser or your iOS device. You can also choose to remotely lock your computer — or even *wipe your iMac's internal drive completely* to prevent someone from stealing your data.

WARNING

Wiping your iMac remotely is a drastic step that will prevent you from locating it in the future.

» **News:** Synchronize groups and favorites in News with your other Macs and iOS devices.

» **Stocks:** Synchronize your favorite stocks and settings between devices.

» **Home:** Synchronize your Home accessory operating schedules and settings with other Macs and iOS devices.

To display the storage currently being used by your mail, backups, documents, and application data, click the Manage button at the lower-right corner of the pane. Apple provides each iCloud account 5GB of space for free, but you can also elect to buy additional storage from this sheet.

Notifications preferences

The Notifications group is shown in Figure 5-13. Each application that can display notifications appears in the list at the left of the pane.
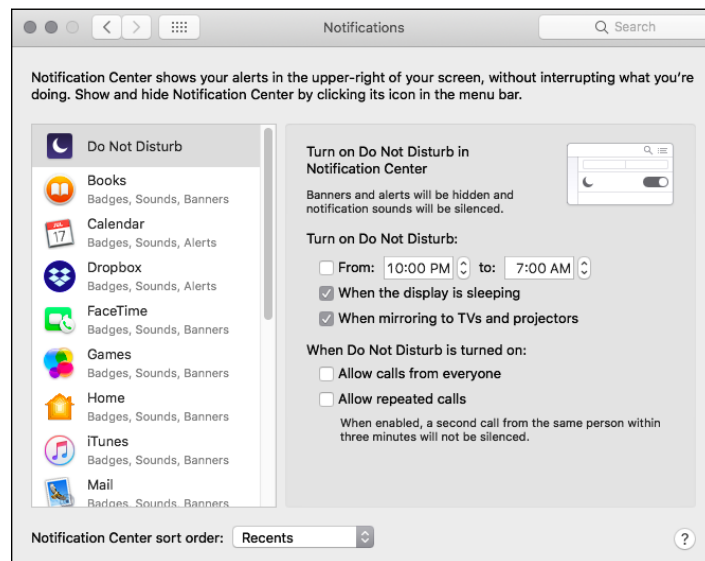
FIGURE 5-13: Each application that uses notifications can be individually configured.

TIP

Click the Do Not Disturb entry in the list at the left to set Do Not Disturb mode, where Notification banners, alerts, and sounds are disabled. You can specify a time period, turn on Do Not Disturb when your iMac is in sleep mode, or turn on Do Not Disturb when you're mirroring (or sending) the video from your iMac to a TV or projector. You can also optionally allow FaceTime calls from anyone while Do Not Disturb is active or just from those you've marked as Favorites in FaceTime. If you select Allow Repeated Calls, a FaceTime caller can call a second time within three minutes without being disabled.

Click an application in the list at the left to configure its notifications. Different applications display different options in the settings pane, but the settings can include the following:

TIP

» **Alert Style:** These three buttons specify which type of alert should appear under the Notification Center icon in the menu bar. You do not need to display the Notification Center to see alerts, which appear on your Desktop. Choose None to disable alerts for this application. Choose Banners to display alert messages that automatically disappear after a delay. Choose Alerts to display alert messages that remain onscreen until you click the confirmation button in the Alert dialog.

» **Show Notifications on Lock Screen:** If it appears, you can select this check box to allow notifications even if your iMac is displaying the Lock screen.

» **Show Notification Preview:** If enabled, notifications for this application will include a preview of the content. You can also specify whether the preview will appear while your iMac display is locked.

» **Show in Notification Center:** To display notification messages from this application in the Notification Center, select this check box.

» **Badge App Icon:** This check box toggles on and off the display of this application's icon in alert boxes and in the Notification Center. It also activates the numeric display of pending items on the icon itself (for example, unread mail and messages).

» **Play Sound for Notifications:** To play a sound when alerts appear, enable this check box.

You can change the order that notifications are sorted in the Notification Center using the Notification Sort Order drop-down list box at the bottom of the pane. The default sort is by the most recent, but you can choose Recents by App to sort recent notifications grouped by applications. For the ultimate in custom notifications, choose Manually by App from the drop-down list box and drag the applications in the list at the left to your desired order.

Chapter **6**

Searching Amidst iMac Chaos

What would you say if I told you that you could search your entire system for all the data connected with a person — and in only the short time it takes to type that person's name? And I'm not just talking about files and folders that might include that person's name. I mean *every* email message and *every* Calendar event that references that person — and even that person's Contacts card to boot. Heck, how about if that search could dig up every occurrence of the person's name inside your PDF documents? What if it could even search folders shared on other Macs across your network?

You'd probably say, "That makes for good future tech. I'll bet I can do that in five or ten years. It'll take Apple at least that long to do it — and just in time for me to buy a new iMac! (Harrumph.)"

Don't be so hasty. You can do all this right now. (In fact, this functionality has been part of macOS for a number of years.) The technology is the macOS feature named *Spotlight,* built into Mojave. In this chapter, I show you how to use it like a fearsome iMac power guru. I also show you how to take advantage of Internet search widgets you can display within the Dashboard. (From what I hear, there's good stuff on the Internet, too.)

Doing a Basic Search

Figure 6-1 shows the Spotlight Search box, which is always available from the Finder menu bar. Click the magnifying glass icon once (or press ⌘+spacebar), and the Spotlight Search box appears on your Desktop, front and center.
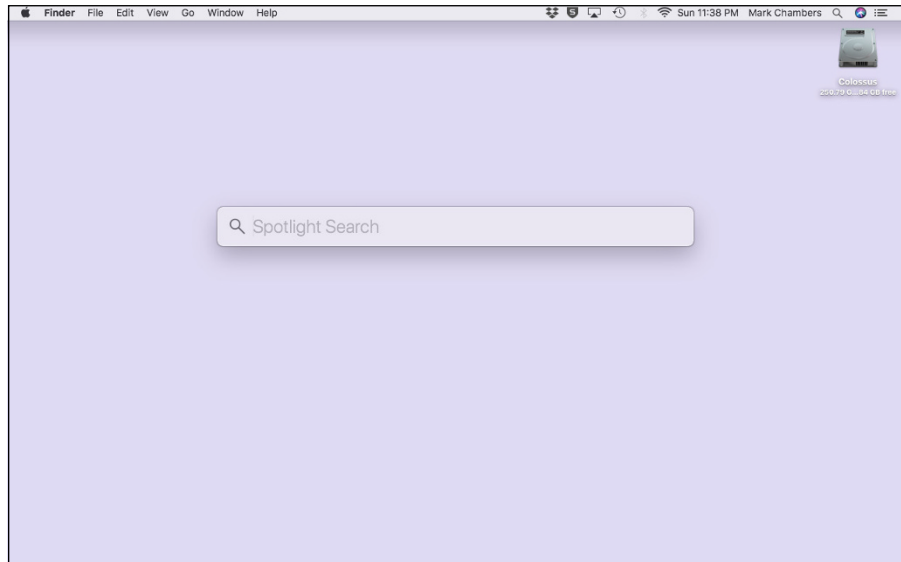
To run a search, simply begin typing. (The words you type that you want to match are called *keywords*.) Matching items appear as soon as you type, and the search results are continually refined while you type the rest of your search keywords. You don't need to press Return to begin the search.

After a second or two, the Spotlight Search box expands to display the results of your search, and the list is updated automatically in real time while you continue to type. The most-relevant items are grouped into categories — such as Messages, Websites, Definitions, Documents, Folders, Images, PDFs, and Contacts — right in the Spotlight Search box. Spotlight Search takes a guess at the item that's most likely the match you're looking for (based on your Search Results list in System Preferences, which I cover later in the chapter) and presents it first. To open the top item like a true Mojave power user, just press Return. (My brothers and sisters, it just doesn't get any easier than that.)

Although one or two keywords are typically enough to do the job, you can also type phrases, such as **emails from Mark Chambers** or **songs with sunshine in the title**.

Single-click any item in the list, and *shazam!* — Spotlight uses the Quick Look technology built in to Mojave to display the contents (such as a thumbnail image of a document or an album cover) or information on the item! For example, if the item is an iTunes playlist, you see the song list in the results pane on the right, and you can click one of the songs to open iTunes and play it. If the item is a Mail message, click it once in the list to view the contents of the message — without leaving the Spotlight Search box.

When you click an item in the list, Spotlight indicates which application will be used to open the item by displaying the icon for that application in the upper-right corner of the Spotlight box. For example, you'll see the iTunes icon for a song and the Safari icon for a website.

Literally, any text string is acceptable as a Spotlight Search. However, here's a short list of the common search criteria I use every day:

>> **Names and addresses:** Because Spotlight has access to the Contacts application in Mojave, you can immediately display contact information using any portion of a name or an address.

>> **Email message text:** Need to open a specific email message, but you'd rather not launch Mail and spend time digging through the message list? Enter the person's email address or any text string contained in the message you're looking for.

>> **File and folder names:** A simple item name is the classic search favorite. Spotlight searches your entire system for that one file or folder in the blink of an eye.

>> **Events and Reminder items:** Yep, Spotlight gives you access to your Calendar events and those all-important Reminders you've created.

>> **Specific songs and playlists:** Itching to hear "Rock Me Amadeus" by Falco? With the power of Spotlight and your iTunes library, you can satisfy your musical needs in seconds!

>> **System Preferences:** Now things start to get *really* interesting! Try typing the word **desktop** in the Spotlight field. At least one of the results in the list will be a System Preference pane! That's right: Every setting in System Preferences is referenced in Spotlight. (For example, the Desktop background setting resides on the Desktop & Screen Saver pane in System Preferences.)

>> **Weather, stocks, and sports scores:** Put Spotlight to work, and you can get instant displays of current weather and forecasts (type **weather** followed by a town name), stock figures (type the desired stock abbreviation), and even sports scores (type your favorite team name).

>> **Web pages:** *Whoa.* Stand back, Google. You can use Spotlight to search the web — and, if necessary, the web pages you've recently displayed in Safari! However, it's important to note that Spotlight can't search data stored online, like the files you may have saved on a "cloud-based" backup site. Spotlight can only search the text on the web pages themselves.

>> **Metadata:** This category is pretty broad, but it fits. If you're not familiar with the term *metadata,* think of the information stored by your digital camera each time you take a photo — exposure setting, time and date, and even the location where the photo was taken, which are also transferred to iPhoto when you import. Here's another example: I like to locate Word documents on my system using the same metadata that's stored in the file, such as the contents of the Comments field in a Word document. Other supported applications include Adobe Photoshop images, Microsoft Excel spreadsheets, Keynote presentations, iTunes media, and other third-party applications that offer a Spotlight plug-in. Metadata is also prominently displayed when you're viewing images and PDF files in Gallery view, providing you with a wealth of convenient details.

To reset the Spotlight Search and try another text string, press ⌘+A to select the entire contents and then press Delete.

After you find the item you're looking for in the list at the bottom of the Spotlight Search box, you can *double*-click the entry in the list to do any of these things:

>> Launch it (if the item is an application).

>> Open it in System Preferences (if it's a setting or description on a System Preferences pane).

>> Open it within the associated application (if the item is a document, website, or data item).

>> Display it in a Finder window (if the item is a folder).

TIP

Here's another favorite time-saver: You can display all the files of a particular type on your system by using the file type as the keyword. For example, to provide a list of all images on your system, just use *images* as your keyword. The same goes for *movies* and *audio,* too.

TECHNICAL STUFF

When you give Siri a command or ask Siri a question, macOS uses Spotlight's search features "behind the scenes" to locate everything from applications and documents to contacts and music tracks.

How Cool Is That? Discovering What Spotlight Can Do

Don't get fooled into simply using Spotlight as another file-'n'-folder-name search tool. Sure, it can do that, but Spotlight can also search *inside* PDFs, Pages and Word documents, and HTML files, finding matching text that doesn't appear in the name of the file! To wit: A search for *Mojave* on my system pulls up all sorts of items, not only files with *Mojave* in their names, but also files with the text *Mojave* within the documents themselves:

>> **Apple Store SF.ppt** is a PowerPoint presentation with several slides containing the text *Mojave.*

>> **new ch03.doc** is a Microsoft Word file chapter of this book that mentions Mojave in several spots.

>> **Conference Call with Colleen** is a Calendar event pointing to a conference call with my project editor about upcoming Mojave book projects.

Not one of these three examples has the words *Mojave* occurring anywhere in the title or filename, yet Spotlight found them because they all contain the text *Mojave* therein. That, dear reader, is the true power of Spotlight, and it can literally guarantee you that you'll never lose another piece of information in the hundreds of thousands of files and folders on your iMac's drive.

Heck, suppose that all you remember about a file is that you received it in your mail last week or last month. To find it, you can type time periods, such as *yesterday, last week,* or *last month,* to see every item that you saved or received within that period. (Boy howdy, I *love* writing about TGIs — that's short for Truly Good Ideas.)

Be careful, however, when you're considering a search string. Don't forget that (by default) Spotlight matches only those items that have *all* the words you enter in the Spotlight box. To return the highest number of possible matches, use the fewest number of words that will identify the item. For example, use *horse* rather than *horse image,* and you're certain to be rewarded with more hits. On the other hand, if you're looking specifically for a picture of a knight on horseback, using a series of keywords — such as *horse knight image* — shortens your search considerably. It all depends on what you're looking for and how widely you want to cast your Spotlight net.

IS SPOTLIGHT SECURE?

So how about all those files, folders, contacts, and events that you *don't* want to appear in Spotlight? What if you're sharing your Mac as a multiuser computer or accessing other Macs remotely? Can others search for and access your personal information through Spotlight?

Definitely not! The results displayed by Spotlight are controlled by file and folder permissions as well as your account login, just as the applications that create and display your personal data are. For example, you can't access other users' calendars using Calendar, and they can't see your Mail messages. Only *you* have access to your data, and only after you've logged in with your username and password. Spotlight works the same way. If a user doesn't normally have access to an item, the item simply doesn't appear when that user performs a Spotlight search. (In other words, only you get to see your stuff.)

However, you can hide certain folders and disks from your own Spotlight searches if necessary. Check out the final section of this chapter for details on setting private locations on your system.

To allow greater flexibility in searches, Apple also includes those helpful Boolean friends that you may already be familiar with: AND, OR, and NOT. For example, you can perform Spotlight searches such as these:

>> **Horse AND cow:** Collects all references to both those barnyard animals into one search

>> **Batman OR Robin:** Returns all references to either Batman or Robin

>> **Apple NOT PC:** Displays all references to Apple that don't include any information about dastardly PCs

Expanding Your Search Horizons

I can just hear the announcer's voice now: "But wait, there's more! If you double-click the Show All in Finder menu item at the bottom of your search results list, we'll expand your Spotlight Search box into the Finder Search window!" (Fortunately, you don't have to buy some ridiculous household doodad.)

TIP

Keyboard mavens will appreciate the Finder Search window shortcut key, and I show you where to specify this shortcut in the final section of this chapter.

Figure 6-2 illustrates the Finder Search window. To further filter the search, click one of the buttons on the search criteria bar to create your own custom filter. Click

the button with the + (plus) on the search criteria bar and then click the pop-up menus to choose criteria, such as the type of file, the text content, or the location on your system (for example, your hard drive, your Home folder, or a network server). You can also filter your results listing by the date when the items were created or last saved. To add or delete criteria, click the + (plus) and – (minus) buttons at the right end of the search criteria bar. To save a custom filter that you've created, click the Save button.
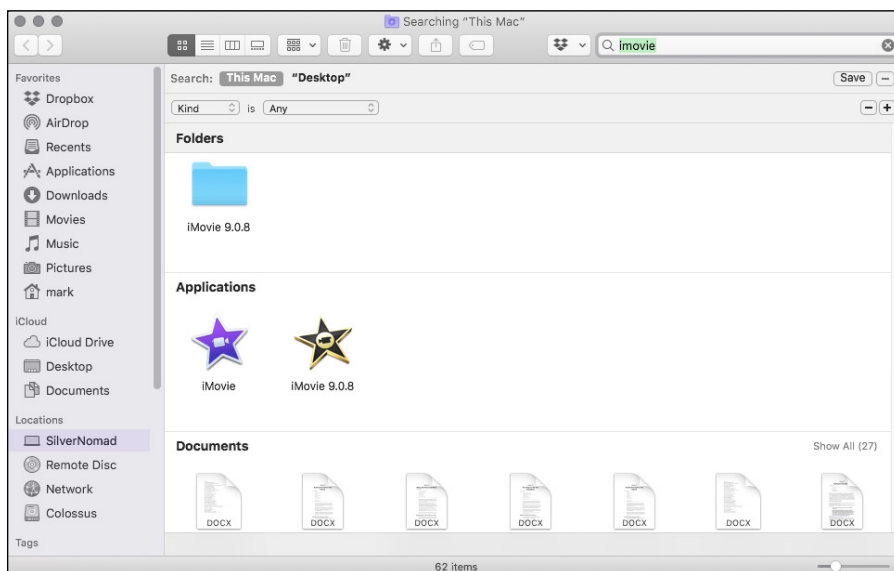
Images appear as thumbnail icons, so you can use that most sophisticated search tool — the human eye — to find the picture you're looking for. (If you don't see thumbnail images, click the Icon view button on the toolbar.) Don't forget that you can increase or decrease the size of the icons by dragging the slider at the bottom right of the window.

TIP

To display the contents of an item in the list (without leaving the comfortable confines of the Finder Search window), click the item to select it, and press the spacebar for a better view. Note that Mojave must recognize the format of the file, and it must be supported by at least one application.

Again, when you're ready to open an item, just double-click it in the Finder Search window.

As I mention earlier, Spotlight can look for matching items on other Macs on your network only if those remote Macs are configured correctly. To allow another Mac to be visible to Spotlight on your system, enable File Sharing on the other Mac.

(Oh, and remember that you need an admin-level account on that Mac — or access to a good friend who has an admin-level account on that Mac.)

Follow these steps to enable file sharing on the other Mac:

1. **On the Dock, click the System Preferences icon (the one with the gears).**

2. **Click the Sharing pane.**

3. **In the service list on the left side of the Sharing pane, select the On check box next to the File Sharing item to enable it.**

4. **Click the Close button in the System Preferences window (or, if you're a keyboard power user, simply press the ⌘+Q shortcut).**

REMEMBER

You can search only those items that you have rights and permissions to view on the remote Mac (such as the contents of the Public folders on that computer). I discuss these limitations earlier in this chapter, in the sidebar "Is Spotlight secure?"

Customizing Spotlight to Your Taste

You might wonder whether such an awesome macOS feature has its own pane in System Preferences — and you'd be right again. Figure 6-3 shows off the Spotlight pane in System Preferences. Click the System Preferences icon on the Dock and then click the Spotlight icon to display these settings.

Click the Search Results section to:

» **Determine which categories appear in the Spotlight search box.** For example, if you don't use any presentation software on your Mac, you can clear the check box next to Presentations to disable this category (thereby making more room for other categories that you will use).

» **Specify the Spotlight search box and Finder search window keyboard shortcuts.** Click the Keyboard Shortcuts button to enable or disable either keyboard shortcut and choose the key combination from the pop-up menu. By default, the menu keyboard shortcut is ⌘+spacebar, and the Finder search window keyboard shortcut is ⌘+Option+spacebar.

Click the Privacy section (shown in Figure 6-4) to specify disks and folders that should *never* be listed as results in a Spotlight Search. I know, I know — I say earlier that Spotlight respects your security, and it does. However, the disks and folders that you add to this list won't appear even if *you* are the one performing the search — a great idea for folders and removable drives that you use to store sensitive information, such as medical records.
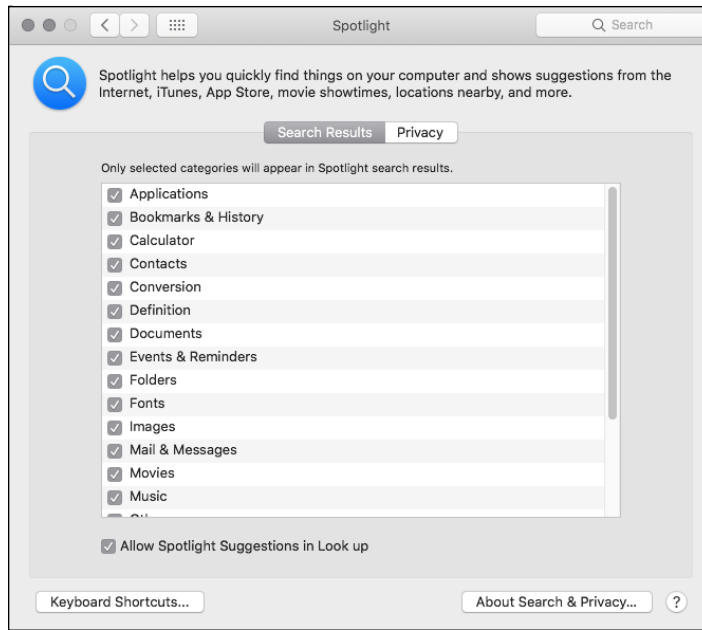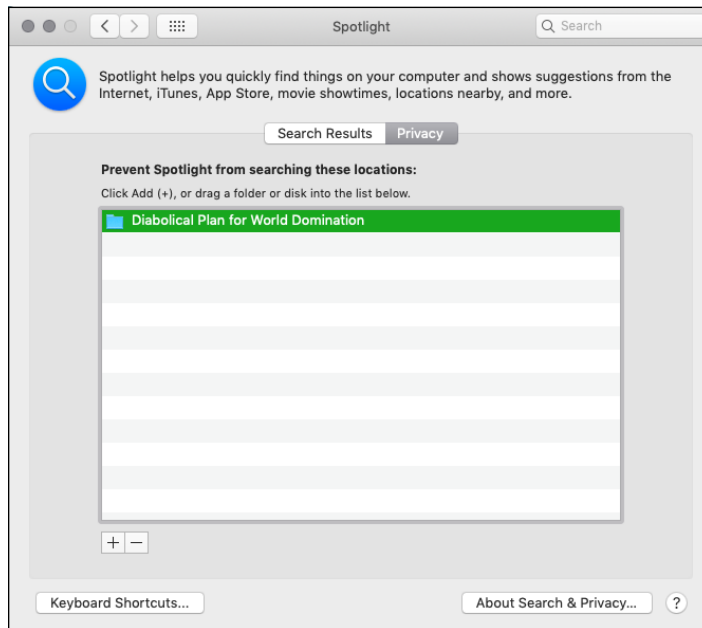
To add locations that you want to keep private, click the Add button (a plus sign) and navigate to the desired location. Click the location to select it and then click Choose. Alternatively, you can drag folders or disks directly from a Finder window and drop them onto the pane.

Chapter **7**

Putting Common Apps to Work

As I've said many times before in my books, "If it works in one place, it's likely to show up in another." In this case, five popular time-saving (and headache-preventing) apps have crossed over from the world of iOS devices — the iPhone and iPad— and have securely landed on your Mojave Desktop. These apps are Reminders, Notes, Notification Center, Maps, and News, all taken from the iOS world.

That's not the only good news, though: These five Mac applications work seamlessly with an iCloud account. So if you also use an iOS device (with the same Apple ID), much of the data you store — such as the notes you take and the reminders you make — is automatically synchronized between all your Apple computers and devices.

Because all five of these applications have a similar goal — keeping you in touch with the information, daily tasks, locations, and digital events that matter to you — I decided to cover them in one shiny chapter. Consider this chapter a guide that demonstrates how you can remind, note, notify, read,and map like a true power user.

Remind Me to Use Reminders

You don't need to look far to find the Reminders application on your Mac. Just click the Reminders icon on the Dock to display the main window, as shown in Figure 7-1.

Reminders Sidebar

Search box   Reminder   Add Reminder
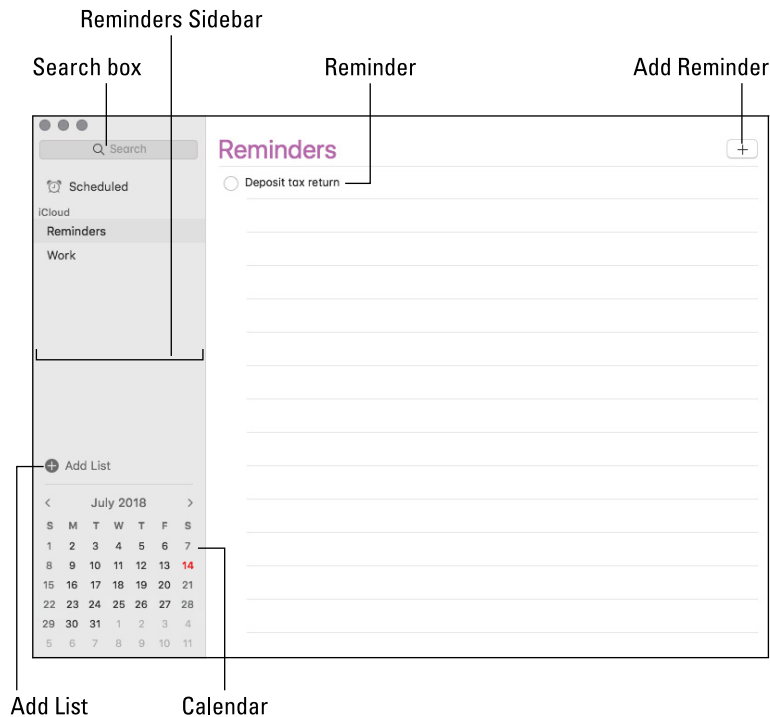
FIGURE 7-1:
The main
Reminders
window in
action.

Add List   Calendar

These are highlights of the Reminders window:

» **Search box:** Click here and type a phrase or name to search for it among your reminders.

» **Reminders Sidebar:** You can add as many separate Reminder lists as you like in the application (one for work, for example, and another for your Mac user group). In the Sidebar, you can switch quickly between your lists.

You can hide or show the Reminders Sidebar at any time using the View menu, or by pressing ⌘+Option+S. You save a significant amount of screen real estate when the display is hidden.

TIP

- » **Calendar:** This handy calendar indicates which days of the current month already have reminders pending: They're displayed with a dot under the date. You can jump to any date by clicking it. To move forward and backward through the months, click the Previous and Next buttons next to the month name. (Note that this calendar does not sync or exchange reminder dates with the Calendar application.) To display the Calendar, click View ⇨ Show Calendar — to hide the Calendar, click View ⇨ Hide Calendar.

- » **Add List button:** Click this button to add a new Reminder list to the Sidebar; from the keyboard, press ⌘+L. The list name is highlighted in a text box, so you can simply type the new name and press Return.

- » **Reminders:** These entries are the reminders themselves. Each is prefaced by a radio button so you can select the radio button when the reminder is complete, thereby moving that reminder automatically to the Completed list. And yes, if you click the Show link next to the number of completed reminders to display them and deselect the radio button for a reminder, it returns (like a bad penny) to the original list.

- » **Add Reminder button:** Click this button to add a new reminder to the currently selected list; from the keyboard, press ⌘+N. In its simplest form, a reminder is just a short phrase or sentence. Press Return afterward to save it to your list.

Adding a reminder is straightforward. First, click a date in the calendar display to jump to that date, and then click the Add Reminder button. Type a few words and press Return to create a basic reminder. However, if you hover your cursor over the reminder you just created, an Info button (the lowercase *i* in a circle icon) appears next to the text. The game is afoot! Click the Info button to display the settings you see in Figure 7-2.

These fields are on the Edit sheet:

- » **Reminder text:** Click this text to edit the reminder text itself.

- » **On a Day:** Enable this check box if the reminder should appear in Notification Center on a particular day. By default, the date is the one selected when you created the reminder. You can click the Date and Time fields to change them.

- » **At a Location:** This is a powerful feature. Select the At a Location check box, and a pop-up menu appears below the check box. Now you can type an address in the Enter a Location field. Reminders monitor your current location on your iPad or iPhone using Location Services. They notify you when you're leaving or arriving at that location (and, optionally, on the date and time you specify in the On a Day field). For example, you could create a reminder that notifies you on your iPhone when you're arriving at the mall on September 15 to pick up the watch that's being repaired. *Shazam!*
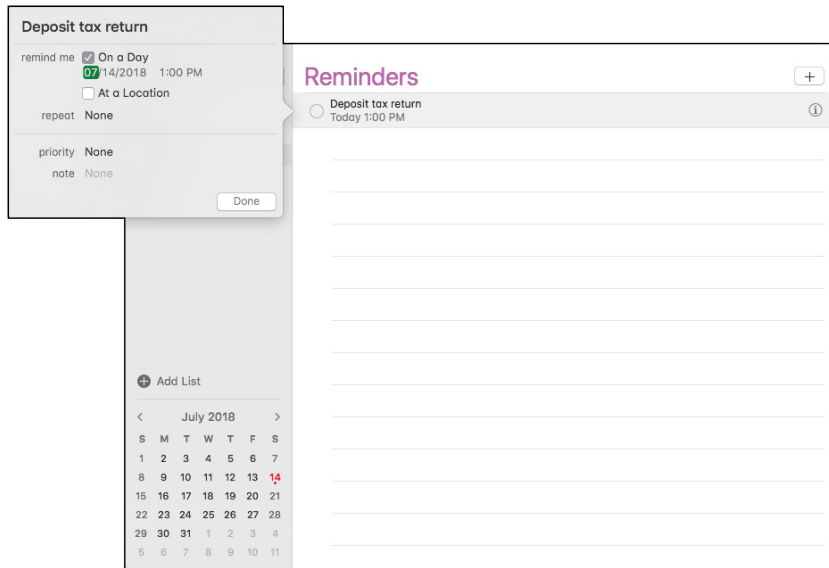
FIGURE 7-2:
Editing a
reminder.

>> **Repeat:** If you select the On a Day check box, you can also set this reminder to automatically repeat every day, week, month, or year at the same time.

>> **Priority:** You can assign one of four priorities to the reminder: Low, Medium, High, or None. Assigning a priority prefaces the reminder text with one (Low), two (Medium), or three (High) blue exclamation points so the reminder stands out from the crowd.

>> **Note:** Click next to the Note field to enter a free-form text note along with the reminder.

Click Done on the Edit sheet when you've finished making changes. You can edit a reminder as often as you like. For example, I sometimes need to change the date on a reminder multiple times as my schedule changes.

To delete a reminder from the list, right-click it and choose Delete from the menu that appears.

iCloud connectivity allows Reminders to share information with other Macs and iOS devices, as well as Microsoft Outlook on both PCs and macOS. To share reminders, click the System Preferences icon on the Dock, click the Internet Accounts icon and then click one of the accounts at the left of the pane. If an account allows you to share data from the Reminders application — such as the iCloud account — you'll see a Reminders check box at the right side of the pane.

Taking Notes the Mojave Way

Imagine a notepad of unlimited pages that's always available whenever you're around your Mac, iPhone, iPod touch, or iPad — that's the idea behind Notes, and it's superbly simple. To open the Mac version of the application, click the Notes icon on the Dock. The window shown in Figure 7-3 appears.
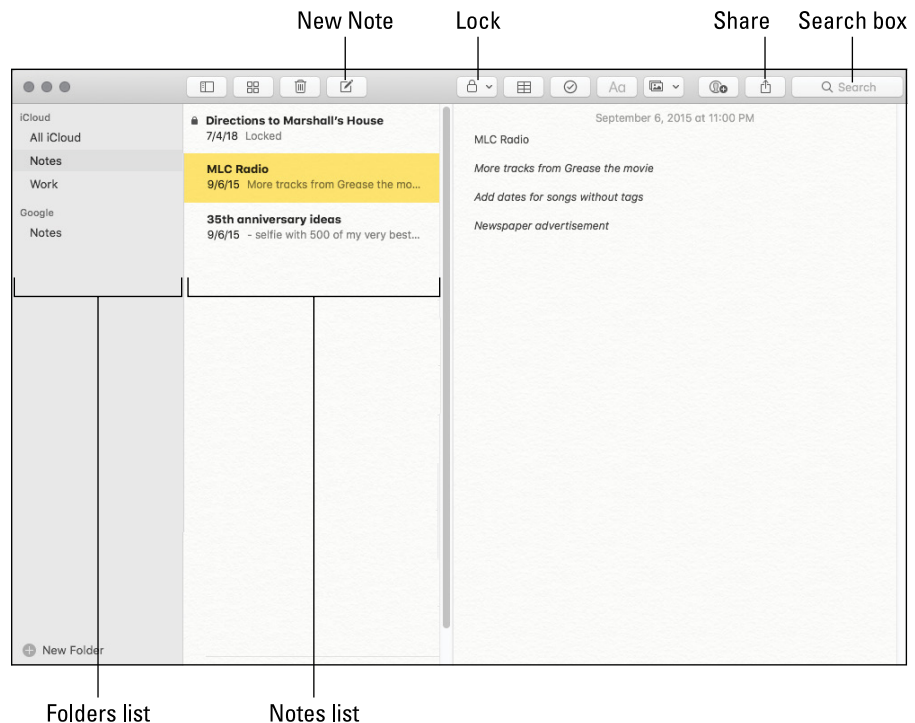
The salient stuff in the Notes window includes these items:

» **Search box:** If you're hunting for a specific note, click in this box and type a phrase or name to search for it.

» **Folders list:** You can create new folders to hold specific kinds of notes. In Figure 7-3, for example, I added a Work folder. To add a new folder, choose File⇨New Folder or press ⌘+Shift+N and type the new folder name. To switch between folders, display the Folders list and click the desired folder. You can display or hide the Folders list from the View menu.

» **Notes list:** Each Note you create appears as a separate entry in the Notes List. You can click a Note in the list to switch to it immediately.

- **» New Note button:** Click this button to add a new Note. Notes uses the first line of text you type as the title of the Note, which appears in the list.

- **» Note Page:** This free-form pane is where you type the body of your note. You can also drag images from a Finder window or the Photo Browser and include them in the body of the note, or embed PDF and audio files by dragging them from a Finder window as well.

- **» Lock button:** Click this button to lock the selected note with a password. Notes allows you to specify a single password for all locked notes — if a note is locked, you'll have to enter this password to view, edit, or delete it.

- **» Share button:** Open this pop-up menu to share the contents of the current note, just like the Share button that appears on the Finder window toolbar. Sharing options can include a new email message, a new message in the Messages application, a new Reminder, and new postings to Twitter or Facebook.

To edit a note, click it to select it in the Notes List, and then simply make your changes or additions in the Note Page. You can format the text from the Format menu — everything from different fonts and colors to inserting bulleted and numbered lists.

To delete a note you no longer need, right-click it in the Notes List and choose Delete from the menu that appears. The application prompts you for confirmation before the deed is done.

TIP You can pin a note to the top of the Notes list to make it more visible – it stays anchored to the top of the list whenever it's visible. Right-click on the desired note in the list and choose Pin Note (or Unpin Note to return the note to regular status).

A note can now include tables to help organize your data, much like the Pages application! Click the Table button in the Notes toolbar to create a default table (two columns and three rows), then click in the first field and begin typing. Press Tab to continue to the next field in the table. To create a custom table, click Format in the Notes menu bar and choose Table – you can specify the number of rows and columns there.

To add an image from your Photos library, click the Photo Browser button in the toolbar and choose Photos from the pop-up menu. The familiar Browser window appears, and you can drag images directly into the Note Page.

Like Reminders, the Notes application can share information with Macs and iOS devices, as well as Outlook on both Macs and PCs. The process is the same: Open System Preferences and click the Internet Accounts icon, and then click the desired account at the left of the pane. Accounts that support sharing data from Notes will display a Notes check box at the right side of the pane.

Staying Current with Notification Center

Unlike Reminders and Notes, Notification Center isn't an application you launch. Instead, the Notification Center icon appears at the far right side of the Finder menu bar, and it's always running.

Click the icon (or, if you're using a trackpad, swipe with two fingers from the right edge to the left) to display your notifications. These notifications can be generated by a whole host of Mojave applications and functions, including Calendar, Mail, FaceTime, Reminders, Game Center, Photo Stream, Messages, Safari, Facebook, and even the Mac App Store. Third-party applications can also generate notifications.

You can also click the *Today* button at the top of the Notification Center to display all sorts of information that specifically applies to today's date (as shown in Figure 7-4), including things like Calendar events, Reminders, the current weather, the macOS calculator and the latest stock figures. To switch back to the Notifications view, click the Notifications button at the top of the Notification Center.
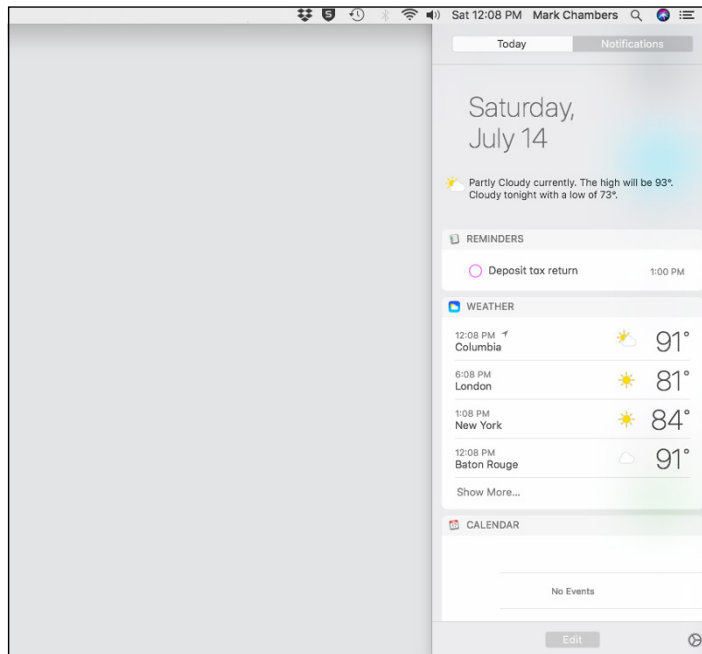
FIGURE 7-4: Notification Center muscles your Desktop to the side.

You can add applets called *widgets* to the Today view as well, allowing you to customize the information you see there. Notification widgets are very similar to Dashboard widgets — you can download them from the App Store.

I love how Notification Center doesn't interfere with open applications. It simply moves the entire Desktop to the left so you can see the Center. You can close Notification Center at any time by clicking anywhere on the Desktop to the left, clicking the Notifications icon on the Finder menu bar again, or swiping in the opposite direction.

Notification entries that appear in the Notification view are grouped under the application that created them. Many entries can be deleted from Notification Center by clicking the Delete button that appears next to the application heading (the button bears an X symbol). Other entries, such as Calendar alerts, remain in Notification Center until a certain time has elapsed.

But wait, there's more to Notification Center than just a strip of happenings—depending on the settings you choose, notifications can also appear without Notification Center being open at all. These notifications are displayed as pop-up *banners* (which disappear in a few seconds) and *alerts* (which must be dismissed by clicking a button).

Mojave can also allow *actions* in notifications. Depending on the application or function that generates the notification, you may see buttons on a banner or an alert that allow you to take care of business (without requiring the application to be running). For example, if a new email message is received in Apple Mail, you can choose to reply to or delete the message. Websites can display updates as notifications, and you can answer a FaceTime oran iPhone call directly from the notification.

You can configure the notifications for all your applications from the Notifications pane in System Preferences, which you can reach easily if Notification Center is open. Just click the gears icon at the lower-right corner of the Notification Center.

Introducing the Maps Application

If you own an iPad or iPhone, prepare yourself for a joyful state: Your beloved Maps application also resides on your Dock! As long as you have a connection to the Internet, Maps is ready to display locations, provide directions, and even allow for informal views of important sites worldwide! (Recognize the grand dame in Figure 7-5?)

Displaying an overhead view of an address is one of the simplest chores in all of macOS — from the Maps window, just click in the Search box at the top of the window, type the address, and press Return. Maps displays the address with a red pushpin to help you locate it.
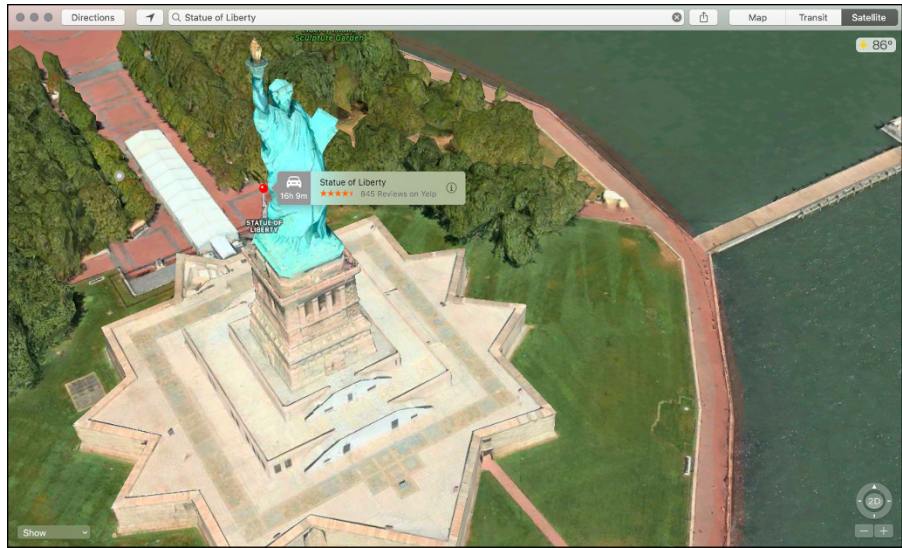
FIGURE 7-5:
The Statue of Liberty shines in the Maps application.

Depending on the location you've chosen, you may also see a tiny Info icon (which looks like a lowercase *i* within a circle) next to the name. To view more information, click the Info icon.

If you are in range of a Wi-Fi signal, and have turned Location Services on, you can quickly map your current location — just click View⇨Go to Current Location, or press ⌘+L.

Ah, but why stop with just a simple address? You can also enter the following types of information:

» The name of a landmark, monument, or building (for example, *Statue of Liberty*).

» The name of a business or restaurant (or even a genre of food, such as *Chinese*) followed by the city name. Maps displays matching sites with pushpins (complete with reviews), and you can click any of the pushpins to find out more information on a location. Figure 7-6 illustrates a search for *pizza* in my hometown of Columbia, Missouri — you can see the Info pop-up that appears when I click the Info icon next to the restaurant name, complete with a link to their website and reviews a-plenty.

» Attractions and services, followed by the city name. You can search for a gas station, movie theater, or local park.
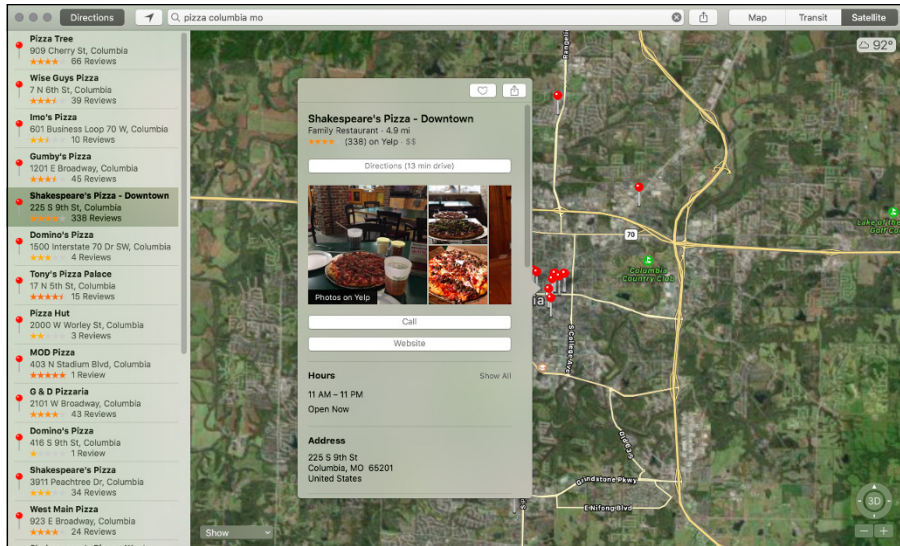
FIGURE 7-6:
Looks like this pizza joint is highly rated.

TIP

If you need to zoom in or zoom out on a Maps display, use the scroll function on your pointing device, click the plus and minus buttons at the bottom–right corner of the Maps window, or use the ⌘+plus and ⌘+minus shortcuts. To move around the Maps window, click and drag the map in the desired direction.

TIP

Teachers and parents, take note: A virtual "flyby" of a famous site in Maps is a valuable (and cool) resource.

Switching Views in Maps

A traditional printed map offers you only one view, which may be perfectly fine for determining a route but provides no visual interest. (The word *banal* comes to mind.) Maps, on the other hand, offers three types of views, each of which offers certain advantages:

» *Standard* (or *Map*) *mode* is a familiar line map, with streets and highways marked. Standard mode is best for planning a road trip, just like your father's old-fashioned paper map.

» *Satellite mode* is a photographic overhead view without streets or highways marked, which is great for panoramic views of your neighborhood or a location and its surroundings.

>> *Transit mode* displays public transportation routes and bus, subway and train schedules. Note, however, that Transit information is not available in every location.

To select your view, click one of the buttons at the top of the Maps window: press ⌘+1 for standard Map, ⌘+2 for Transit, or ⌘+3 for Satellite. Figure 7-6 shown earlier illustrates Satellite view mode, while Figure 7-7 shows off Map view.
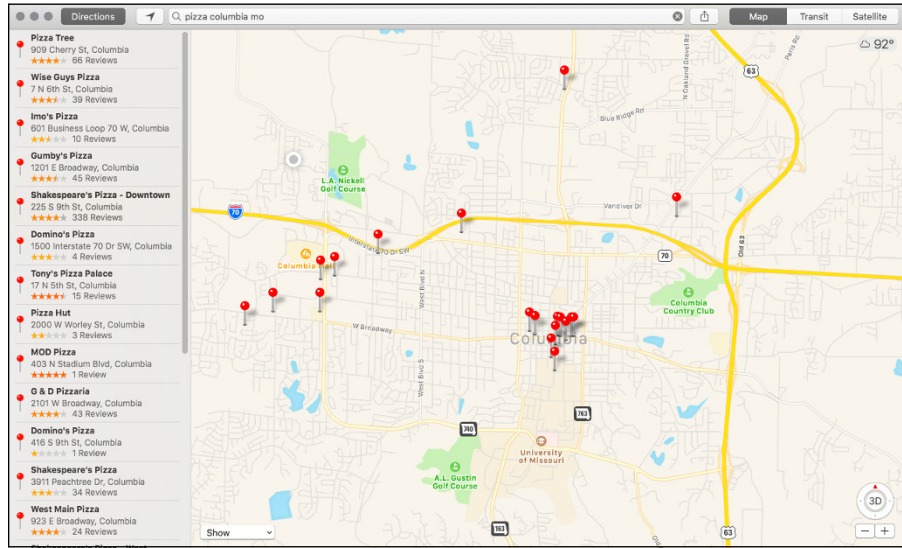
FIGURE 7-7
Map view reminds me of an auto GPS unit.

Have you noticed the Show pop-up menu at the lower-left corner of the Maps window? If you're using Satellite view, you can click the Show menu and choose Show Labels to toggle street names on and off. The Show pop-up menu also allows you to display traffic conditions and toggle the 3D map.

TIP

"Wait, there's a 3D map option?" Yes indeed, and no special glasses are required! For additional visual thrills, you can angle the Maps display with a slight 3D effect — nothing quite as grand as a 3D TV, but it does help add depth to Satellite view. To toggle 3D on and off, press ⌘+0, click the Show pop-up menu, or press the 3D button at the lower-right corner of the window.

TIP

By default, Maps is oriented with north at the top of the screen, but if you need to change the orientation, click the red compass arrow at the bottom-right corner of the screen and drag in the desired direction. To immediately return to north at the top of the screen, press ⌘+↑ or click View➪Snap to North.

Getting Directions Over Yonder

My primary use for a map is getting directions from one point to another, and Maps doesn't disappoint when it comes to navigation. Click the Directions button to display the panel you see in Figure 7-8, and you're ready to plot your course.
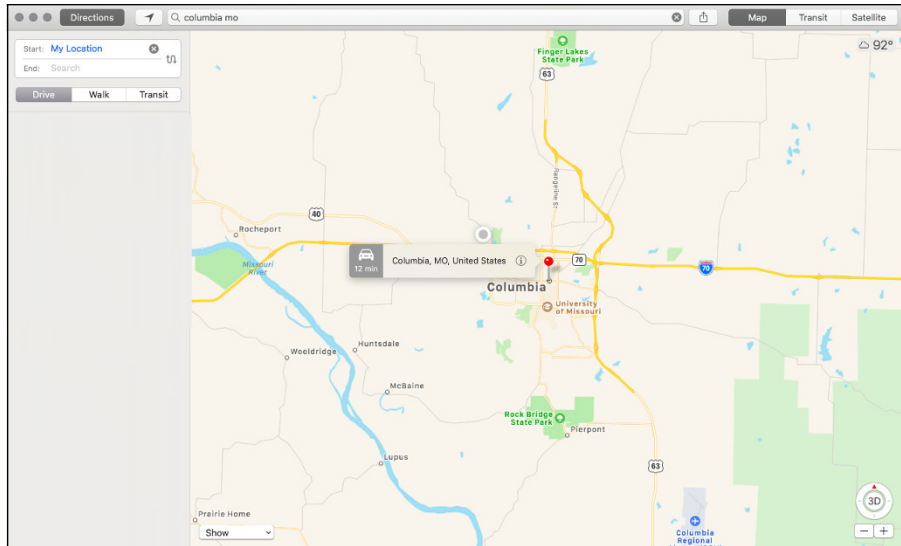
Follow these steps to get directions between two addresses:

1. **In the Start box, type the starting address.**

   As you type, Maps provides a pop-up list of suggestions taken from your recent locations, as well as addresses from your Contacts database and matching streets from around the globe. To choose one of these suggestions, just click it. To clear the contents of the field, click the X button that appears at the right side of the box.

2. **Press Tab to move to the End box.**

3. **In the End box, type the destination address.**

   Note that your destination doesn't have to be a specific address — for example, Memphis, TN, works just fine.

4. **Click the Drive button for road directions, click the Walk button for walking directions or display mass transit information by clicking the Transit button.**

5. **Press Return to generate your directions.**

Maps usually offers more than one route for your trip — the first route provided is typically the fastest or shortest, and it appears as a bright blue. To view one of the other routes, just click a light blue line and it turns bright blue to indicate that it's now the selected route. (You can see the approximate mileage and time for the currently selected route at the top of the turn list.) The turn-by-turn list provides approximate mileage for each leg of the journey.

Maps allows you to share your maps and directions using Mail, Messages, Twitter, or Facebook. Click the Share button at the top of the window, and then select the desired sharing method.

You can easily print the route map and directions by choosing File⇨Print (or by pressing ⌘+P), and then clicking the Show Details button at the bottom of the Print sheet to display all the options.

If you'd rather create a PDF document with your map and directions, choose File⇨Export as PDF.

Catching Up on News

Are you a current events junkie like I am? Before the arrival of the Internet, I used to remain glued to my TV, absorbing the latest information from the news channels — heck, I even subscribed to an old-fashioned *newspaper*! (To be honest, I still do, but it's the online edition of my hometown paper.) If news is your passion, then let me introduce you to Mojave's News app, shown in Figure 7-9!

The News window includes a number of items to help in your perusal:

» **Toolbar:** This familiar strip of buttons allows you to share stories and mark favorites with a single click.

» **Sidebar:** The News sidebar makes it easy to navigate between topics, news sources and stories you've saved. You can display or hide the sidebar from the View menu, or you can click the Show/Hide Sidebar button in the toolbar.
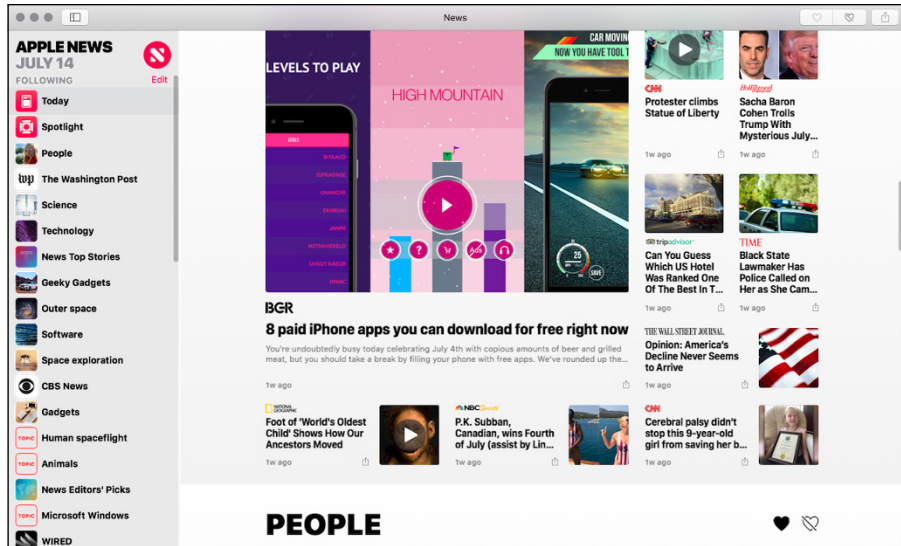
Although the items in the sidebar change over time (as News "learns" your preferences and you add channels), you can click the Edit link at the top of the sidebar to remove items whenever you like.

» **Content pane:** Here's where News displays its content — similar to a webpage in Safari, you can click on an item title or accompanying image to load the entire story. When a single story occupies the Content pane, a left arrow appears at the top left corner of the pane; when you're ready to return to the item list, just click the arrow.

» **Share button:** If you'd like to share a link to the displayed story within a Mail message, social media post or a Message, click the Share button to display the pop-up menu. You can also create a new Reminder or Note from the story.

Are you rushed for time? To save a story you're reading in the sidebar for later, press ⌘+S. News adds the story under the Saved Stories heading in the sidebar.

Using Favorites and Channels

As I mentioned above, News actually "learns" what type of stories you like as you use it and will present stories that it thinks will interest you in the Sidebar (under the "Suggested by Siri" heading). However, there are two News features that help you focus even more on certain topics and news sources: *favorites* and *channels*.

News allows you to mark a specific topic as a favorite, indicating that you'd like to see more stories covering similar subjects. To mark a story you're reading as a favorite, press ⌘+L (for Loved Story) or click the Favorites button on the toolbar. If, on the other hand, you'd like to avoid seeing similar stories in the future, press ⌘+D (for Dislike Story).

Within News, you can specify a news source as a channel, such as *The Washington Post* or *Wired Magazine* — they will appear in the News Sidebar under the "Following" heading. To choose channels, click File on the News menu bar and click Browse Channels. When you see a news source you'd like to monitor, click it (the Favorites heart icon turns red). Once you click Done, you'll see that your channel selections are added to the Sidebar under the "Following" heading. To stop following a channel, click File ⇨ Unfollow Channel.

If you'd like to block all the stories from a specific channel, display it in the Content pane and click File ⇨ Block Channel. You can edit your Block list from the File menu as well.

3

Connecting and Communicating

IN THIS PART . . .

Surf the web with ease using Apple's Safari browser.

Sync documents and data automatically using iCloud.

Share your iMac with other users safely.

Join or create a wireless network with your iMac.

Hooking up printers, scanners, PhotoBooth, and FaceTime.

Chapter **8**

Let's Go on Safari!

proudly surf the web via a lean, mean — and fast — browser application. That's Safari, of course, and it keeps getting better with each new version of macOS. Safari delivers the web the right way, without the wait. You'll find that features have been added to Safari that no other browser offers, such as the Reading List, which allows you to easily select articles and pages for later perusal.

If you need a guide to Safari, this is your chapter. Sure, you can start using Safari immediately, but wouldn't you rather read a few pages so that you can surf like a power user?

Within these pages, I show you how to use those other controls and toolbar buttons in Safari — you know, the ones in addition to the Forward and Back buttons. You'll discover how to keep track of where you've been and where you'd like to go.

Pretending You've Never Used This Thing

Figure 8-1 illustrates the Safari window. You can launch Safari directly from the Dock, or you can click the Safari icon in Launchpad.

Toolbar   Tab bar   Favorites bar

Sidebar   Status bar   Content pane

FIGURE 8-1:
Safari at a glance.

These are the major sections of the Safari window:

» **The toolbar:** Here are the most-often-used commands for tasks such as navigation, sharing content, and searching Google (or Yahoo!, or DuckDuckGo, or Bing). Plus, here you can type or paste the address for websites that you'd like to visit.

» **The Favorites bar:** Consider this bar to be a toolbar that allows you to jump directly to your favorite websites with but a single click or two. I show you later (in the section "Adding and Using Bookmarks") how to add sites to and remove sites from your Favorites bar. For now, remember that you can toggle the display of the Favorites bar by choosing View⇨Hide/Show Favorites Bar or by pressing ⌘+Shift+B.

» **The Tab bar:** This toolbar allows you to quickly switch among multiple web pages that you've loaded, using what appear to be old-fashioned file-folder tabs. (Something familiar; familiar is good.) To hide or display the Tab bar,

choose View⇨Hide/Show Tab Bar. You can also pin sites to the Tab bar permanently (more on this later in the chapter).

» **The Sidebar:** The Sidebar pane allows you to organize and read your bookmarks, Reading List, and shared links. To hide or display the Sidebar, press ⌘+Shift+L or choose View⇨Hide/Show Sidebar.

» **The Content pane:** Congratulations! At last, you've waded through the pregame show and reached the area where web pages are displayed. The Content pane can be scrolled, and when you minimize the Safari window to the Dock, you get a *thumbnail* (minimized) image of the Content pane.

The Content pane often contains underlined text and graphics that transport you to other pages when you click them. These underlined words and icons are *links,* and they zip you right from one area of a site to another area (or to a different site altogether). You can tell when your pointer is resting on a link because it changes to that reassuring pointing-finger hand. Handy! (Sorry about that.)

» **The Status bar:** The Status bar displays information about what the pointer is resting on, such as the address for a link or the name of an image; it also updates you about what's happening while a page is loading. To hide or display the Status bar, press ⌘+/ (forward slash) or choose View⇨Hide/Show Status Bar.

Visiting Websites

Here's the stuff that virtually everyone over the age of 5 knows how to do . . . but I get paid by the word, and some folks might just not be aware of the many ways to visit a site. You can load a web page by using any of these methods:

» **Click in the Address box.** If you're not viewing your Top Sites display, click the Address box to display a scrolling thumbnail list of your Favorites and most frequently visited sites. Click a thumbnail to jump immediately to that page. That's about as simple as life gets!

» **Type (or paste) a website address in the Address box on the toolbar, and press Return.** If you're typing an address, and Safari recognizes the site as one that you've visited in the past, it "helps" by autocompleting the address for you. Press Return if you want to accept the suggested site. If this site is a new one for you, just keep typing.

The Safari Address box also acts as a *smart address* field, displaying a new pop-up menu of sites that match the text you enter. Safari does this by

using sites taken from your History file and your bookmarks, as well as sites returned from Google, Yahoo!, DuckDuckGo, or Bing. If the site you want to visit appears in the list, click it to jump there immediately.

» **Click a Bookmarks or Favorites entry.** Bookmarks appear in the Sidebar and the Bookmarks menu, while Favorites appear in the Favorites bar.

» **Click a tab for a pinned site.** Pinned tabs appear as icons at the left end of the Tab bar.

» **If the Home button appears on your toolbar, click the button to go to the home page that you specify.** Read more in the upcoming section "Setting Up Your Home Page."

» **If the Top Sites button appears on the toolbar, click it to open the Top Sites display.** Safari displays a wall of preview thumbnail pages from your most frequently visited sites, and you can jump to a site just by clicking the preview. You can anchor a thumbnail to keep it onscreen permanently by hovering your pointer over the thumbnail and clicking the pin icon that appears, or you can delete a thumbnail by clicking the X button that appears.

Because each thumbnail is updated with the most current content, the Top Sites wall makes a great time-saver. Quickly make a visual check of all your favorite haunts from one screen!

» **Click an item you saved earlier in the Sidebar's Reading List tab.** To display items in your list, click the button bearing the eyeglasses icon at the top of the Sidebar.

» **Click a page link in Apple Mail or another Internet-savvy application.** These links are typically highlighted or underlined to make them easier to see.

Never click a link in an email unless you know and trust the sender!

» **Click a page link in another web page.** By default, Safari opens the new page in a separate tab.

» **Select a web address in a document, click the Services menu, and choose Open Page in Safari.** Safari automatically loads and displays the page.

» **Type a search term in the Address box.** By default, Safari uses Google as a search engine, but you can use Yahoo!, Bing, or DuckDuckGo if you prefer. To set the default search engine, choose Safari➪Preferences; then, on the Search tab, click the Search Engine drop-down menu. (You can immediately switch to another engine by clicking the magnifying-glass icon that appears before you start typing in the Address box.)

Click the Address box, type the contents that you want to find, and press Return. Safari presents the search results page on Google for the text you entered. (In case you've been living under the Internet equivalent of a rock for

the past several years, *Google* (`https://www.google.com`) is the preeminent search site on the web. People use Google to find everything from used auto parts to ex-spouses.)

» **Click a Safari page icon on the Dock or in a Finder window.** Drag a site from your Favorites bar (or drag the icon from the left side of the Address box), and drop it on the right side of the Dock. Clicking the icon that you add launches Safari and automatically loads that site.

This trick works only on the side of the Dock to the right of the vertical line. You'll find more detail on that all-important divider and how you can add icons to the Dock in the section titled "Customizing the Dock" in Chapter 3.

If you minimize Safari to the Dock, you'll see a thumbnail of the page with the Safari logo superimposed on it. Click this thumbnail on the Dock to restore the page to its full glory.

Speaking of full glory, Safari supports the same full-screen mode as many other Mojave applications. Click the Zoom/Full Screen button in the top-left corner of the Safari window to switch to full-screen mode, or press the Control+⌘+F shortcut (a good shortcut to memorize because it works with virtually all Mojave–compatible applications). To make things convenient for you, the toolbar and Favorites bar remain. To exit full-screen mode, press Esc or the Control+⌘+F shortcut again.

Navigating the Web

A typical web–surfing session is a linear experience. You bop from one page to the next, absorbing the information you want and discarding the rest. After you visit a few sites, however, you might find that you need to return to where you've been or head to the familiar ground of your home page. Safari offers these navigational controls on the toolbar:

» **Back:** Click the Back button (the left-facing arrow) on the toolbar to return to the last page you visited. Additional clicks take you to previous pages, in reverse order. The Back button is disabled if you haven't visited at least two sites.

» **Forward:** If you've clicked the Back button at least once, clicking the Forward button (the right-facing arrow) takes you to the next page (or through the pages) where you originally were, in forward order. The Forward button is disabled if you haven't used the Back button and haven't navigated to another page.

TIP

Safari supports several trackpad gestures. You can swipe in either direction with two fingers to move backward and forward, for example, just as you would move with the Forward and Back buttons. To zoom in and out on the Content pane, you can double-tap the trackpad or pinch with two fingers — yes, just like on an iPhone. (Ever get the notion that someday, we'll have a single box called "The Device" that does it all?)

>> **Home:** Click this button (look for the little house) to return to your home page.

REMEMBER

Not all these buttons and controls may appear on your toolbar; you may not see many of these toolbar controls unless you add them yourself. To display or hide toolbar controls, choose View⇨Customize Toolbar. The sheet that appears works just like the Customize Toolbar sheet in a Finder window: Drag the control you want from the sheet to your Safari toolbar, or drag a control that you don't want from the toolbar to the sheet. As with most buttons and controls in Mac applications, if you hover your pointer over an unfamiliar button on the toolbar, Safari displays a tooltip to identify the button for you.

>> **Show/Exit Tab Overview:** A click of this toolbar button displays all the tabbed sites you've opened, as well as the iCloud Tabs from Safari on your other Macs, PCs, and iOS devices.

>> **AutoFill:** If you fill out lots of forms online — when you're shopping at websites, for example — you can click the AutoFill button (which looks like a little text box and a pen) to complete these forms for you. You can set what information is used for AutoFill by choosing Safari⇨Preferences and clicking the AutoFill toolbar button.

WARNING

To be honest, I'm not a big fan of *automatically* releasing *any* of my personal information to *any* website, so I don't use AutoFill. If you do decide to use this feature, make sure that the connection is secure (look for the padlock icon in the Address box), and read the site's Privacy Agreement page first to see how your identity data is treated. *Never* enter credit card numbers or personal information on a website without a secure connection!

>> **Top Sites:** Click this button to display the Top Sites screen, which I discuss earlier. If you're having trouble finding it, the button bears a tiny, fashionable grid of squares.

>> **Zoom:** Shrink or expand the text on the page, offering smaller, space-saving characters (for the shrinking crowd) or larger, easier-to-read text (for the expanding crowd) by clicking one of the Zoom buttons, which are labeled with a small and large letter *A,* respectively. You can also press ⌘+= (equal sign) to expand and ⌘+- (hyphen) to shrink.

>> **Favorites bar:** Click this button (which carries the Bookmarks symbol sandwiched between two horizontal lines) to display or hide the Favorites bar.

» **Stop/Reload:** Click Reload (which has a circular arrow in the Address box) to *refresh* (reload) the contents of the current page. Although most pages remain static, some pages change their content at regular intervals or after you fill out a form or click a button. By clicking Reload (look for the curved arrow in the Address box), you can see what's changed on these pages. (I use Reload every hour or so with CNN.com, for example.) While a page is loading, the Reload button turns into the Stop button — with a little X mark — and you can click it to stop the loading of the content from the current page. This feature is a real boon when a download takes *forevverr,* which can happen when you're trying to visit a popular or slow website. Using Stop is also handy if a page has several large graphics that are likely to take a long time to load.

» **Sidebar:** Click this toolbar button at the left end of the Address box to hide or display the Safari Sidebar. You'll find the complete description of the sidebar in the upcoming sections "Adding and Using Bookmarks" and "Working with the Reading List".

» **History:** Click this button, which bears a clock symbol, to display or hide the History list, which I discuss later in this chapter.

» **Downloads:** This toolbar button appears only if you're currently downloading a file or if you've downloaded files that haven't been cleared yet. Click it to display the files you've downloaded recently, and click the Clear button to clear the contents of the Download list. Note that clearing the list doesn't delete the files you've downloaded; it simply cleans things up. You can also double-click a completed download in the list to open it immediately. (More on downloading in the section "Downloading Files.")

When you're downloading a file, a tiny progress bar appears in the Downloads button on the toolbar to show you how much you've received. Now that, good reader, is *progress*! (Let's see whether my editor allows such a horrible pun to remain.) Anyway, you can click the Downloads button during the file transfer to pause or stop the download completely.

» **Open in Dashboard:** Click this button to create a Dashboard widget, using the contents of the currently displayed web page. Safari prompts you to choose which clickable section of the page to include in the widget's borders, such as the local radar map on your favorite weather website. Click Add, and Dashboard loads automatically with your new widget. For more on widgets, see Chapter 3.

» **Mail:** Click this button (bearing an envelope icon) to send an email message with a link to the current page, just as though you clicked the Share button and chose Email This Page. Safari automatically opens Apple Mail (or your default email application) and creates a new message with the link already in the body. *Shazam!*

>> **Print:** Click this convenient button to print the contents of the Safari window. (Dig that crazy printer icon!)

>> **Website Preferences:** Click this button to display (or change) the preference settings you've selected for this specific website. You can elect to use the Reader whenever possible, enable the content blocker to prevent most advertisements from appearing (more on both these features later in the chapter), set the Zoom level, and enable or disable the Auto-Play feature for videos that contain an audio track.

>> **Share:** If you have an iPhone or iPad, you're probably familiar with this button, which carries a rectangle and arrow symbol. Click the Share button to send the current page (or a link to it) to any of several destinations, including your Reading List; an email message; your Notes, Messages or Reminders applications; AirDrop; or Facebook, LinkedIn, or Twitter. You can also add a bookmark to the current page by clicking the Share button. Figure 8-2 illustrates the Share button in action.
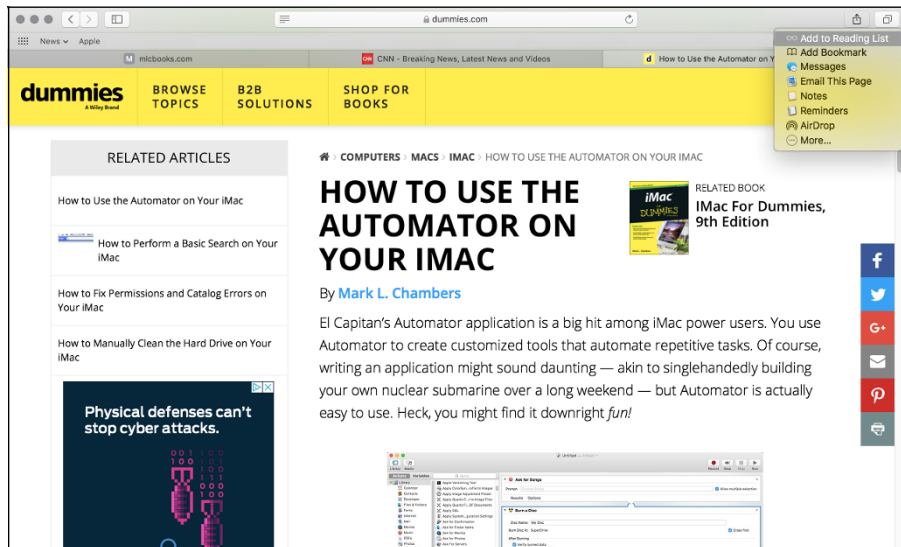
FIGURE 8-2:
The Share button makes it easy to spread goodness and light!

Setting Up Your Home Page

Choosing a home page is one of the easiest methods of speeding your web surfing. But a large percentage of the iMac owners I've talked with have never set their own home page; instead, they simply use the default home page provided by their

browser. Declare your independence! With Safari running, take a moment to follow these steps to declare your freedom to choose your own home page:

1. **In Safari, display the web page that you want to become your new home page.**

   I recommend selecting a page with few graphics or a fast-loading popular site.

2. **Choose Safari⇨Preferences, or press ⌘+, (comma).**

3. **Click the General tab.**

   You see the settings shown in Figure 8-3.

4. **Click the Set to Current Page button.**

5. **Click the Close button to exit the Preferences dialog.**
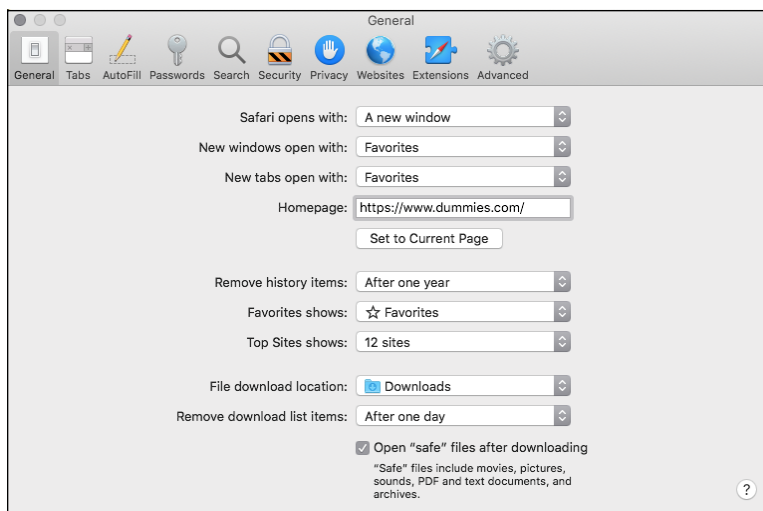
FIGURE 8-3:
Adding your own home page is an easy change you can make.

Alternatively, click the New Windows Open With pop–up menu and choose Empty Page if you want Safari to open a new window with a blank page. This choice is the fastest one for a home page.

Visit your home page at any time by clicking the Home button on the toolbar. If it doesn't appear on your toolbar, you can add it by choosing View⇨Customize Toolbar.

Adding and Using Bookmarks

No doubt about it: Bookmarks make the web a friendly place. As you collect book-marks in Safari, you're able to jump immediately from one site to another with a single click of the Bookmarks menu or the buttons on the Favorites bar.

To add a bookmark, first navigate to the desired page and then do any of the following:

» **Choose Bookmarks⇨Add Bookmark.**

   Safari displays a sheet where you can enter a name and description for the bookmark, as well as choose where it appears (on the Favorites bar, Top Sites display, Bookmarks folder, or Bookmarks menu).

» **Press the ⌘+D keyboard shortcut.**

   Again, you see the sheet requesting a name and location.

» **Drag the icon next to the web address from the Address field to the Favorites bar.**

   This trick also works in applications other than Safari, including Mail and Messages. Drag the icon from the Safari Address field to the other application window, and the web page's link is added to your document.

You can also drag a link on the current page to the Favorites bar, but note that doing this adds a bookmark only for the page corresponding to the link — not the current page.

To jump to a bookmark, do one of the following:

» **Choose it from the Bookmarks menu.** If the bookmark is contained in a folder, as I discuss later in this section, hover your pointer over the folder name to show its contents, and click the bookmark.

» **Click the bookmark on the Favorites bar.**

   If you've added a great number of items to the Favorites bar, click the More icon on the edge of the Favorites bar to display the rest of the buttons.

» **Click the Show Sidebar button on the Safari toolbar,** click the Bookmarks button in the Sidebar, and then click the desired bookmark. The Sidebar (shown in Figure 8-4) displays all your bookmarks, allowing you to review each collection at your leisure.
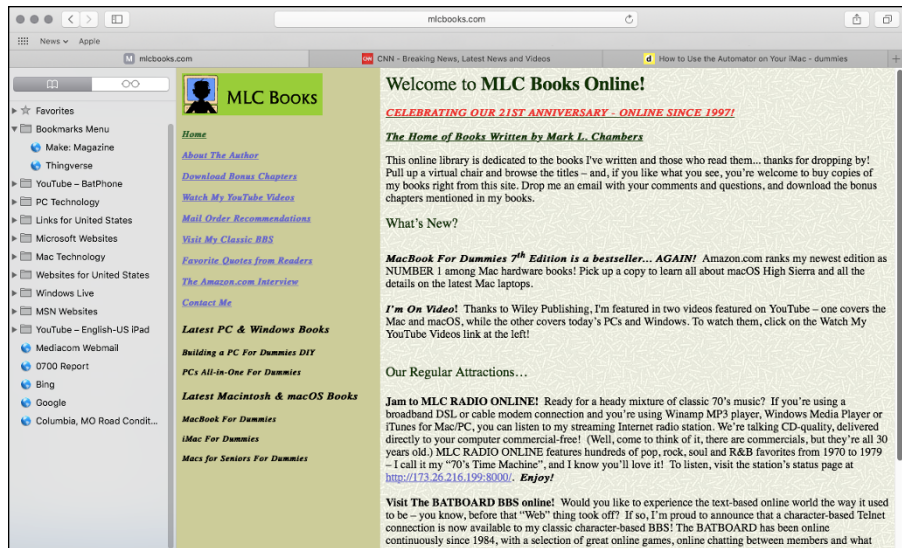
» **Click Bookmarks ⇨ Edit Bookmarks** (or press Option+⌘+B) to open the Bookmark list. For those who prefer more information (and more onscreen elbow room) while selecting or organizing their bookmarks, the Bookmark list is the cat's meow. It displays both the name and web address for each bookmark in your collection.

The more bookmarks you add, the more unwieldy the Bookmarks menu and the Sidebar can become. To keep things organized, choose Bookmarks ⇨ Add Bookmark Folder, and type a name for the new folder. With folders, you can organize your bookmarks into *collections,* which appear in the column on the left side of the Sidebar, as folders in the Bookmark list, and as menus on the Bookmarks bar. (Collections also appear as separate submenus in the Bookmarks menu on the Safari menu bar.) You can drag bookmarks into the new folder to help reduce clutter.

To delete a bookmark or a folder from any of these locations, right-click the icon next to the entry and choose Delete from the contextual menu.

Working with the Reading List

Now that you know all about bookmarks, I'll introduce you to another method of loading, saving, and retrieving specific pages in Safari — and it's hiding in the now-familiar confines of the Safari Sidebar!

The Sidebar's Reading List tab allows you to save entire pages for later perusal. From the keyboard, press ⌘+Shift+L to display the Sidebar, and click the Reading List button. Then choose Bookmarks⇨Add to Reading List or press ⌘+Shift+D to add the current page to the list, or hover your pointer over the left side of the Address box and click the circular icon with the plus sign that appears. Oh, don't forget that you can click the Sharing icon on the toolbar and choose Add to Reading List to achieve the same victory.

When you click one of those entries in the Reading List and then click the Show Reader View icon (it looks like a paragraph) that appears at the left end of the Address box, the real magic begins! If you click it, the Reader section appears to display text articles free of advertisements and silly pop-ups. And if an article is continued over multiple web pages, the Reader section automatically stitches them together to form a continuous block of text. (Think of an e-book displayed in iBooks on your iMac, and you get the idea.)

To delete an item from the Reading List, right-click the item and choose Remove Item from the contextual menu, or click the X icon that appears next to the title.

REMEMBER

If the Show Reader View icon appears in Safari's Address box — and you're *not* using the Reading List — don't panic! Because the page you're reading contains text articles, Safari is offering to display it in the Reader section. (If a page has nothing to display in the Reader section, the icon disappears.) To display the page in the Reader section, click the Show Reader View button in the Address box. To return to your mundane browsing experience, click the Reader icon again.

TIP

If you're as big a fan of Reader View as I am, you'll be thrilled to learn that you can turn on this feature for every page on a website! When Reader View is set on as a default, every page on a website that's compatible with the Reader section automatically displays in Reader View. (I always set all my news websites — such as CNN and Macworld — to default to Reader View.) When you've navigated to the desired website, click the Website Preferences button on the toolbar (if you've added it), or choose Safari⇨Settings for This Website. Click the Use Reader When Available check box to enable it, and you're good to go!

Downloading Files

A huge chunk of the fun you'll have on the web is downloading images and files. If you've visited a site that offers files for downloading, you typically click the Download button or the download-file link, and Safari takes care of the rest. While the file is downloading, feel free to continue browsing or even to download additional files; the Downloads status list helps you keep track of what's going on and

when everything will be finished transferring. To display the Downloads status list from the keyboard, press ⌘+Option+L. You can also click the Download button in the top-right corner of the window to display the Download list.

By default, Safari saves any downloaded files to the Downloads folder on your Dock, which I like and use. To specify the location where downloaded files are stored (if you'd like to scan them automatically with an antivirus program, for example), follow these steps:

1. **Choose Safari⇨Preferences, or press ⌘+, (comma).**

2. **Click the General tab (refer to Figure 8-3), and open the File Download Location pop-up menu.**

3. **Choose Other.**

4. **Navigate to the location where you want the files to be stored.**

5. **Click the Select button.**

6. **Click the Close button to exit Preferences.**

To download a specific image that appears on a web page, move your pointer over the image, right-click, and choose Save Image As from the contextual menu that appears. Safari prompts you for the location where you want to store the file.

You can choose to automatically open files that Safari considers to be safe — things like movies, text files, and PDF files that are *very* unlikely to store a virus or a damaging macro. By default, the Open "Safe" Files after Downloading check box is selected on the General pane of the Safari Preferences dialog. If you're interested in preventing *anything* you download from running until you've manually checked it with your antivirus application, you can deselect the check box and breathe easy.

TIP Luckily, Safari has matured to the point that it can seamlessly handle most multimedia file types that it encounters. If you've downloaded a multimedia file, however, and Safari doesn't seem to be able to play or display it, try loading the file in QuickTime Player. *QuickTime Player* is the Swiss Army knife of multimedia players; it can recognize a huge number of audio, video, and image formats. To launch the Player, click the Spotlight search icon and type **QuickTime Player**.

Using History

To keep track of where you've been, you can display the History list by clicking the History menu in Safari. To return to a page in the list, just choose it from the History menu. Note that Safari also arranges older history items by the date when

you visited a site so you can easily jump back a couple of days to that page you forgot to bookmark!

Safari also searches the History list automatically, when it fills in an address you're typing. That's the feature I mention in the earlier section "Visiting Websites."

To view your Top Sites display, choose History⇨Show Top Sites. You can also click the Top Sites button at the far-left end of the Favorites bar or on the Safari toolbar (if you've added it).

You can add a site to your Top Sites manually by dragging a bookmark from the Sidebar to the Top Sites icon on the Favorites bar or by dragging a link or URL address from another application to the Top Sites icon in the Favorites bar. (A plus sign appears next to your pointer to indicate the addition.) To rearrange screens in the Top Sites display, just drag a screen thumbnail to the desired location. If you prefer that a specific thumbnail remain in the same place, hover your pointer over the thumbnail, and click the gray push-pin icon, which turns blue to indicate that the thumbnail is pinned in place.

If you're worried about security and would rather not keep track of where you've been online, find out how to clear the contents of the History file in the upcoming section "Handling ancient history."

Tabs Are Your Browsing Friends

Safari also offers *tabbed browsing,* which many folks use to display (and organize) multiple web pages at one time. If you're doing a bit of comparison shopping for a new piece of hardware in different online stores, for example, tabs are ideal. Heck, tabbed browsing is so popular that Apple added tabs to Finder windows with the release of OS X Mavericks!

When you hold down the ⌘ key and click a link or bookmark, a tab representing the new page appears at the top of the Safari window. Just click the tab to switch to that page. By holding down Shift+⌘, the tab is both created and displayed. (If you don't hold down ⌘, things revert to business as usual, and Safari replaces the contents of the current tab with the new page.)

You can also open a new tab by clicking the plus sign that appears in the top-right corner of the Safari window or by pressing ⌘+T. To move among multiple tabs, simply click the desired tab header. If you're finished with a page, you can remove a tabbed page by hovering your pointer over the tab and clicking the X button that appears.

Trackpad fans will appreciate Safari's two gestures that control tabs. With multiple tabs active, you can do these things:

>> Pinch to display them all in the *All Tabs view* display (as shown in Figure 8-5).

>> With All Tabs view open, swipe with two fingers to move among tabs.
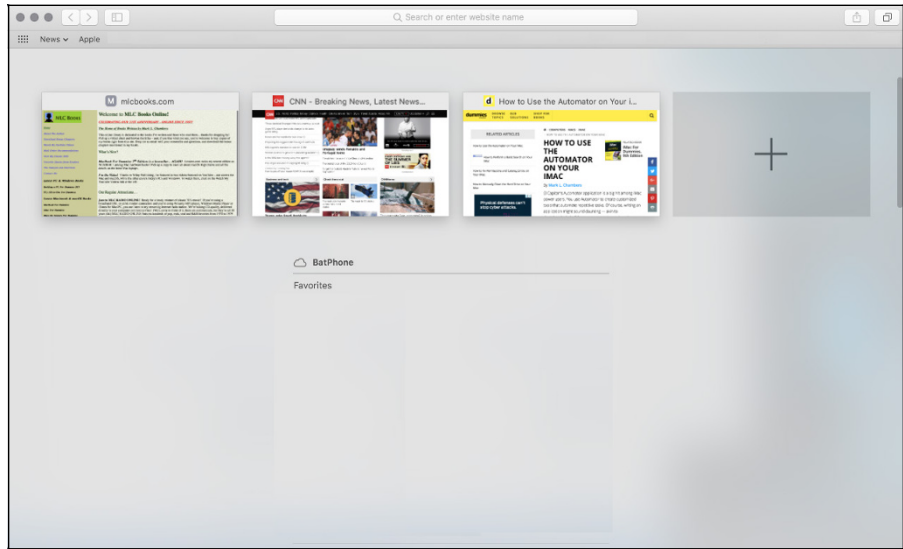
Hang on, Martha; we've struck tabs!

To display your tabs in All Tabs view without a trackpad, click the Show All Tabs button that appears at the right end of the Safari toolbar. From All Tabs view, you can click any tab thumbnail to switch immediately to that tab. (Note that the iCloud Tabs shared from your other Macs and iOS devices appear at the bottom of the All Tabs view display.) To close a tab in All Tabs view, move your pointer over the thumbnail, and click the X button that appears. To close the All Tabs view display, click the Hide All Tabs button at the right end of the Safari toolbar.

The All Tabs view also displays the iCloud Tabs you've set on your other Macs (running OSX Lion or later) and iOS devices (running iOS 7 or later).

To fine-tune your tabbed browsing experience, choose Safari➪Preferences to display the Preferences dialog, and click Tabs. From there, you can specify whether a new tab or window automatically becomes the active window in Safari and whether you want to switch among tabs by pressing ⌘+1 through ⌘+9.

TIP If you open a page that plays audio — as background music or as part of a video shown on the page — you can click the speaker icon that appears on the tab header to mute that audio. (Think really, *really* irritating video advertisements.) To unmute the audio, click the speaker icon again. You can also display the Website Preferences sheet to disable autoplay of videos with sound across all the pages on a website. Choose Safari ⇨ Settings for This Website, click the Auto-Play drop-down menu, and choose Stop Media with Sound to banish those irritating videos from the current website.

TIP With the arrival of macOS Mojave, tabs can display *website icons* — commonly called *favicons* by the rest of the online world — next to the tab name in the header. These little critters have to be enabled on the Tab pane of the Safari Preferences window. (No, they're not a requirement for proper browsing, but many Mac owners like them as eye candy!)

Printing Web Pages

If you've encountered a page that you'd like to print, follow these steps:

1. **Display the desired page.**

2. **Choose File ⇨ Print, or press ⌘+P.**

3. **Select the number of copies, and specify whether you'd like to print the entire page, only the current page, or a range of pages.**

4. **Click Print.**

TIP A quick word about printing a page in Safari: Some combinations of background and text colors may conspire to render your printed copy worthless. In a case like that, use your printer's grayscale setting (if it has one), or click the Show Details button at the bottom of the Print sheet and deselect the Print Backgrounds check box (which can save you quite a bit of ink or toner). Alternatively, you can simply click and drag to select the text on the page; press ⌘+C to copy it; and paste the text into TextEdit, Microsoft Word, or Pages, where you can print the page on a less-offensive background (while keeping the text formatting largely untouched). You can also save the contents of a page as an PDF file by choosing File➪Export As PDF or by clicking the PDF pop-up menu at the bottom of the Print sheet. Finally, if the page is available in Reader View, you can print it from there and avoid most color conflicts!

TIP If you'd rather mail the contents of a web page to a friend, click the Share button, and choose Email This Page. If you've added the Mail button to your toolbar, one click does the job. Mail loads automatically, complete with a prepared email message. Just address the message to the recipients, and click Send.

Protecting Your Privacy

No chapter on Safari would be complete without a discussion of security: protection against both outside intrusion from the Internet and prying eyes around your iMac. Hence, this last section covers protecting your privacy.

Although diminutive, the padlock icon that appears to the left of the website's name in the Address box when you're connected to a secure website means a great deal! A *secure site* encrypts the information you send and receive, making it much harder for those of unscrupulous ideals to obtain private data, such as credit card numbers and personal information. You can click the padlock icon (next to the site name) to display the security certificate in use on that particular site. A secure site's web address begins with the prefix `https:` instead of `http:`. (The extra *s* stands for *secure.* A Good Thing.)

Yes, there are such things as bad cookies

First, a definition of this ridiculous term: A *cookie,* a small file that a website automatically saves on your Mac's drive, contains information that the site uses on your future visits. A site may save a cookie to preserve your site preferences for the next time or — as Amazon.com does — to identify you automatically and help customize the offerings that you see.

In and of themselves, cookies aren't bad things. Unlike a virus, a cookie file isn't going to replicate itself or wreak havoc on your system, and only the original site can read the cookie that it creates. But many folks don't appreciate acting as gracious hosts for a slew of little snippets of personal information. (Not to mention that some cookies have highly suggestive names, which can lead to all sorts of conclusions. End of story.)

You can opt to disable cookies. You can also set Safari to accept cookies only from the sites you choose to visit. To change your Cookie Acceptance Plan (CAP, for those who absolutely crave acronyms), follow these steps:

1. **Choose Safari⇨Preferences.**

2. **Click the Privacy tab.**

3. **Click Block All Cookies.**

   > **REMEMBER**
   >
   > If a site's cookies are blocked, you may have to take care of things manually, such as by providing a password on the site that used to be read automatically from the cookie.

> **TIP**
>
> Feeling nervous about the data stored by the websites you visit? You can always delete *all* that stored information with a single click. On the Privacy pane of the Safari Preferences dialog, click the Manage Website Data button; then click the Remove All button. You'll be asked to confirm your draconian decision.

The Privacy pane also includes the Ask Websites Not to Track <e check box, which works . . . *sometimes*. Unfortunately, it's up to a particular website whether to honor Safari's request for privacy. Also, some sites — such as Amazon.com — use tracking legitimately, to keep track of your likes and purchases each time you return. Apple includes Intelligent Tracking Prevention within Safari; this feature is automatic and works behind the scenes, helping prevent unwanted intrusion into your browsing history. But if you're especially worried about leaving a trail of breadcrumbs behind you on the web, I recommend selecting this check box. You can also choose to block any attempts at *cross-site* tracking, in which multiple web sites share tracking information.

Finally, you can limit the access that websites have to your iMac's Location Services feature, which can pinpoint your current location, on the Websites tab of the Safari Preferences dialog. Facebook's website, for example, uses Location Services if you allow it to do so. You can set access through prompting or deny access to Location Services for all websites.

Banishing pesky iCloud Keychain passwords

I'm the world's biggest critic of *keychains,* which Mojave uses to automatically provide all sorts of login information throughout the system. In Safari, for example, the password information is entered for you automatically whenever a website you've approved requires you to log in.

To be more specific, I'm sure that many readers will adopt *iCloud Keychain,* which stores password and credit card information for Safari and wirelessly distributes that information automatically to other Macs and iOS devices that use the same Apple ID. Apple even says that the passwords generated by iCloud Keychain are more complex and harder to crack, which *sounds* more secure, right?

I'd rather keep a pet piranha in a cereal bowl than use this feature! Why? Whenever you're logged in, *anyone* using your shiny iMac Pro gets control of your online persona (in the form of your passwords to secure websites). Safari, like an obedient puppy, automatically provides access to sites with stored keychain passwords.

REMEMBER

If you'd like to take the far-less-convenient-but-*much*-safer, old-fashioned route of remembering your passwords yourself, follow my lead: Visit the iCloud pane in System Preferences, and deselect the Keychain check box to turn the iCloud Keychain feature off.

Now that I've warned you thoroughly, I feel better about mentioning the Passwords tab in Safari Preferences for those who *do* decide to use iCloud Keychain. From the Passwords tab, you can view the iCloud Keychain information that Safari uses and then remove a specific password or all passwords from your iCloud Keychain.

Handling ancient history

As you might imagine, your History file leaves a clear set of footprints indicating where you've been on the web. To delete the contents of the History menu, choose History ➪ Clear History (at the bottom of the History menu).

Safari also allows you to specify an amount of time to retain entries in your History file. Open the Safari Preferences dialog, click the General tab (refer to Figure 8-3), and click the Remove History Items pop-up menu to specify the desired amount of time. Items can be rolled off daily, weekly, biweekly, monthly, or yearly. You can also turn off automatic removal.

Setting notifications

In Mojave, Safari can allow websites that you've approved to send you messages via Notification Center. You can control which sites have this functionality on the Websites tab of Safari's Preferences dialog. To prevent a website from sending notifications, click the Notifications entry in the list on the left; then choose Deny from the drop-down menu next to the offending site. You can also remove a website from the list by clicking it and then clicking the Remove button.

Chapter **9**

Expanding Your Horizons with iCloud

R eaders often ask me to name my favorite reasons why they should switch platforms. In other words, why should a Windows user who thinks all is well move to the Apple universe? I always mention the superior hardware and the fact that Mojave is (in my honest opinion) a much better operating system than Windows 10. My favorite selling point is *innovation.* Apple comes up with the best ideas first, and everyone else plays catch-up.

Here's the perfect example: The folks at Apple got tired of constantly synchronizing their iOS devices with their computers over a USB cable. Remember those archaic days? When you took a photo with your iPhone or created a new document with your iPad, your new additions just sat there in their original locations until you had a chance to sync your device with your iMac. But with Apple's iCloud functionality, your stuff gets *automatically* synchronized and backed up across the Internet!

In this chapter, I save you the trouble of researching all the benefits of iCloud. Heck, that's one of the reasons you bought this book, right?

So How Does iCloud Work, Anyway?

Today's iOS devices can all display or play the same media: photos, music, books, TV shows, and such. Heck, iOS devices like your iPhone and iPad can even share applications. Therefore, it makes sense to effortlessly share all your digital media across these devices, and that's what iCloud is all about. Apple calls this synchronization *pushing.*

Here's how the pushing process works. Imagine that you just completed a Pages document on your iMac (an invitation for your son's birthday party), but you're at the office, and you need to get the document to your family so they can edit and print it with your son's iPad.

Before iCloud, you had to attach the document to an email message or upload it to some type of online storage, such as Dropbox or Microsoft's OneDrive; then a family member had to download and save the document to the iPad before working with it. With iCloud, you simply save the document on your iMac to the Pages folder on your iCloud Drive, and macOS automatically pushes the document to the iPad (using the same Apple ID). Your document appears on the iPad, ready to be opened, edited, and printed — and it appears on any other devices that use the same Apple ID as well. Figure 9-1 gives you an idea of what's happening in the background when one of your devices pushes data using iCloud.

FIGURE 9-1: iCloud works by pushing data among all your iOS devices.

A new Pages document you've created and saved on your iMac

Uploaded

Stored in iCloud

Pushed to other iOS devices such as your iPhone and iPad

The Pages document automatically appears on your iPad
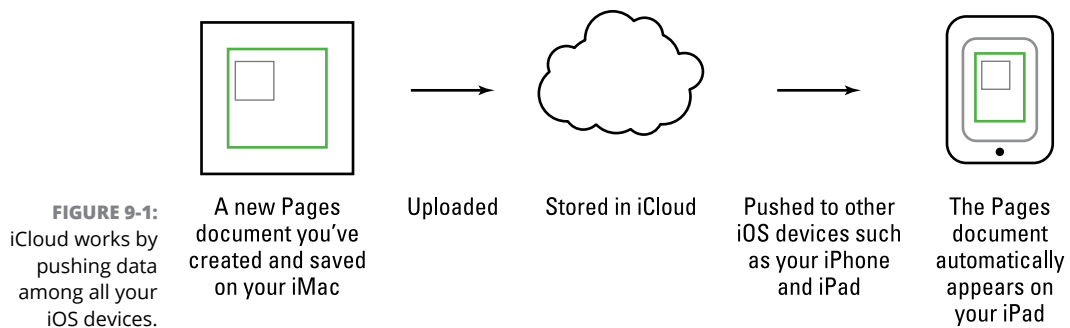
iCloud isn't limited to digital media, though. Mojave can also automatically synchronize your email accounts, Calendar events, and Contacts entries with other iOS devices across the Internet, so staying in touch is much easier (no matter where you are or which device you happen to be using at the moment).

Apple also throws in 5GB of free online storage that you can use for all sorts of things — not only digital media files, but also documents you'd like to save online for safekeeping. Items you buy through the iTunes Store, iBooks Store, or App Store — music, video, podcasts, books, and applications — don't count against your 5GB limit. (More on how you can expand that 5GB limit later in the chapter.)

REMEMBER

To join the iCloud revolution, you need an Apple ID. If you didn't create one during initial Mojave setup, you can create an Apple ID from the App Store.

TIP

You can also access your documents through the web at `https://www.icloud.com`. Log in with your Apple ID and password to send mail; access your photos, contacts, and calendar; edit your notes and reminders; locate your devices; and use online versions of Pages, Numbers, and Keynote. (And there's no need to tote your iMac with you wherever you go!) Always maintain the security of your iCloud account, however, especially on public-access computers, and don't allow any web browser to save your iCloud password.

Moving, Saving, and Opening iCloud Documents

iCloud online storage for your documents is definitely neat. Your iCloud Drive functions much like other popular online storage services, such as Dropbox and Microsoft OneDrive, allowing you to save documents, load documents, and move files to and from your iMac's drive with ease by using a Finder window. In fact, iCloud Drive keeps things tidy for you: If you move a file from your iCloud Drive to your local drive, it's also deleted automatically from iCloud Drive on your other Macs and iOS devices that use the same Apple ID. (Mojave prompts you for permission first, of course.)

Figure 9-2 illustrates my iCloud Drive in action. You can access your iCloud Drive from the Finder window sidebar. Note that iCloud folders are automatically created for supported applications, allowing you to click the corresponding iCloud folder in the application's Open dialog. (In other words, *both* your iCloud Drive and the application-specific iCloud folder are available within the application's Open dialog. That's about as convenient as you can get!)
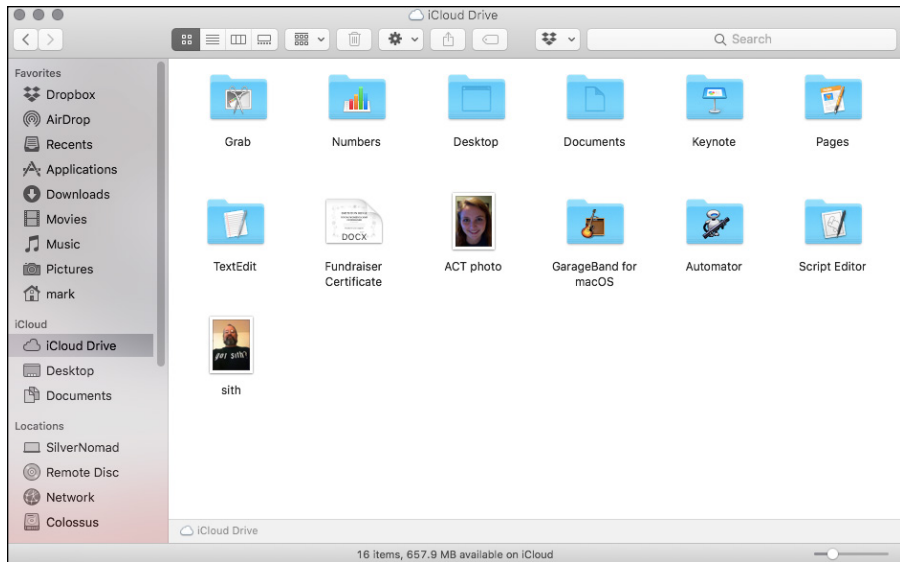
Putting Handoff to Work

If you're like me, your favorite moment in a team track event is the all-important handoff of the baton from one runner to the next, making Handoff the perfect name for this Mojave feature, because it actually transfers what you're doing on your iOS devices to matching applications on your Mac!

Suppose that you're using Maps on your iPhone, and you realize that you'd rather view the location on your iMac's larger screen (as well as print it on the USB printer connected to your iMac). If you're within Bluetooth-signal range of your iMac, Handoff is ready to go: An icon for the macOS version of Maps automatically appears on the left side of the Dock in Mojave. One click of that icon, and your iMac opens Maps and displays the same location.

You're not restricted to one application, either. Each time you open an application that Handoff supports (such as Safari and Mail), Mojave offers you the chance to open the matching application on your iMac and displays the current data from the iOS app. All this is completely trouble-free: There's nothing to configure or set.

Caveats? Only three at this writing:

» **Bluetooth is required.** For Handoff to work, Bluetooth networking must be turned on for both the iOS device and the iMac, and the iOS device must be within a 30-foot radius of the iMac. (That's the maximum distance over which

Bluetooth hardware can broadcast; walls and other obstructions reduce that range.)

» **You need the right hardware.** To use Handoff, you need an iPhone 5 (or later), a fourth-generation iPad (or later), any iPad mini, or a fifth-generation iPod touch (or later). On the computer side, you must have a 2012-model iMac (or later) that includes Bluetooth LE hardware.

» **iOS 8 is a must.** Handoff is compatible only with iOS devices running iOS 8 or later.

Handoff works in the other direction as well, allowing you to pick up where you left off on your iMac application by transferring the active session to your iPhone, iPad, or iPod touch. Swipe the icon that appears on your iOS device to start the ball rolling.

TIP

Your old friends Copy and Paste can even be used to share text, video or images betwixt your iMac and your iOS devices (or another Mac). This feature is called Universal Clipboard, and it allows you to copy items on the source device and paste them on the destination device! The process is automatic: Just copy the item as you normally would, let iCloud do all the technical stuff behind the scenes, switch to the other device, and paste the item. (Sorry, Microsoft: Only Macs and iOS devices need apply.)

Configuring iCloud

You control all the settings for iCloud from Mojave's iCloud pane in System Preferences (shown in Figure 9-3). Click the System Preferences icon on the Dock and then click the iCloud icon. At the sign-in prompt, enter your Apple ID and your password. Then System Preferences guides you through basic iCloud configuration.

Most of the check boxes on the iCloud Preferences pane control whether a particular type of data — such as a Contacts entry, password, Mail message, or calendar in Calendar — is pushed to all your iOS devices.

Note, however, that you can enable three other unique features from this pane:

» **iCloud Drive:** If you enable your iCloud Drive (and you definitely should, in my opinion), you can click the Options button next to the iCloud Drive entry to specify which applications are allowed to store documents and data there. You can also click the Look Me Up by Email tab to specify which applications allow the owners of other Macs or iOS devices to access your Apple ID. If you

enable the Optimize Mac Storage check box, Mojave keeps a local copy of your entire iCloud Drive on your internal drive whenever possible. If your iCloud Drive grows too large to store locally, macOS saves older documents in your iCloud Drive only within iCloud itself (and you'll need an active Internet connection to use your iCloud Drive). If you disable the check box, macOS notifies you if your iCloud Drive becomes too large to store locally.

» **Photos:** Click the Options button to turn on iCloud Photos, allowing macOS to automatically store all your photos and videos online; you can view them on any Mac or iOS device that uses your Apple ID. Enable the My Photo Stream check box to allow your iMac to automatically receive photos from your iOS devices. Take a photo with your iPhone, for example, and that image is immediately pushed to your iMac and iPad. On Mac computers, however, Photo Stream goes one step further: The photos appear automatically in Photos in a special album titled Photo Stream. You can also enable Shared Albums, which allows you to share photos with others from Photos.

REMEMBER

To turn on these features in Photos, choose Photos⇨Preferences, click the iCloud button, and select the desired check boxes.

» **Find My Mac:** Talk about Buck Rogers! Imagine locating a lost or stolen iMac from your iPhone or iPad. Now think about this: With Find My Mac, you can lock or completely wipe your Mac's internal drive *remotely*, preventing unauthorized use and erasing your private data! After you access your iMac from another iOS device, you can play a sound, send a message to be displayed onscreen, remotely lock the machine, or remotely wipe the drive.

WARNING

After you wipe the drive, you can't locate your iMac again.

FIGURE 9-3:
The iCloud pane appears in System Preferences.

You can also enable Family Sharing from the iCloud pane, which allows you to share purchased media and apps with as many as six users' accounts. Participants can share a special Photo Stream, apps, and media (purchased from the iTunes Store, iBooks Store, or App Store), common reminders and a common calendar — and no, they don't need to be members of the same family. To launch the Family Sharing Setup assistant, click the Set Up Family button, and follow the onscreen instructions.

Managing Your iCloud Storage

Apple knows that you're curious about how much space you've taken up in your personal iCloud. To monitor your iCloud storage, click the Manage button in the bottom-right corner of the iCloud System Preferences pane. On the sheet that appears — shown in Figure 9-4 — you can see how much space you're using for document and data storage.
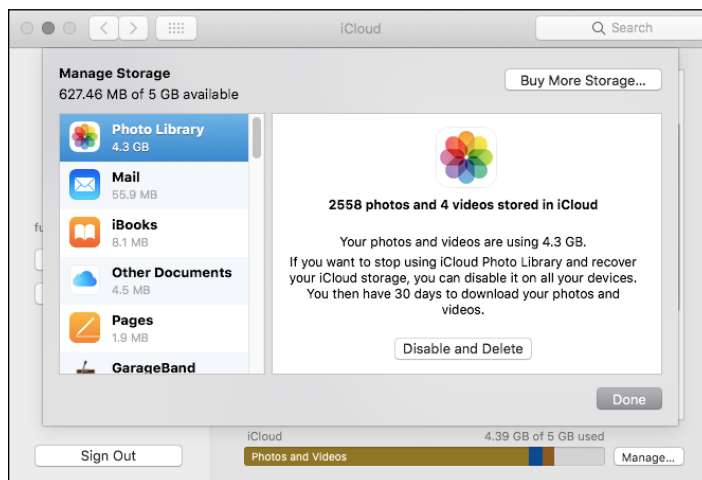
FIGURE 9-4:
Checking on your iCloud storage

Click the data type in the left column, and iCloud displays the amount of storage space that's being used for that data. In Figure 9-4, I'm checking the amount taken by my iCloud Photo Library. Other items that might appear on this sheet include Mail and selected iPad and iPhone apps that support iCloud.

TIP

If you find yourself running out of iCloud storage space, delete any stored item by selecting it in the list at the right side of the sheet and clicking Delete.

And if you need more elbow room than 5GB, Apple is happy to provide 50GB, 200GB, or even a whopping 2TB of additional storage for a monthly subscription fee of 99 cents, $2.99, or $9.99, respectively. (Naturally, these prices are subject to change.) Click the Manage button on the iCloud pane in System Preferences and then click the Buy More Storage button to subscribe.

IN THIS CHAPTER

» **Enjoying the advantages of a multiuser iMac**

» **Understanding access levels**

» **Adding, editing, and deleting user accounts**

» **Restricting access for managed accounts**

» **Configuring your login window**

» **Sharing files with other users**

» **Securing your stuff with FileVault**

Chapter **10**

Creating a Multiuser iMac

Everybody wants a piece. (Of your iMac, that is.)

Perhaps you live in a busy household with kids, significant others, grandparents, and a wide selection of friends, all of them clamoring for a chance to spend time on the Internet, take care of homework, or enjoy a good game.

On the other hand, your iMac might occupy a classroom or a break room at your office — someplace public, yet everyone wants his own Private Idaho on the iMac, complete with a reserved spot on the hard drive and his own hand-picked attractive Desktop background.

Before you throw your hands up in the air in defeat, read this chapter, and take heart! Here, you find all the step-by-step procedures, explanations, and tips to help you build a *safe* multiuser iMac that's accessible to all.

(Oh, and you still get to use it, too. That's not being selfish.)

Once Upon a Time (An Access Fairy Tale)

Okay, so you don't have Cinderella, Snow White, or that porridge-loving kid with the trespassing problem. Instead, you have your brother, Bob.

Every time Bob visits your place, it seems he needs to do "something" on the Internet, or he needs a moment with your iMac to bang out a quick message, using his web-based email application. Unfortunately, Bob's forays onto your iMac always result in stuff getting changed, like your Desktop settings, Contacts database, and Safari bookmarks.

What you need, good reader, is a visit from the Account Fairy. Your problem is that you have but a single user account on your system, and macOS Mojave thinks that Bob is *you.* If you turn your iMac into a multiuser system and give Bob his own account, though, Mojave can tell the difference between the two of you — keeping your druthers separate!

With a unique user account, Mojave can track all sorts of things for Bob, leaving *your* computing environment blissfully pristine. A user account keeps track of stuff such as:

>> Contacts entries

>> Safari bookmarks and settings (sigh)

>> Desktop settings, including background images, screen resolutions, and Finder tweaks

>> iTunes libraries, just in case Bob brings his own music (resigned sigh)

Also, Bob gets his own reserved Home folder on your iMac's hard drive, so he'll quit complaining about how he can't find his files. Oh, and did I mention that user accounts keep others from accessing *your* stuff? And that you can lock Bob out of where-he-should-not-be, such as certain applications, Messages, Mail, and websites (including that offshore Internet-casino site that he's hooked on)?

Naturally, this is only the tip of the iceberg. User accounts affect just about everything you can do in Mojave and on your iMac. The moral of my little tale? A Mark's Maxim to the rescue:

Assign others their own user accounts, and let Mojave keep track of everything. Then you can share your iMac with others and still live happily ever after!

Big-Shot Administrator Stuff

Get one thing straight right off the bat: *You* are the administrator of your iMac. In network-speak, an *administrator* (or *admin* for short) is the one with the power to Do Unto Others, creating new accounts, deciding who gets access to what, and generally running the multiuser show. In other words, think of yourself as the Monarch of macOS (the ruler, not the butterfly).

I always recommend that you have only one (or perhaps two) accounts with administrator-level access on any computer. This way, you can be assured that no one can monkey with your iMac while you're away from the keyboard. So why might you want a second admin account? Well, if you're often away on business, you might need to assign a second administrator account to a *trusted* individual who knows as much about your iMac as you do. (Tell him or her to buy a copy of this book.) Then, if something breaks or an account needs to be tweaked in some way, the other person can take care of it while you're absent (but without getting access to your personal data). Even if it's just you using your iMac, a second admin account makes it easier to troubleshoot problems with Mojave (including those that affect your own user account). If necessary, don't forget that you can always log in to your second admin account and change the password to guarantee security!

In the following sections, I explain the typical duties of a first-class iMac administrator.

Deciding who needs what access

The three most common user account levels are:

- » **Admin (administrator):** See the preceding section.

- » **Standard level:** Perfect for most users, these accounts allow access to just about everything but don't let the user make drastic changes to Mojave or create new accounts.

- » **Managed with parental controls level:** These accounts are standard accounts with specific limits assigned by you or another admin account.

Another Mark's Maxim is in order:

Assign other folks standard-level accounts and then decide whether each new account needs to be modified to restrict access as a managed account. *Never* assign an account admin-level access unless you deem it truly necessary.

Standard accounts are quick and easy to set up, and I think they provide the per-fect compromise between access and security. You'll find that standard access allows your users to do just about anything they need to do, with minimum hassle.

Managed accounts (with parental controls) are highly configurable, so you can make sure that your kids don't end up trashing the hard drive, sending junk mail, or engaging in unmonitored chatting. (*Note:* Attention, all parents, teachers, and anyone designing a single public access account for a library or organization: This means *you.*)

Adding users

All right, Mark. Enough pregame jabbering. Show this good reader how to set up new accounts! Your iMac already has one admin-level account set up for you (cre-ated during the initial Mojave setup process). You need to be logged in to that account to add a user. To add a new account, follow these steps:

1. **In the Users & Groups pane (in System Preferences), click the New User button (plus sign) at the bottom of the accounts list to display the empty user record sheet shown in Figure 10-1.**

REMEMBER

If the New User button is disabled and you can't click it, click the padlock in the bottom-left corner of the System Preferences pane, and provide your pass-word to unlock the Users & Groups pane.

2. **Choose the access level for this user from the New Account pop-up menu.**

By default, the user receives a standard-level account. You can also choose an administrator account, a managed standard account with parental controls already enabled, a group account, or a sharing-only account.

TECHNICAL STUFF

The sharing-only account allows the user to copy or open shared files from your iMac remotely (from another computer), but that user can't directly log in to your iMac. The group account allows you to assign access levels based on the group name that you specify for files and folders.

3. **In the Full Name text box, type the name you want to display for this account (both in the Current User list and on the Login screen); then press Tab to move to the next field.**

TIP

macOS automatically generates an *account name* in the Account Name field for use as your screen and buddy name in Messages and various network applications. The account name is also the name of the folder that macOS creates on the computer's hard drive for this user. You can keep the default account name or type a new one, but the new name can't contain any spaces.

4. **Type the password for the new account.**

Click the button with the key icon next to the Password field, and Mojave is happy to display Password Assistant, complete with a suggestion. Click the Suggestion pop-up menu to see additional suggestions. You can choose the password's length and choose among several types: letters and numbers, numbers only, memorable, completely random, or even FIPS-181–compatible (government-quality). Password Assistant automatically copies the password you're considering into the Password and Verify text boxes.

As always, when you enter a password or its verification, macOS displays bullet characters for security.

5. **Press Tab, type the password in the Verify text box, and press Tab again.**

6. **(Optional) If you decide to use the password hint feature, you can enter a short sentence or question in the Password Hint text box.**

The hint is displayed after you make three unsuccessful attempts to enter the account password.

> **WARNING**
>
> From a security standpoint, password hints are taboo. (Personally, I *never* use 'em. If someone is having a problem logging in to a computer that I administer, you'd better believe I want to know *why.*) Therefore, despite the recommendation that Mojave shows here, I strongly recommend that you skip this field. If you decide to offer a hint, *keep it vague!* Avoid hints like "Your password is the name of the Wookiee in *Star Wars."* And don't embed the password in the hint!

7. **Click the Create User button to finish and create the account.**

The new account shows up in the Current User list and on the Login screen.
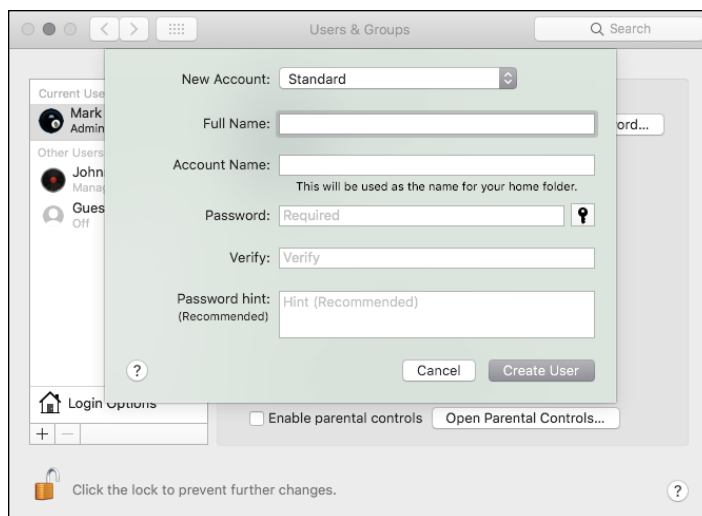
FIGURE 10-1:
Fill out those fields, and you have a new user.

Each user's Home folder has the same default subfolders, including Movies, Music, Pictures, and Sites. A user can create new subfolders within his or her Home folder at any time.

Here's one more neat fact about a user's Home folder: No matter what the account level is, most of the contents of a Home folder can't be viewed by other users. (Yes, that includes admin-level users. This way, everyone using your iMac gets his or her own little area of privacy.) In the Home folder, only the Sites and Public folders can be accessed by other users — and only in a limited fashion. (Read all about Home folders in Chapter 3.)

Modifying user accounts

Next, consider the basic modifications you can make in a user account, such as changing existing information or selecting a new picture to represent that user's unique personality.

To edit an existing account, log in with your admin account, display the System Preferences window, and click Users & Groups to display the account list. Then follow these steps:

1. In the list on the left side of the window, click the account you want to change.

If the accounts in the list are disabled, and you can't select one, you must unlock the Users & Groups pane. Click the lock in the bottom-left corner of the System Preferences pane (and type your password, if prompted).

REMEMBER

2. Edit the settings you need to change.

Examples include temporarily enabling administrator rights for an account (by selecting the Allow User to Administer This Computer check box) and changing the account password (by clicking the Reset Password button).

3. Click the round picture well (the circle that displays the image) to specify the thumbnail image that appears in the Login list next to the account name.

Apple provides several good images in the preview collection. Click a thumbnail to select it.

4. To replace your account image, drag a new image from a Finder window or the iPhoto window, and drop it into the picture well.

Note that some of these choices are available only when you're using an Admin-level account.

- *To choose an image from the default set of Mojave icons:* Click the picture well, click the Defaults tab (see Figure 10-2), click the desired image, and then click Save.

- *To take an icon image using your iMac's FaceTime camera:* Click the Camera tab, click the Take Photo button, and then click Save. ("Say cheese!")

- *To choose an image from your Photos collection:* Click the Photos tab, click the desired image, and then click Done.

5. **After you make your changes, press ⌘+Q to save them and close the System Preferences window.**
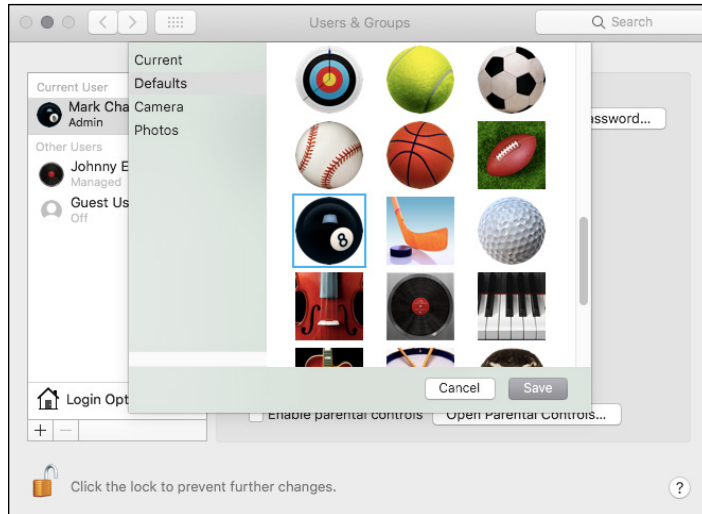
Standard-level users have some control of their accounts; they're not helpless, after all. Standard users can log in, open System Preferences, and click Users & Groups to change the account password or picture, as well as the Contacts Card assigned to them in the Mojave Contacts application. All standard users can also set up login items, which I cover later in this chapter. Note, however, that managed users may not have access to System Preferences, so they can't make changes. (Read about this topic in the upcoming section "Managing an account's access settings.")

I banish thee, mischievous user!

Not all user accounts last forever. Students graduate, co-workers quit, kids move out of the house (at last!), and Bob might even find a significant other who has a faster cable modem. You can only hope.

Anyway, no matter what the reason, you can delete a user account at any time. Log in with your admin account, display the Users & Groups pane in System Preferences, and then follow these steps to eradicate an account:

1. **In the user list on the left side of the window, click the account you want to delete.**

2. **Click the Delete User button (which bears the Minus Sign of Doom).**

   macOS displays the confirmation sheet shown in Figure 10-3.

   TIP

   Note that the contents of the user's Home folder can be saved in a disk image in the Deleted Users folder (in case you need to retrieve something). Alternatively, you can choose to leave the deleted user's Home folder as is, without removing it (but naturally, you won't regain any space, even though the user account is deleted).

   If you're absolutely sure that you won't be dating that person again, select the Delete the Home Folder radio button (which doesn't save anything in the Deleted Users folder). You regain all the drive space that was being occupied by the contents of the deleted user's Home folder. As an extra measure of protection, you can choose to securely erase the contents of the deleted user's Home folder.

3. **Do one of the following:**

   - To delete the account, click Delete User.

   - If you're not sure, click the Cancel button to abort and return to the Accounts list.

FIGURE 10-3:
This is your last chance to save the stuff from a deleted user account.

WORKING WITH THE GUEST ACCOUNT

The *Guest* account is a convenient method of granting someone temporary access to your iMac. In fact, your guest doesn't even need a password to log in. Your Guest account has all the attributes of a standard account, so the visitor has little chance of accidentally (or deliberately) damaging your system. Nevertheless, after the guest user logs out, the Guest account is flushed, and all the data and files that the person created with that account are deleted automatically. (This deletion allows the next guest to start with a clean slate.)

By default, the Guest account is disabled. To turn on this feature, open System Preferences, click Users & Groups, and then click the Guest User entry in the list. (You may have to click the lock icon in the bottom-left corner of the Users & Groups pane and provide your admin password before you can continue.) Click the Allow Guests to Log In to This Computer check box to enable it.

Oh, don't forget that you can enable specific parental controls for the Guest account, just as you can for any other standard-level account. This feature should come in handy if your child has a slumber party coming up this weekend.

Time once again for a Mark's Maxim:

Always delete unnecessary user accounts. Otherwise, you're leaving holes in your Mac's security.

MARK'S MAXIM

Setting up login items and parental controls

Every account on your iMac can be customized. Understandably, some settings are accessible only to admin-level accounts, and others can be adjusted by standard-level accounts. In the following sections, I introduce you to the things that can be enabled (or disabled) in a user account.

Automating with login items

Login items are applications or documents that can be set to launch or load automatically as soon as a specific user logs in, such as Apple Mail or Contacts. In fact, a user must be logged in to add or remove login items. Even an admin-level account can't change the login items for another user.

REMEMBER

A user must have access to the Users & Groups pane of the System Preferences window to use login items. As you can read in the following section, a user can be locked out of System Preferences, which makes it more difficult for login items to be deleted for that account. (Go figure.) Therefore, if the account is managed, and access to System Preferences has been turned off, an administrator must enable the account's access to System Preferences, allowing the managed user to delete login items.

To set login items for your account, follow these steps:

1. **Click the System Preferences icon on the Dock and then click the Users & Groups icon.**

2. **Click the Login Items tab to display the settings shown in Figure 10-4.**

   It bears repeating: You can change Login Items only for the account that's currently logged in, so be sure that the desired account appears below the Current User heading in the list on the left side of the tab.

3. **Click the Add button (with the plus sign) to display a file-selection sheet.**

4. **Navigate to the application you want to launch each time you log in, click it to select it, and then click Add.**

   If you're in the mood to drag and drop, drag the applications you want to add from a Finder window, and drop them directly into the list.

5. **Press ⌘+Q to quit System Preferences and automatically save your changes.**
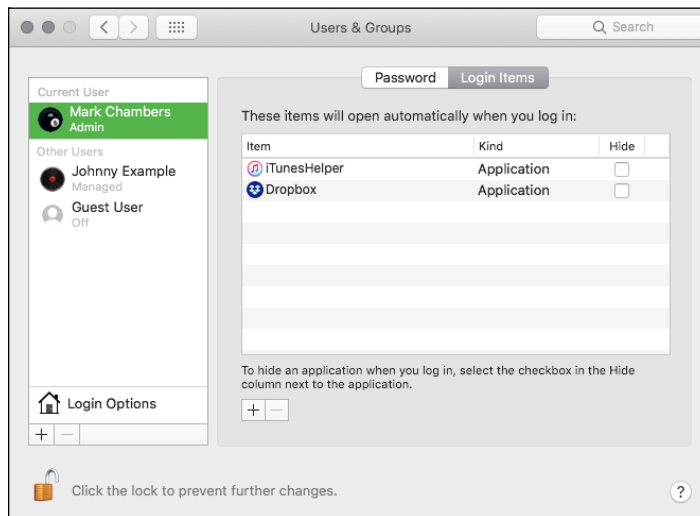
FIGURE 10-4:
Add apps to your Login Items list.

TIP If the application is running at the moment, you can take an easy shortcut and avoid these steps. Simply right-click the application icon on the Dock and choose Options ⇨ Open at Login from the contextual menu that appears.

Login items are launched in the order in which they appear in the list, so feel free to drag the items into any order you like.

Managing an account's access settings

A standard-level account with restrictions is a *managed* account. (You can read about managed accounts earlier in this chapter in the section titled "Deciding who needs what access".) With these accounts, you can restrict access to many places in Mojave and your iMac's applications by using *parental controls.* (Naturally, admin-level accounts don't have parental controls because an admin account has no restrictions.)

REMEMBER In short, parental controls come in handy for preventing users — family members, students, co-workers, friends, or the public at large — from damaging your files, your software, or Mojave itself. If an account has been restricted with parental controls, the account description changes from Standard to Managed in the Accounts list.

To display the parental controls for a standard account, start here:

1. **Log in with an admin-level account.**

2. **Open System Preferences, and click Users & Groups.**

3. **Click the desired Standard account in the list, and select the Enable Parental Controls check box.**

    If necessary, click the lock icon in the bottom-left corner to confirm your access.

Now click the Open Parental Controls button to display the six categories (tabs) shown in Figure 10-5:

>> **Apps:** These settings (which I discuss in more detail in a second) affect what the user can do in Mojave, as well as what the Finder itself looks like to that user.

>> **Web:** Mojave offers three levels of control for websites:

- *Allow Unrestricted Access to Websites:* Select this radio button to allow unfettered access for this user.

- *Try to Limit Access to Adult Websites:* You can allow Safari to automatically block websites that it deems to be adult. To specify particular sites that the automatic "adult filter" should allow or deny, click the Customize button.

- *Allow Access to Only These Websites:* Choose this radio button to specify which websites the user can view. To add a website, click the Add (plus sign) button, and respond to the Mojave prompt for a title and the website address.

» **Stores:** You can specify whether the user can use the iTunes Store and the iBooks Store, as well as restrict access within both stores to music, movies, TV shows, apps, and books by age or rating.

» **Time:** Parents, click the Time button, and you'll shout with joy! Check out the options on this pane, shown in Figure 10-6. You can limit an account to a certain number of hours of use per weekday (Weekday Time Limits) and per weekend day (Weekend Time Limits). You also can set a bedtime computer curfew time for both weekdays (called Bedtime in Figure 10-6) and weekend days.

» **Privacy:** From this tab, you can individually configure the user's ability to launch apps or access social media. Use the convenient check boxes to allow or prevent changes to the settings used by Location Services, Contacts, Calendars, Reminders, Twitter, Facebook, and Diagnostic Apps. For even more control, click the Manage Privacy button to jump immediately to the Privacy tab of the Security & Privacy pane (allowing you to fine-tune which apps can access specific data).

» **Other:** These settings control the Dictionary and hardware devices such as your printer and DVD burner. They include

- *Turn Off Siri &Dictation:* Enable this check box to turn off the Siri voice assistant and Dictation features in Mojave.

- *Disable Editing of Printers and Scanners:* When this check box is selected, the user can't modify the printers and printer queues in the Print & Scan pane in System Preferences. If this option is enabled, the user can still print to the default printer and switch to other assigned printers but can't add or delete printers or manage the macOS print queue. (If the print job encounters a problem, that user has to bug you to fix things.)

- *Block CD and DVD Burning in the Finder:* Select this check box to prevent the user from recording CDs or DVDs via the built-in disc-recording features in macOS. (Note, however, that if you load a third-party recording program, such as Roxio Toast, the user can still record discs with it — unless you also disable access to that program in the Apps section.)

- *Restrict Explicit Language in Dictionary:* When this check box is selected, profane terms in the Dictionary are hidden for this user.

- *Prevent the Dock from Being Modified:* Select this check box, and the user can't remove applications, documents, and folders from the Dock in the full Finder. (This option is a great choice if you don't want the contents of the Dock changing according to the whims of other users.).

- *Use Simple Finder:* I discuss the Simple Finder later in this section; it's a great idea for families and classrooms with young children.
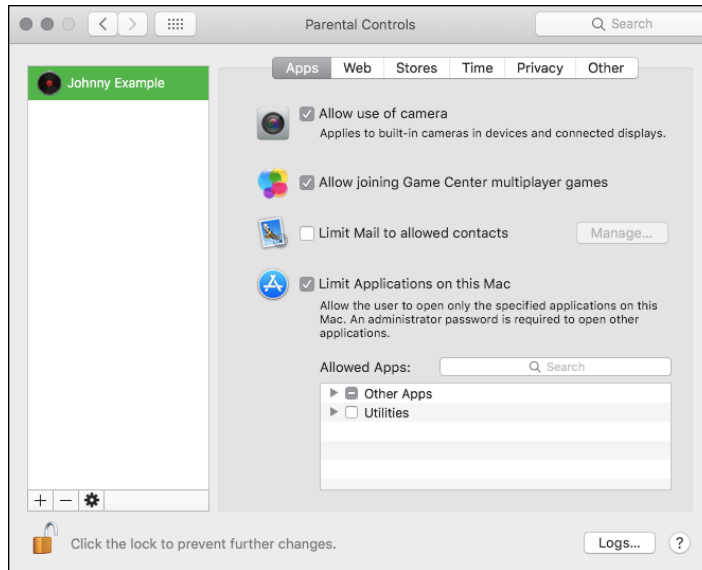
FIGURE 10-5:
You can restrict access to many functions in a Standard account.

You may want to create a single standard-level account for an entire group of people to use. Maybe you want to leave the iMac in kiosk mode in one corner of the office, or perhaps everyone in a classroom will use the same account on the iMac. Keep your one admin-level account close to your bosom, and create a standard-level account for the Unwashed Horde.

Mojave keeps different types of *text log files,* which track where the user goes on the Internet, the applications launched by the account, and the contents of any Messages conversations in which the user participated. Click the Logs button on any Parental Controls screen to monitor all the logs for a particular account.

You can always tell whether an account has been assigned parental controls, because the account description changes from Standard to Managed in the User list.

FIGURE 10-6:
Mojave keeps track of your kid's computer use (so that you don't have to).
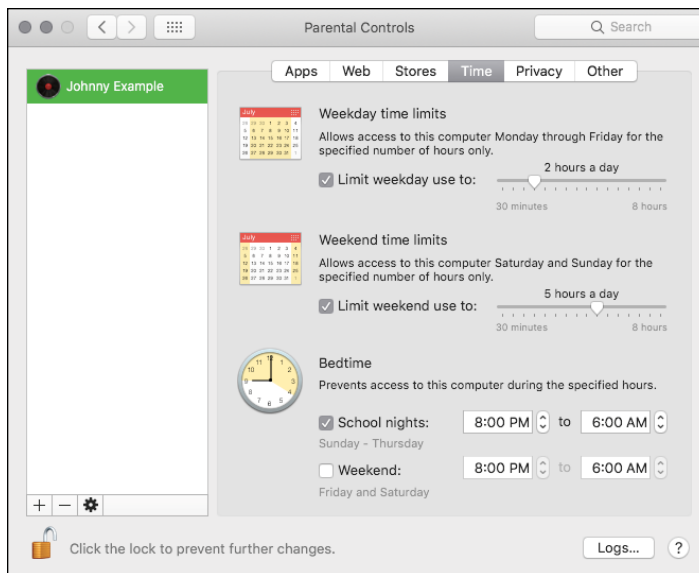
Of particular importance are the Finder and the applications controls. Click the Apps tab (refer to Figure 10-5) to modify these settings:

>> **Allow Use of Camera:** Specify whether the account has access to your iMac's built-in camera. (Note that an external USB Web camera is unaffected by this setting.)

>> **Allow Joining Game Center Multiplayer Games:** This check box controls the user's access to the multiplayer games in Game Center.

>> **Limit Mail to Allowed Contacts:** Select this check box to specify the email addresses that this user can communicate with. (Note that this feature affects only Apple Mail; other mail clients, web-based mail, instant-messaging applications, and audio/video chat applications aren't controlled.) To add an address to which the user can email, click the Manage button; then click the familiar Add button bearing the plus sign. To delete an address, click the Manage button, select the offending address, and click the Delete button (bearing the minus sign).

TIP

If you want a notification if the user is attempting to send an email to someone who's not on the list, select the Send Requests To check box and then type your email address in the text box.

>> **Limit Applications on this Mac:** When this option is selected, you can choose which specific applications the user sees. These restrictions are in effect whether the user has access to the full Finder or just the Simple Finder. Click the triangle icon next to the desired group heading in the Allowed Apps

list to expand the group. To locate a specific application, click the Search box, and type the application name.

You can fine-tune application limits in several ways by using these controls, from turning limits off to modifying the access to single applications:

- *To allow access to all applications:* Disable the Limit Applications on This Mac check box.

- *To allow or restrict access to all the applications of a specific type:* Enable or disable the check box next to the desired group heading. Clicking the Other Apps check box to disable it, for example, prevents the user from launching any of the applications in that group.

- *To allow or restrict access to an individual application:* Select the check box next to any application to select or deselect it.

To add a new application to the Allowed Apps list, drag its icon from the Finder, and drop it in the list in the Other Apps group. After you add an application, it appears in the Other Apps group, and you can toggle access to it just as you can the applications in the named groups.

These settings can work hand in hand with the Mojave *Gatekeeper* feature, which prevents anyone from launching applications that weren't downloaded from the App Store (or aren't Apple-approved).

You can restrict your standard–level users even further by assigning them the Simple Finder set of limitations. The Simple Finder is a highly simplified version of the regular macOS Finder. It has a basic Dock that contains only the Finder icon; the Trash icon; and the folders for the user's approved applications, documents, and shared files.

The Simple Finder is the network administrator's idea of a foolproof interface for macOS: A user can access only the system files and resources needed to do a job, with no room for tinkering or goofing off.

A Simple Finder user can still make the jump to the full version of the Finder by choosing Finder⇨Run Full Finder and entering an admin–level username and password.

Would you like to set up a public–access iMac? You can also change the Automatic Login account from the Users & Groups pane. Click the Login Options button below the User list and then click the Automatic Login pop–up menu to choose the account that automatically logs in when macOS starts. On the confirmation sheet that appears, enter the account password, and click OK. I know — I've made it clear elsewhere that using Automatic Login typically is *not* smart for security–conscious iMac owners, but it can be a good feature if you're preparing an iMac for

public use. If you set the Automatic Login to your public standard-access account, macOS automatically uses the correct account if the iMac is rebooted or restarted.

REMEMBER

You can always choose Log Out from the menu to log in under your own account, or use the Fast User Switching feature I describe in the next section.

Mundane Chores for the Multiuser Laptop

When you're hip to user accounts and the changes you can make to them, you can turn to topics that affect all users of your iMac. These topics include how they log in, how they can share information with everyone else on the computer, and how each user account can be protected from unscrupulous outsiders with state-of-the-art encryption. (Suddenly, you're James Bond! I told you that Mojave would open new doors for you.)

Logging in and out in Mojave For Dummies

Hey, how about the login screen itself? How do your users identify themselves? It's time for another of my "Shortest books in the *For Dummies* series" special editions. (The title is practically longer than the entire book.)

Exploring your login options

Mojave offers four methods of logging folks in to your multiuser iMac, all of which are available from the Login Options button in any admin account:

>> **The username and password login:** This screen is the most secure type of login screen you'll see in Mojave because you have to type your account username and password. (A typical hacker won't know all the usernames on your iMac.) Press Return to complete the process.

When you enter your password, you see bullets rather than your password, because Mojave displays bullet characters to ensure security. Otherwise, someone could simply look over your shoulder and see your password.

MARK'S MAXIM

Keep your iMac secure: Use a username and password login, and always choose a password that's tough to guess.

>> **The list login:** This login screen offers a good middle of the road between security and convenience. Click your account image in the list, and type your password when the login screen displays the password prompt. Press Return to continue.

» **Fast User Switching:** This feature allows another user to sit down and log in while the previous user's applications are still running in the background. This feature is perfect for a fast email check or a scan of your eBay bids without forcing someone else off the iMac. When you turn on Fast User Switching, Mojave displays the active user's name at the right end of the Finder menu bar.

To switch to another account:

1. *Click the current user's name in the Finder menu (see Figure 10-7).*

2. *Click the name of the user who wants to log in.*

   Mojave displays the login window, just as though your computer had rebooted.

   The previous user's stuff is still running, so you definitely *shouldn't* reboot or shut down the computer!

WARNING

To switch back to the previous user:

1. *Click the username on the Finder menu bar again.*

2. *Click the previous user's name.*

   For security, Mojave prompts you for that account's login password.
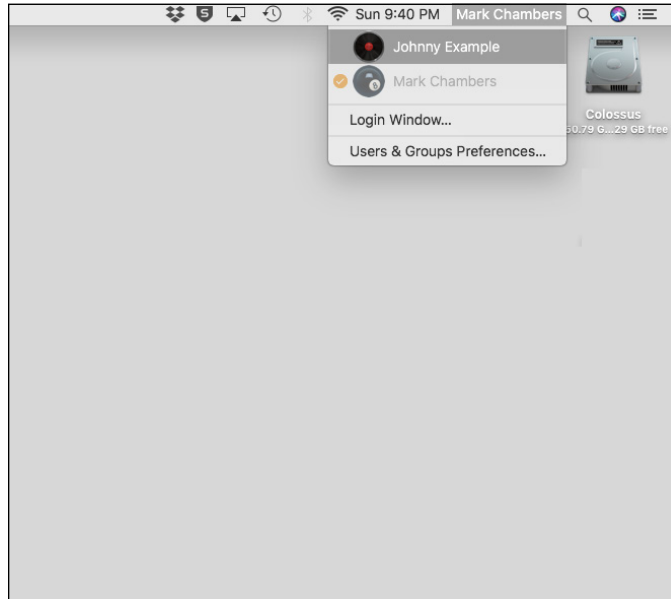
FIGURE 10-7:
The Fast User Switching menu, unfurled for all to see

>> **Automatic login:** This option is the most convenient method of logging in but offers no security whatsoever. Mojave automatically logs in the specified account when you start or reboot your iMac.

I *strongly recommend* that you use automatic login only if:

- Your iMac is in a secure location, such as your home or a locked office.

- You can guarantee that you're the only one using your iMac. *Period.*

- You're setting up a public-access computer kiosk, in which case you want your iMac to log in immediately with the public account.

Are you working in a public environment? *Never* set an admin-level account as the auto login account, which is the very definition of an SDI (Supremely Dumb Idea).

WARNING

Changing your login settings

To set up a username/password or list login, open System Preferences, click the Users & Groups icon, and then display the Login Options settings, shown in Figure 10-8. (If necessary, click the lock icon at the bottom-left corner to confirm your access.) Here's a rundown of key login settings:

>> **Automatic Login:** To set Automatic Login, click the Automatic Login pop-up menu, and choose the account that Mojave should use.

>> **Display Login Window As:** Select the List of Users radio button for a list login screen, or select the Name and Password radio button to require your users to type their full usernames and passwords.

>> **Show Fast User Switching Menu As:** Select this check box to enable Fast User Switching. Click the pop-up menu to specify how accounts should appear on the Finder menu bar (as full names, short names, or account icons).

Logging out

Logging out of Mojave all the way (without Fast User Switching) is a cinch. Just click the menu and then choose Log Out. (From the keyboard, press ⌘+Shift+Q.) A confirmation dialog appears that automatically logs you off in 1 minute. And that minute is important, because if someone walks up and clicks Cancel, he'll be using your iMac with your account! Therefore, it's a good idea to bypass the confirmation dialog by pressing Option while choosing Log Out (or by combining it with the keyboard shortcut). Your iMac returns to the login screen, ready for its next victim. Heed this Mark's Maxim:
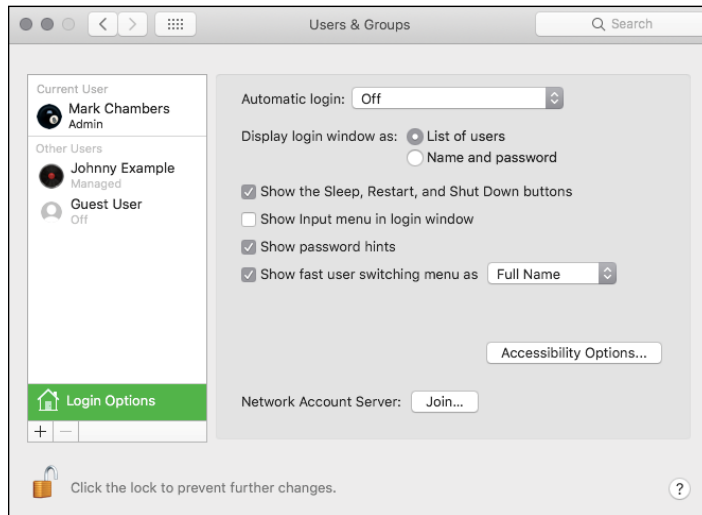
Always click the Log Out button in the logout confirmation dialog before you leave
your iMac (or use the Option key to bypass the confirmation dialog), and double-
check to make sure that the logout completes successfully.

**MARK'S
MAXIM**

Interesting stuff about sharing stuff

You may wonder where shared documents and files reside on your iMac. That's a
good question. Like just about everything in Mojave, the answer is simple. The
Users folder on your iMac has a *Shared* folder within it. To share a file or folder,
place it in the Shared folder.

You don't have to turn on file sharing in the Sharing pane of System Preferences
to use Shared folders on your iMac. File sharing affects only network access to
your machine by users of other computers.

TIP

Each user account on your iMac also has a Public folder in that user's Home folder.
The *Public* folder is a read-only folder that other users on your iMac (and across
the network) can access. They can only open and copy the files it contains. (Sorry;
other users can't create new documents or change existing documents.) Every
user's Public folder contains a *Drop Box* folder, where other users can copy or save
files but can't view the contents. Think of the Drop Box as a mailbox where you
drop off stuff for the other user.

Encrypting your Home folder can be fun

Allowing others to use your iMac always incurs a risk — especially if you store sensitive information and documents on your computer. Although your login password should ensure that your Home folder is off limits to everyone else, consider an extra level of security to prevent even a dedicated hacker from accessing your stuff. All it takes is a forgetful moment in an office or classroom, and your personal and business data is suddenly within someone else's reach. Top-notch security is a Supremely Good Thing!

To this end, Mojave includes *FileVault,* which automatically encrypts the contents of your iMac's drive. Without the proper key (in this case, your login password or the FileVault recovery key), the data stored on your drive is impossible for just about anyone to read. (I guess that the FBI or CIA would be able to decrypt it, but they're not likely a worry at your place!)

The nice thing about FileVault is that it's completely transparent to you and your users. In other words, when you log in, Mojave automatically takes care of decrypting your files and folders. You won't know that FileVault is on the job (which is how computers are *supposed* to work).

To turn on FileVault protection for a specific account, follow these steps:

1. **Click the System Preferences icon on the Dock and then click the Security & Privacy icon.**

2. **Click the FileVault tab and then click the Turn On FileVault button.**

3. **Specify whether your iCloud (Apple ID) account can be used to reset your password and unlock your disk, and click Continue.**

For most iMac owners, the Allow My iCloud Account to Unlock My Disk option is probably just fine, but if you're security-conscious (or you've shared your iCloud account information with others), click the Create a Recovery Key and Do Not Use My iCloud Account radio button.

4. **If you decide to create a separate recovery key, write down the FileVault recovery key displayed by Mojave, and store it in a safe place.**

TIP

To avoid mistakes, you can capture an image of your screen by pressing ⌘+Shift+3. The screen shot appears as an image file on your Desktop. You can open that file and print a copy, or even copy the file to a USB flash drive or another computer on your network for safekeeping.

WARNING

Personally, I love the FileVault feature. I use it on all my Macs running Mojave. Yet a risk is involved (insert ominous chord here). To wit: *Do not forget your login and iCloud account passwords (or make DOGGONE sure that you or your Admin user have access to a copy of that all-important FileVault recovery key)!* macOS

displays a dire warning for anyone who's considering using FileVault: If you forget these safeguards, you can't retrieve any data from your iMac's drive. Even the smartest Apple support technician will tell you that nothing can be done. As Jerry Reed used to say, "It's a gone pecan" (with *pecan* pronounced Southern style, as "puh-*kahn*").

5. **If necessary, click Enable User, provide the login password for each user on your account, and then click Continue.**

Each user on your iMac has to be enabled to use your iMac after FileVault has been turned on. If you don't know the login passwords for the other user accounts on your system, you have to ask each person to provide his or her password to continue. (If an account isn't enabled, that person can no longer access anything on the hard drive after it has been encrypted.)

6. **Click the Restart button on the confirmation screen.**

Your iMac automatically reboots and begins the encryption process. You can continue to use your computer normally during encryption.

You're done!

IN THIS CHAPTER

» **Considering the benefits of a network**

» **Choosing between wired and wireless networks**

» **Sharing an Internet connection**

» **Gathering the stuff you need to network**

» **Making the network connection**

» **Using your network**

» **Protecting your iMac with a firewall**

Chapter **11**

Working Well with Networks

I n my opinion, network access ranks right up there with air conditioning and the microwave oven. Like other "I can't imagine life without them" kinds of technologies, it's hard to conceive sharing data from your aluminum supercomputer with others around you without a network. I guess you could still make use of a *sneakernet* (the old-fashioned term for running back and forth between computers with a floppy disk), but these days, Apple computers don't even *have* floppy drives. (Even with a high-capacity USB 3.0 flash drive, a sneakernet is still a hassle.)

Nope, networking is here to stay. Whether you use a network to share an Internet connection, challenge your friends to a relaxing game of World War II battlefield action, or stream your MP3 collection to other computers that use iTunes, you'll wonder how you ever got along without one. In this chapter, I fill you in on all the details you need to know to get your iMac hooked up to a new (or existing) network.

What Exactly Is the Network Advantage?

If you have other family members with computers, or if your iMac is in an office with other computers (*including* those rascally PCs), here's just a sample of what you can do with a network connection:

>> **Share an Internet connection.** This is *the* major reason why many families and most small businesses install a network. Everyone can simultaneously use the same digital subscriber line (DSL) or cable Internet connection on every computer on the network. On a wireless network, even devices like your iPhone and iPad can take advantage of that same shared Internet magnificence!

>> **Share a printer.** You say your fellow employee — or, even worse, your big sister — has a great printer connected to her computer? Luckily, that printer can be shared with anyone across your network.

>> **Copy and move files of all sizes.** Need to get a Keynote presentation from one Mac to another? With a network connection, you can accomplish this task in seconds. Otherwise, you'd have to copy that file to a USB flash drive, burn it to a DVD-R, or use an external hard drive. A network connection makes copying as simple as dragging the project folder from one Finder window to another.

>> **Share documents across your network.** Talk about a wonderful collaboration tool! You can drop a Word document or Keynote presentation file in your Public folder (or save it in your iCloud Drive), for example, and ask for comments and edits from others in your office (or around the planet).

>> **Stream music and video.** With iTunes, you can share your audio and video media collection on your iMac with other Macs and PCs (and even devices such as an Apple TV or an AirPlay speaker system) on your network. Your eyes and ears can't tell the difference! Using a network connection, you can also watch streaming TV and movies from services like Netflix and Hulu.

>> **Play multiplayer games.** Invite your friends over, and tell 'em you're hosting a *LAN party* (the technonerd term for a large gathering of game players, connected through the same network, all playing the same multiplayer game). You'll see firsthand just how devious a human opponent can be. Each participant needs to buy a copy of the same game, naturally, but the fun you'll have is worth every cent you spend. Don't forget the chips!

If your iMac isn't within shouting distance of an existing network, or you don't plan on buying any additional computers or devices, you may not need to create a network. A lone iMac hanging out in your home with no other companions around should need a network only for Internet access.

REMEMBER If you have just your iMac and an Internet connection through a high-speed DSL/cable modem, and you have no plans to add another computer, wireless equipment, a network printer, or a mobile device, a network probably isn't necessary.

Should You Go Wired or Wireless?

After you decide that you indeed need a network for your home or office, you have another decision to make: Should you install a *wired* network (running cables between your computers) or a *wireless* network? Heck, should you throw caution to the wind and build a combination network with both wireless and wired hardware?

Your first instinct probably is to choose a wireless network for convenience. After all, this option allows you to eliminate running cables behind furniture, in the walls, or in your office ceiling. Ah, but I must show you the advantages of a wired network as well. Table 11-1 gives you the lowdown to help you make up your mind.

TABLE 11-1 **Wireless versus Wired Networks**

Factor	Wireless Networks	Wired Networks
Speed	Moderate	Much faster
Security	Moderate	Much better
Convenience	Much better	Worse
Compatibility	Confusing standards	Easier to understand
Cables	Few (or none)	Required

As I see it, here are the advantages of choosing a wired versus a wireless network setup:

» **Wired:** A wired network offers two significant perks over a wireless network:

- *Faster speeds:* In general, wired networks that are compatible with your iMac are many, many times faster than the fastest 802.11ac or 802.11n wireless connections.

The performance of a wireless connection can be compromised by interference (from impeding structures, such as concrete walls, and from household appliances, such as some smartphones and microwave ovens) and by distance. Wired networks have no such problems as long as you keep your cables to lengths of 25 feet or less.

- *Better security:* A wired network doesn't broadcast a signal that can be picked up outside your home or office, so it's far more secure and much more difficult to breach.

  Hackers can attack through your Internet connection, though, even if you're using a wired network — hence, the final section of this chapter, "Use Your Firewall!"

» **Wireless:** A wireless connection really has only one advantage, but it's a big one: *convenience* (which, in this case, is another word for *mobility* for all your networked devices). Laptop owners crave this independence — a freedom that desktop computer owners can only dream about. What's more, only wireless networks allow your iOS devices to join the party, as the iPhone and iPad aren't equipped with Ethernet ports.

  Accessing your network anywhere within your home or office — without cables — is so easy. Connecting a wireless printer is a breeze. And when you're using an AirPort Express mobile Base Station, even your home stereo can get connected to your MP3 collection on your iMac. Read more about base stations later.

GRAFTING WIRELESS ACCESS TO A WIRED NETWORK

Maybe you're caught in the middle when trying to choose between wired and wireless networking. Or perhaps you're already using a wired network but are thrilled by the idea of sitting on your deck in the sunshine, checking your email on your laptop, untethered. By combining both technologies, you can get the faster transfers of a wired network among all the computers in your office *and* the freedom you crave.

In my home office, I use a wireless base station that includes a built-in wired switch, a common feature in today's wireless routers and base stations. My family gets all the convenience that a wireless network offers, and everyone can connect to the Internet from anywhere in our house. On the other hand, my three office computers have the faster performance and tighter security of a wired network. *Sassy* indeed!

Be a Pal: Share Your Internet!

It's time to see what's necessary to share an Internet connection. In the following sections, I cover two methods of connecting your network to the Internet. (And before you open your wallet, keep in mind that you may be able to use your iMac or iMac Pro to share your broadband connection across your network!)

Using your iMac as a sharing device

You can use your iMac to provide a shared Internet connection across a simple wireless network, using a broadband DSL or cable connection. Because your iMac has built-in AirPort Extreme wireless hardware, it's easy to share your cable/DSL broadband connection wirelessly with other computers in your home or office.

REMEMBER When your iMac is functioning as an Internet-sharing device, your computer uses Mojave's built-in Internet-connection-sharing feature to get the job done, *but your iMac must remain turned on to allow Internet sharing.* I show you how to do this in the later section "Network Internet connections."

Using a dedicated Internet-sharing device

You can also choose to use a dedicated Internet-sharing device (often called an *Internet router)* to connect to your cable or DSL modem. You do have to buy this additional hardware, but here's the advantage: Your iMac doesn't have to remain turned on just so everyone can get on the Internet.

As I mentioned, Internet routers usually include either wired or wireless network connections, and many include both.

Setting up an Internet router is usually a simple matter, but the configuration depends on the device manufacturer and usually involves several settings in System Preferences that vary according to the router model. Grab a diet cola, sit down with the router's manual, and follow the installation instructions you find there. (In some cases, you must set up your cable or DSL modem as a bridge between your ISP and your router, which should be covered in your modem and router manuals as well.)

TIP Most Internet routers offer a DHCP server, which automatically assigns Internet protocol (IP) addresses, and I *strongly* recommend that you turn on this feature! (You can read more about DHCP later in this chapter, in the sidebar "The little abbreviation that definitely could.")

What Do I Need to Connect?

Most *normal* folks — whom I define as those who have never met a network system administrator and couldn't care less — think that connecting to a network probably involves all sorts of arcane chants and a mystical symbol or two. In the following sections, I provide you the shopping list you need to set up a network or connect to a network that's already running.

Wireless connections

Today's iMacs come complete with built-in AirPort Extreme wireless hardware, so if you already have an AirPort Extreme or Express Base Station, you're all set. Otherwise, hold on tight while I lead you through the hardware requirements for wireless networking.

REMEMBER The maximum signal range — and effectiveness — of any wireless network can be impeded by intervening walls or electrical devices, such as microwave ovens and some smartphones, all of which can generate interference.

Connecting a iMac to an existing wireless network

Connecting any Mac computer to an existing wireless network requires no extra hardware, because your hardware is already built in. (Whew. That was easy!)

USING A BASE STATION TO GO WIRELESS

If you decide that you want to build your own wireless network, you eschew cables, or you want to add wireless support to your existing wired network, you need a *base station.* (If you do have an existing wired network, the base station can act as a bridge between computers using wireless hardware and your wired network, allowing both types of computers to talk to one another.) Such a wireless base station has either:

>> A port that can connect to your existing wired network's switch

>> A full built-in switch for wired connectivity (which means that you can sell your old wired Ethernet switch to your sister in Tucson)

And, of course, a base station can simply act as a central switch for your wireless network (with no support for a wired network).

You can use either a cool Apple Base Station or a boring 802.11ac or 802.11n generic wireless base station, but the Apple hardware requires less configuration and tweaking. (Sounds like a Mark's Maxim!)

If you don't want the hassle of tweaking PC hardware to accommodate your iMac, buy Apple hardware and software.

Apple has discontinued all of the Base Station models I discuss in the following section, so it may take a few visits to eBay to locate the best price on used Apple networking hardware.

APPLE BASE STATION MODELS

As listed in the upcoming Table 11-2, your iMac can work with four Apple Base Station models for wireless networking:

» **AirPort Extreme:** I recommend using AirPort Extreme if your network needs an enhanced antenna, which provides greater range. You can read about connectivity ranges in Table 11-2.

» **AirPort Time Capsule:** Apple's Time Capsule unit (an external wireless backup unit) isn't just a wireless remote hard drive. It can also act as a full AirPort Extreme Base Station. In fact, the wireless specifications for a Time Capsule unit and an AirPort Extreme Base Station are almost identical.

» **AirPort Express:** I recommend using AirPort Express if you want to:

  ● *Carry your wireless base station with you.* Express is much smaller than the other Apple Base Station models. (Think "party on the patio" or a LAN gaming get-together at a friend's house.)

  ● *Extend the range of your existing wireless network.* If your network signal fades by the pool or potting shed, consider adding an AirPort Express at the edge of your current range to extend the reach of your wireless network.

  ● *Connect your home stereo or speakers for wireless music streaming using AirPlay.* You can connect a pair of speakers to your AirPort Express and use AirPlay to play music from your iMac's iTunes library. (Heck, you're not limited to playing the music on your iMac. You can also stream music from your iPhone, iPad, or iPod touch!)

» **AirPort:** You might find an 802.11g AirPort Base Station on eBay or at a garage sale. Go ahead and pick it up if you want to save cash unless you're considering doing multiplayer gaming or performing high-speed file transfers over your wireless network.

The latest 802.11ac standard used by the AirPort Extreme Base Station and AirPort Time Capsule delivers a connection that's several times faster than the old AirPort Base Station's 802.11b/802.11g/802.11n standards. 802.11ac is also compatible with *all* the older standards — 802.11b/a/g/n — so I highly recommend that you stick with 802.11ac in the future. It plays well with others, and at warp speed to boot!

TABLE 11-2   **Apple Wireless Network Base Stations**

Feature	AirPort Extreme/ AirPort Time Capsule	AirPort Express
Price	(discontinued)	(discontinued)
Users (maximum)	50	50
802.11ac support	Yes	No
802.11n support	Yes	Yes
802.11g support	Yes	Yes
802.11b support	Yes	Yes
LAN Ethernet jack (high-speed Internet connection)	Yes	Yes
WAN Ethernet jack (wired computer network)	Yes	Yes
Stereo mini-jack	No	Yes
USB printer port	Yes	Yes

WARNING

The names of the Apple Base Stations are irritatingly similar; Apple usually does a better job of differentiating its product names. Jot down the name of your model on a sticky note on your macOS desktop so you don't get confused.

Installing an Apple Base Station is simple. Follow these steps:

1. **If you have a DSL or cable modem, connect it to the WAN (wide-area network) port on the Base Station with an Ethernet cable.**

2. **If you have an existing wired Ethernet computer network with a switch or router, connect it to the Ethernet LAN (local-area network) port on the Base Station with an Ethernet cable.**

   REMEMBER

   Only the AirPort Extreme and AirPort Time Capsule stations have a WAN port.

3. **If you have a USB printer, connect it to the USB port on the Base Station.**

   TIP

   I cover the steps for sharing a printer in the later section "Sharing a network printer."

4. **Connect the power cable.**

5. **Switch on your Base Station.**

6. **Run the installation software provided by Apple on your iMac.**

NON-APPLE BASE STATIONS

If any company other than Apple manufactured your wireless base station, the installation procedure is almost certainly the same. (Naturally, you should take a gander at the manufacturer's installation guide to make sure, but I've added many brands of these devices, and I used the same steps for each one.)

I should note, however, that Apple wireless hardware uses a slightly different security encryption standard from most PC wireless hardware. This fact creates an extra hurdle when you connect to a non–Apple base station or access point with your iMac. (More on this in the next section. For now, remember that I recommend using Apple wireless hardware with your iMac whenever possible because the installation process is somewhat easier.)

Joining a wireless network

As far as I'm concerned, the only two types of base stations are Apple and non–Apple (which includes all 802.11ac, 802.11n, and 802.11g base stations and access points). In the following two sections, I relate what you need to know to get on board with either type of hardware.

USING APPLE AirPort BASE STATIONS

To join a wireless network that's served by any flavor of Apple Base Station, follow these steps on each Mac with wireless support:

1. **Click the System Preferences icon on the Dock.**

2. **Click the Network icon.**

3. **In the Connection list on the left, click Wi-Fi.**

4. **Select the Show Wi-Fi Status in Menu Bar check box.**

5. **Click the Apply button.**

6. **Press ⌘+Q to quit System Preferences and save your settings.**

7. **Click the Wi-Fi status icon (which looks like a fan) on the Finder menu bar, and choose an existing network connection you'd like to join.**

    The network name is the same as the network name you chose when you set up your AirPort Base Station.

8. **If you set up a secure network, enter the password you assigned to the network during setup.**

By the way, security is always A Good Thing. I strongly recommend that you enable the password encryption features of your Apple Base Station while installing it. (Luckily, the Apple Base Station setup application leads you through this very process.) In the words of an important Mark's Maxim:

Keep uninvited guests out of your network! Use your base station's security features, and encrypt your data by using WPA2 encryption!

Some wireless networks may not appear in your Wi-Fi menu list. These networks are *closed networks*, which you can specify when you set up your AirPort Base Station. You can't join a closed network unless you know the exact network name (which is far more secure than simply broadcasting the network name). To join a closed network, follow these steps:

1. **Click the Wi-Fi status icon (which looks like a fan) on the Finder menu bar, and choose Join Other Network.**

2. **Type the network's name.**

3. **If the network is secured with WPA, WPA2, WEP, or LEAP encryption (the security standards for protecting your data through encryption), click the Security pop-up menu, and choose which type of encryption is being used.**

   My technical editor and I heartily agree: Simply forget that WEP encryption ever existed, and *never* use it! Your best bet is WPA2 encryption, which is the current standard for home wireless networks.

4. **Enter the network password, if required.**

To disconnect from a Wi-Fi network, click the Wi-Fi menu and choose Turn Wi-Fi Off or connect to another wireless network. In other words, if you choose another available wireless network from the Wi-Fi menu, your iMac automatically drops the previous connection. (You can be connected to only one wireless network at a time, which makes Good Sense.)

USING NON-APPLE BASE STATIONS

If you're using your iMac to connect to a non-Apple base station at your office, you may need to follow a specific procedure that takes care of the slightly different password functionality of standard 802.11b/g/n/ac hardware.

Mojave can take care of many potential wireless "language barriers" caused by security encryption. The two most common forms are WPA2 and WEP. So whether

you need to massage your password to connect to your non-Apple base station depends on the specific hardware and encryption system it uses.

To read or print the latest version of this procedure, fire up Safari, visit `http://support.apple.com/kb/index?page=search&locale=en_US&q=`, and type **HT1126** in the search field. The article provides details on how to convert a standard wireless encrypted password to a format that your AirPort Extreme hardware can understand.

TRANSFERRING FILES THE EASY AIRDROP WAY

AirDrop is the local Mac-to-Mac file transfer feature built into macOS Mojave, and it couldn't be easier to use. No setup and no passwords are involved! But it comes with three caveats:

- AirDrop works only with Macs running Lion and later, and only with specific iMac models: computers produced in early 2009 or later that support AirDrop.

- AirDrop uses the Wi-Fi and Bluetooth hardware built into today's Mac laptops and desktops, so don't forget to turn on Wi-Fi and Bluetooth first. (If you're displaying the status icons on your Finder menu bar, click the icon, and choose Turn Wi-Fi/ Bluetooth On.)

- You have to be within Bluetooth signal range of another Mac to use AirDrop. Note, however, that the two computers *don't* have to be using the same Wi-Fi network. (My iMac uses a wired connection to my network, but because the iMac has internal Wi-Fi and Bluetooth hardware, I can use AirDrop to send files to my MacBook Air.) Because AirDrop uses both your Wi-Fi and Bluetooth connections, file transfers are significantly slower (and less secure) than they'd be over a wired Ethernet network.

To use AirDrop to transfer files to another Mac, both users should click the AirDrop icon in any Finder window's sidebar to join the AirDrop group. After a short delay, you see the account pictures for all Macs within signal range and with AirDrop open. Just drag the files you want to transfer to the person's picture. Both you and the recipient are prompted for confirmation before the transfer begins. When the transfer is complete, the files you sent are saved in the recipient's Downloads folder.

When you're done using AirDrop, close the Finder window displaying the account pictures (or click another location in the Finder window's sidebar) to exit the AirDrop group. (Don't forget that you have to reopen AirDrop if someone wants to send you files. I leave my AirDrop Finder window open and minimized to the Dock.)

Wired connections

If you're installing a wired network, your iMac already comes with most of what you need for joining your new cabled world. You just connect the hardware and configure the connection. Don't forget that you also need cables and an inexpensive Ethernet switch. (If you're using an Internet router or other hardware sharing device, it almost certainly has a built-in four- or eight-port switch.)

Connecting an iMac to a wired network

Your Ethernet 10/100/1000 port (which looks like a slightly oversize telephone/modem jack) is located on the back of your iMac. It's ready to accept a standard Ethernet Cat5/Cat5E/Cat6 cable with RJ-45 connectors.

If you're connecting to an existing wired network, you need a standard Cat5/Cat5E/Cat6 Ethernet cable of the necessary length. I recommend a length of no more than 25 feet, because longer cables are often subject to line interference (which can slow or even cripple your connection). You also need a live Ethernet port from the network near your Mac. Plug the cable into your iMac and then plug the other end into the network port on the switch or router.

WIRED NETWORK HARDWARE

If you don't know your switch from your NIC, don't worry. Here, I describe the hardware you need for your wired network.

WIRED NETWORK COMPONENTS

If you're building your own wired network, you need:

>> **A switch:** This gizmo's job is to provide more network ports for the other computers in your network. Switches built for home use typically come in four- and eight-port configurations.

   As mentioned earlier in this chapter, most Internet routers (sometimes called *Internet-sharing devices)* include a built-in switch. So if you've already invested in an Internet router, make doggone sure that it doesn't come equipped with the ports you need before you go shopping for a switch!

>> **Ethernet cables:** Exactly how many cables you need is determined by how many computers and other devices (such as a network printer) you're connecting. If you're working with a Gigabit Ethernet system, you need Cat5E or Cat6 cables. Cat6 cables provide better performance but are more expensive.

TIP

Naturally, if you're using a broadband Internet connection, you also have a DSL or cable modem. These boxes always include a port for connecting to your wired Ethernet network. (If you have one of the new breed of *wireless* modems, which acts as a wireless base station, don't panic. It should also have a wired port for connecting to your existing switch.)

WIRED NETWORK CONNECTIONS

After you assemble your cables and your router or switch, connect the Ethernet cables from each of your computers to the router or switch and then turn on the device. (Most devices need AC power to work.) Check the manual that comes with your device to make sure that the lights you're seeing on the front indicate normal operation. (Colors vary by manufacturer, but green usually is A Good Color.)

Next, connect your cable or DSL modem's Ethernet port to the WAN port on your switch with an Ethernet cable. If your modem isn't already on, turn it on now, and check for normal operation.

When your router or switch is powered on and operating normally, you're ready to configure macOS for network operation. Just hop to the upcoming section "Connecting to the Network." (How about that? Now you can add network technician to your rapidly growing computer résumé!)

Joining a wired Ethernet network

After all the cables are connected and your central connection gizmo is plugged in and turned on, you've essentially created the hardware portion of your network. Congratulations! (Now you need a beard and suspenders.)

With the hardware in place, it's time to configure Mojave. In this section, I assume that you're connecting to a network with an Internet router or switch that includes a DHCP server. (Jump to the later sidebar "The little abbreviation that definitely could" for more on DHCP.)

Follow these steps on each Mac running macOS that you want to connect to the network:

1. **Click the System Preferences icon on the Dock.**
2. **Click the Network icon.**
3. **In the Connection list on the left, select Ethernet.**

   The entry may also be named Ethernet 1, depending on the Mac model you're configuring. (Make sure that you select the Ethernet entry that *doesn't* carry the Wi-Fi fan symbol.)

4. **Click the Configure IPv4 pop-up menu, and choose Using DHCP, as shown in Figure 11-1.**
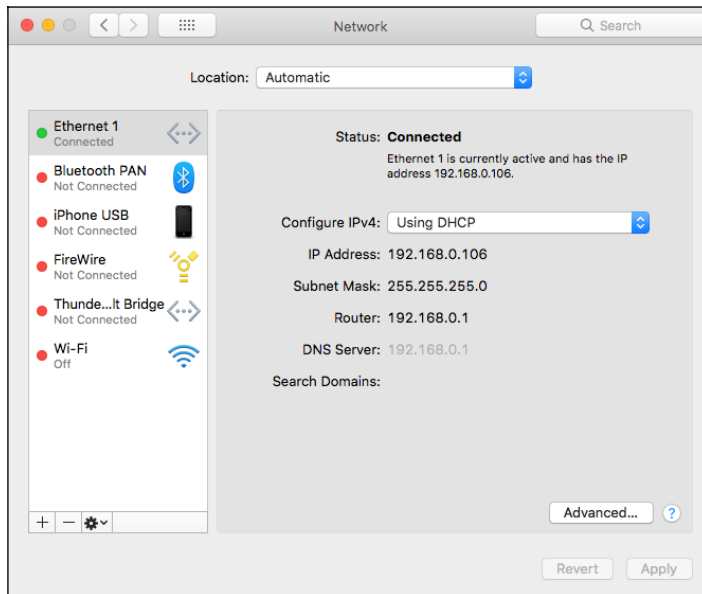
5. **Click the Apply button.**

   The Apply button is inactive in the figure because my status (in this dialog) is Connected.

   Enjoy the automatic goodness as macOS connects to the DHCP server to obtain an IP address, a subnet mask, a gateway router IP address, and a Domain Name System (DNS) address. (Without a DHCP server, you'd have to add all this stuff manually. Ugh.)

   A few seconds after clicking the Apply button, you should see the information. You might also notice that the DNS Server and Search Domains fields are empty. Fear not. macOS is really using DNS server and domain information provided by the DHCP server.

6. **Press ⌘+Q to quit System Preferences and save your settings.**

   You're on!

Connecting to the Network

All right! The hardware is powered up, the cables (if any) are installed and connected, and you've configured Mojave. You're ready to start (or join) the party. In the following sections, I show you how to verify that you're connected, as well as how to share data and devices with others on your network.

Verifying that the contraption works

After you have at least two computers on a wired or wireless network, test whether they're talking to each other over the network by pinging them. (No, I didn't make up the term. Honest.) Essentially, pinging another computer is like yelling "Are you there?" across a crevasse.

THE LITTLE ABBREVIATION THAT DEFINITELY COULD

You know, some technologies are just *peachy*. (So much for my über-tech image.) Anyway, these well-designed technologies work instantly. You don't have to fling settings around like wrapping paper on Christmas Day. And every computer can use them — Mac; Windows; Linux; and even the laptops used by funny-looking creatures from Roswell, New Mexico.

Dynamic Host Configuration Protocol (*DHCP* for short) is about as peachy as it gets. This protocol enables a computer to automatically get all the technical information necessary to join a network. Let me hear you say *"Oh, yeah!"* Virtually all network devices can use DHCP these days, including Internet routers, switches, and (go figure) macOS. Today's networking hardware and operating systems provide a *DHCP server,* which flings the proper settings at every computer on the network all by itself. Your iMac just accepts the settings and relaxes in a placid networking nirvana.

In this book, you can bet the farm that I assume you want to use DHCP and that your network hardware supports it (which is a virtual certainty with today's hardware). That way, I won't spend 30 pages leading you through the twisting alleyways of manual network settings.

If you're connecting to an existing network, tell the network administrator you're taking the easy route and using DHCP. A warning, however: Adding more than one DHCP server on a single network will cause a civil war, and your system will lock up tight. Therefore, before adding hardware with a DHCP server to an existing network, ask your network administrator to ensure that you aren't making a mistake.

To ping another computer on the same network from any Mac running Mojave, follow these steps:

1. **Click the Siri icon on the Finder menu bar.**

2. **Say "Launch Network Utility" to launch the application.**

3. **Click the Ping tab, as shown in Figure 11-2.**
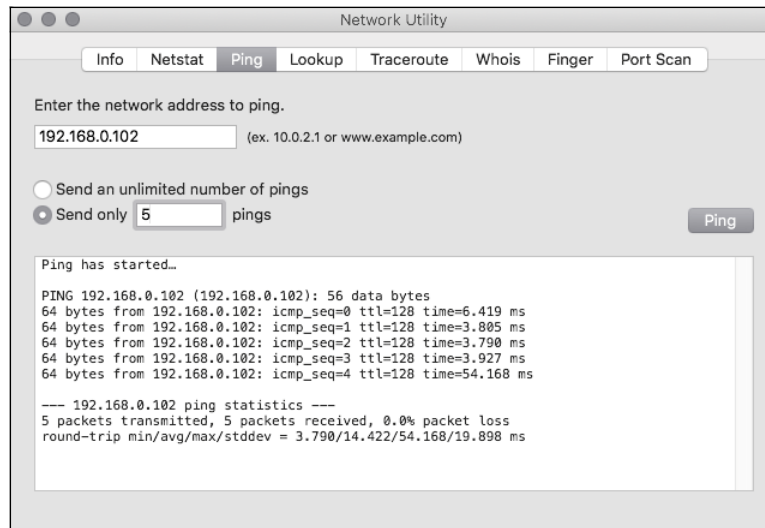
4. **In the Enter the Network Address to Ping text field, enter the IP address of the computer you want to ping.**

   - *If you're pinging another Mac running macOS,* you can get that machine's IP address simply by displaying its Network pane in System Preferences, which always displays the IP address.

   - *If you're trying to ping a PC running Windows,* and you don't know that machine's IP address, follow these steps:

     (a) *In Windows 7, click Start, right-click Network, and then choose Properties from the contextual menu. In Windows 8, 8.1 or 10, display the Control Panel, and click Network and Sharing Center.*

     (b) *Click Change Adapter Settings, right-click your Local Area Network connection icon, and choose Status from the contextual menu.*

     (c) *Click the Details button.*

   The IP address of that computer is proudly displayed.

5. **Select the Send Only *x* Pings radio button, and enter** 5 **in the text field.**

6. **Click the Ping button.**

   - *Yay:* If everything is working, you should see results similar to those shown in Figure 11-2, in which I'm pinging my Windows server at IP address 192.168.0.102 across my wired Ethernet network.

     The address 192.168.0.*xxx* is a common series of local network IP addresses provided by Internet routers, hubs, and switches with DHCP servers, so don't freak if you have the same local IP address. Similarly, Apple tends to use the form 10.0.1.*xxx* for local networks.

   - *Nay:* If you *don't* get a successful ping, check your cable connections, power cords, and macOS settings. If you're using a wireless connection, you may have to move closer to the network base station to connect successfully, especially through walls.

If all is well, you should also be able to see the other local computers connected to your network from any Finder window. Just click the Network heading on the sidebar.

Sharing stuff nicely with others

It works! By golly, it works! Okay, now what do you *do* with your all-new shining chrome network connection? Ah, my friend, let me be the first to congratulate you and the first to show you around! In the following sections, I cover the most popular network perks. (The good news is that these perks work with both wired and wireless connections.)

Network Internet connections

If your DSL or cable modem plugs directly into your iMac (rather than into a dedicated Internet-sharing device or Internet router), you might ponder just how the other computers on your network can share that spiffy high-speed broadband connection. If you're running a wireless network, it comes to the rescue!

Follow these steps to share your connection wirelessly:

1. **Click the System Preferences icon on the Dock.**

2. **Click the Sharing icon.**

3. **Click the Internet Sharing entry in the Services list to the left of the pane.**

4. **From the Share Your Connection From pop-up menu, choose Ethernet.**

5. **Select the Wi-Fi check box (in the To Computers Using list).**

6. **Select the On check box next to the Internet Sharing entry in the Services list.**

   Mojave displays a warning dialog stating that connection sharing could affect other computers on your network. If you intend to share the Internet connection provided on an existing network at your home or office that you didn't set up, contact your network administrator first! (It's best to avoid sowing chaos and disorder.)

7. **Click Start in the warning dialog to continue.**

8. **Click the Close button to exit System Preferences.**

REMEMBER

Sharing an Internet connection (without an Internet router or dedicated hardware device) through macOS requires your computer to remain on continuously. Remind others in your office or home that your svelte iMac must remain on; otherwise, they'll lose their Internet connection!

Don't forget — you don't need to configure Internet sharing if your DSL or cable modem connects to a dedicated sharing device or router. That snazzy equipment automatically connects your entire network to the Internet.

Network file sharing

You can swap all sorts of interesting files with other computers on your network. When you turn on file sharing, Mojave allows all computers on the network to connect to your iMac and share the files in your Public folder. (Note that sharing across a network is different from sharing a single computer among several people. I cover that environment in Chapter 10.)

Follow these steps to start sharing files and folders with others across your network:

1. **Click the System Preferences icon on the Dock.**

2. **Click the Sharing icon.**

3. **Select the On check box next to the File Sharing service entry to enable the connections for Mac and Windows sharing.**

   Other Mac users can connect to your computer by clicking Go on the Finder menu and choosing the Network menu item. The Network window appears, and your iMac is among the choices. If the other Macs are running Mojave, your iMac's shared files and folders appear in a Finder window, and they're listed below the Shared heading in the sidebar.

Vista/Windows 7 users can use the Network window to connect to your Mac. Windows 8, 8.1 and 10 users should head to the Network panel. Those lucky Windows folks also get to print to any shared printers you've set up. (The following section covers shared printers.)

4. **Click the Close button to exit System Preferences.**

Mojave conveniently reminds you of the network name for your beloved iMac at the top of the Sharing pane.

Sharing a network printer

I love describing easy procedures, and sharing a printer on a Mac network ranks high on the list! You can share a printer that's connected to your iMac (or your AirPort Extreme, AirPort Time Capsule, or AirPort Express Base Station) by fol-lowing these simple steps:

1. **Click the System Preferences icon on the Dock.**

2. **Click the Sharing icon.**

3. **Select the On check box next to the Printer Sharing service entry.**

4. **In the list at the right of the System Preferences window, select the check box next to the printer you want to share.**

5. **Click the Close button to exit System Preferences.**

A printer you share automatically appears in the Print dialog on other computers connected to your network.

Use Your Firewall!

Yep. That exclamation point tells you how important this section is.

The following Mark's Maxim, good reader, isn't a request, a strong recommenda-tion, or even a regular Maxim. Consider it to be an *absolute command* (right up there with "Pay your taxes").

MARK'S
MAXIM

Turn on your firewall *now.*

When you connect a network to the Internet, you open a door to the outside world. As a consultant to several businesses and organizations in my hometown, I can tell you that the outside world is chock-full of malicious individuals who *dearly love* to inflict damage on data and would like to take control of your pristine iMac for their own purposes. Call 'em hackers, call 'em delinquents, or call 'em something I can't repeat, but *don't let them in!*

Mojave comes to the rescue again with the built-in firewall in macOS. When you use the firewall, you essentially build a virtual brick wall between yourself and the hackers out there (both on the Internet and within your local network). Follow these steps:

1. **Click the System Preferences icon on the Dock.**
2. **Click the Security & Privacy icon.**
3. **Click the Firewall tab.**
4. **Click the Turn On Firewall button to activate your firewall.**
5. **Click the Firewall Options button.**
6. **Select the check box titled Automatically Allow Built-In Software to Receive Incoming Connections.**
7. **Select the check box titled Automatically Allow Downloaded Signed Software to Receive Incoming Connections.**
8. **Select the Enable Stealth Mode check box.**

   This important feature prevents hackers from trolling for your iMac on the Internet — or, in normal-speak, searching for an unprotected computer — so it's much harder for them to attack you. (Stealth mode also prevents other computers from pinging you, so don't be surprised if your iMac suddenly clams up if you try to ping it.)

9. **Click OK.**
10. **Click the Close button to exit System Preferences.**

Mojave even keeps track of the Internet traffic that you *do* want to reach your iMac, such as web page requests and file sharing. When you activate one of the network features described in the section "Sharing stuff nicely with others," Mojave automatically opens a tiny hole (called a *port* by net types) in your firewall to allow just that type of communication with your Mac.

If you decide to turn on printer sharing, for example (as described in the preceding section), Mojave automatically allows incoming print jobs over the network from other computers.

You can also add ports for applications that aren't on the firewall's Allow list, such as third-party instant messaging clients and multiplayer game servers. Depending on the type of connection, Mojave often displays a dialog prompting you for confirmation before allowing certain traffic, so you probably won't need to do anything manually.

You *can* manually add a program to your list of allowed (or blocked) firewall ports. Follow these steps:

1. **Click the System Preferences icon on the Dock.**

2. **Click the Security & Privacy icon.**

3. **Click the Firewall tab and then click the Firewall Options button.**

4. **Click the Add button (which carries a plus sign).**

   Mojave displays a standard file-browsing sheet.

5. **Browse to the application that requires access to the outside world — or the application that you want to block from outside communication — and click it to select it.**

6. **Click the Add button on the File sheet.**

   The application appears in the Firewall list. By default, it's set to Allow Incoming Connections.

7. **If you want to block any communications coming into the application, click the Allow Incoming Connections pop-up menu, and choose Block Incoming Connections instead.**

8. **Click the Close button to exit System Preferences.**

Chapter **12**

Hooking Up with Handy Helpers

This chapter is all about getting interesting things into — and out of — your iMac. Some of the devices I mention are mundane and pretty easy to take care of, such as scanners and printers. Then I might surprise you with something new to you, such as your iMac's built-in FaceTime HD video camera, which gives you the ability to place and receive video and audio calls to friends and family on their Macs, iPhones, and iPads.

Heck, I also show you how to turn your iMac into an old-fashioned photo booth, just like the expensive models at your local mall or amusement park. Think "iMac selfies" at your next party — complete with outrageous effects!

Connecting Printers

All hail the USB port! It's the primary connection point for all sorts of goodies. In this section, I concentrate on adding a local USB printer and the basics of adding a network printer to your system. (Find more on connecting a wireless Bluetooth printer in the Bluetooth Bonus Chapter at `www.dummies.com`.)

USB printers

Connecting a USB printer to your iMac is duck soup. Don't you wish all things in life were this easy? You may very well be able to skip most of the steps in this section, depending on whether your printer came with an installation disc. (Virtually all printers do, of course, but you might have bought yours used, say, from eBay.)

TECHNICAL STUFF

Your printer needs to be fully supported within macOS:

>> If the software is designed for earlier versions of OS X (say, 10.9 or 10.10), it probably works with Mojave.

>> I always recommend visiting the manufacturer's website to download the latest printer driver and support software *before* you install your printer. That way, you know that you're up to date. (Don't forget to check the Read Me file that accompanies your new software to make sure that no new system requirements have come about!)

WARNING

Save and close open files and applications before installing your printer. You may have to restart your iMac to complete the installation.

The physical connections for your printer are pretty simple:

>> Make sure that your printer's USB cable is plugged into both your iMac and the printer itself. (Naturally, you'll use one of the iMac's USB ports on the back of the computer unless you've already added a USB hub to expand your external horizons.)

>> After the USB connection is made, plug the printer into an AC wall socket, and turn it on.

REMEMBER

Don't forget to add the paper, check the ink or toner cartridge(s), and remove all the packing material from your printer!

Additional printer installation steps depend on whether you have the manufacturer's installation software for your printer.

Sure, I've got the install software

If your printer comes with its manufacturer's installation disc (and you have an external optical drive), follow these steps when everything is connected and powered on:

1. **Insert the installation disc into the iMac's optical drive.**

   Don't have an optical drive? Download the printer's installation software from the manufacturer's website as a disk image file (ending with the extension .dmg), and simply double-click that file. macOS displays it on your Desktop just as though it were an external drive. Now you can follow along with the rest of the steps in this procedure.

   The disc contents usually appear in a Finder window. If they don't, double-click the installation disc icon on the Desktop to open the window.

2. **Double-click the installation application to start the ball rolling.**

3. **Follow the onscreen instructions.**

   Files get copied to your drive.

   You may have to restart your iMac.

You're ready to print!

Don't forget to visit your printer manufacturer's website to check for any driver updates for your particular model.

Whoops, I've got diddly-squat (software-wise)

Didn't get an installation CD? Try installing the printer without software, or download the software from the manufacturer's website.

INSTALLING WITHOUT SOFTWARE

If you didn't get an installation CD with your printer (or you can't locate the installation software to download), you maybe lucky enough that your printer's driver was included in your installation of macOS. First, press ⌘+P within an application to display the Print dialog, where you can check whether the printer you connected is already recognized.

If it's not displayed, here's how to check for that pesky driver after you connect the printer and switch it on:

1. **Open the System Preferences window.**

2. **Click the Printers & Scanners icon.**

3. **Check the Printer list on the left side of the window to see whether your printer has been added automatically within macOS.**

If your printer appears here, dance a celebratory jig. You can close System Preferences and choose that printer from the Print dialog in your applications. (You can even set it as the default from the System Preferences Printers & Scanners pane. Just click the Default Printer pop-up menu to choose your new printer.)

DOWNLOADING SOFTWARE

If you don't have installation software, and your iMac doesn't automatically match your USB printer with a driver, it's time to check the Internet to locate a Mojave???–compatible driver for your printer.

Check the manufacturer's website for your printer's software and any additional information for operating your printer under macOS Mojave. Look for:

>> **Special software drivers that the printer may need:** Install any drivers you find *before* you run an installation application. The installation app may not be able to recognize or configure the printer if the driver hasn't been installed.

>> **Technical documents or FAQs covering your printer under Mojave:** I make it a practice to check for FAQ files for every external device I add to my iMac! Although these documents may not qualify as "riveting" reading, they often provide feature descriptions and troubleshooting solutions that you'll find nowhere else.

>> **An installation application:** If the manufacturer offers an installation application for your printer, download and run the application.

Network printers

Your wired or wireless Ethernet network provides a quick and easy way to share any printer that's already connected to your iMac. Follow these steps to share your printers across the network with others:

1. **Click the System Preferences icon on the Dock.**
2. **Click the Sharing icon.**
3. **Select the On check box next to the Printer Sharing service entry.**
4. **Click Close to exit System Preferences.**

In most cases, a printer that you share appears automatically in the Print dialog on other computers connected to your network. Therefore, if you want to access a printer being shared by another Mac across your network, open the Print dialog within your application, and click the Printer pop-up menu to choose it.

If the remote printer isn't listed automatically, you can dig a little further. To add a printer that another Mac on your network is sharing to your list of printers, follow these steps:

1. **Click System Preferences on the Dock.**

2. **Click the Printers & Scanners icon.**

3. **Click the Add button (which carries a plus sign).**

4. **Click the Default button on the toolbar.**

   macOS displays all the available local shared printers.

5. **Click the desired printer and then click Add.**

   Depending on the built-in support within macOS for the printer you're accessing or sharing, you may have to install the driver on your iMac or the other Macs on your network as well.

Connecting Scanners

USB scanners practically install themselves. As long as the model is listed as macOS-compatible and supports the TWAIN device standard (as just about all scanners do), things really *are* plug-and-play. (Not sure whether a scanner is macOS-compatible? Check the system requirements on the scanner's box or on the manufacturer's website.)

If you have the scanner manufacturer's installation disc, go ahead and use it. Most scanners don't require specialized drivers, however, so even that orphan model that you picked up from Uncle Milton last year should work (if it's recognized by macOS). It doesn't hurt to check the manufacturer's website to see whether any of the software has been updated since the disc was produced.

TIP If macOS doesn't support your older scanner, a third-party application maybe able to help. Get thee hence to Hamrick Software at `https://www.hamrick.com`, and download a copy of the latest version of VueScan. This great scanning application supports thousands of scanner models, including several that don't work with Mojave otherwise. At $40, it's a world-class bargain to boot.

Ready to go? Make sure that your scanner is powered on and connected to your iMac (and that you load a page or photograph to scan). If your scanner's installation disc provided a proprietary scanning application, I recommend that you use that application to test your scanner. In fact, it's Mark's Maxim time!

If your printer or scanner includes bundled applications, *try them!*

Sure, macOS has the Printers & Scanners pane within System Preferences for printers and the Image Capture application for scanners and digital cameras, but these tools are bare-bones compared with the print manager and image acquisition software that comes bundled with your hardware. I turn to the built-in hardware-handling stuff that comes with macOS only when I don't have anything better.

Hey, I'm not saying that anything's wrong with Image Capture (which is in your Applications folder, in case you need to use it). But don't expect Image Capture to support any specialized features offered by your scanner, such as one-button email or web publishing. You have to use the application especially designed for your manufacturer and model to take advantage of any extras that it offers. For alternatives, many image-editing applications (such as Adobe Photoshop and Photoshop Elements) may offer more scanning features than Image Capture.

Using Photo Booth

Many Apple Switchers and first-time owners quickly notice the tiny square lens and LED light at the top of the iMac's svelte frame. What gives?

Mystery solved, good reader: That's the lens of your iMac's built-in FaceTime HD camera, which allows you to capture video or snap a quick, fun series of photos via the Photo Booth application that comes with macOS.

What's that, you say? You've never used a computer video camera? Well then, good reader, you've come to the right place!

The FaceTime HD camera's indicator light glows green whenever you're taking a snapshot or recording video . . . which, when you think about it, is A Good Thing (especially if you prefer chatting at home in Leisure Mode).

TIP

If you need a quick picture of yourself for use on your web page, or perhaps your user account icon needs an update to show off your new haircut, use Photo Booth to capture images at 1080 × 720 resolution (on the iMac) or true 1080p resolution (on the iMac Pro). Although today's digital cameras can produce a much-higher-quality photo, you can't beat the built-in convenience of Photo Booth for that quick snapshot!

To snap an image in Photo Booth, follow these steps:

1. **Launch Photo Booth from the Spotlight box or from Launchpad.**

To try things out in full-screen mode, choose View⇨Enter Full Screen.

2. **Choose to take one image, four quick photos as a group, or digital video.**

The three buttons in the bottom-left corner of the Photo Booth window allow you to switch among taking one photo, four photos in a row (arranged as a square group, like an arcade photo booth), or a movie clip.

3. **(Optional) Click the Effects button to choose an effect you'd like to apply to your image.**

Photo Booth displays a screen of thumbnail preview images so that you can see how each effect changes the photo (see Figure 12-1). To move through the thumbnail screens, click the Previous and Next arrow buttons that appear at the bottom of the window.

You can produce some of the simple effects you maybe familiar with from Photoshop, such as a black-and-white image or a fancy colored-pencil filter, but you can also play with some mind-blowing distortion effects and even very convincing faux thermal and X-ray cameras!

You can always launch your favorite image editor afterward to use a filter or effect on a photo (such as the effects available in the Photos application), but Photo Booth can apply these effects automatically as soon as you take the picture.

FIGURE 12-1: Photo Booth does one thing particularly well: special effects.

4. **(Optional) Click a thumbnail to apply the desired effect.**

   When you choose an effect, Photo Booth automatically closes the Effects display.

   (TIP) To return the display to normal, click the Normal thumbnail, which appears in the center. (Um, that would be Paul Lynde's spot, for those of you old enough to remember *Hollywood Squares.*)

5. **Click the red Camera button.**

   The image (or video clip) appears in the filmstrip at the bottom of the window.

Photo Booth keeps a copy of all the images and clips you take in the filmstrip so that you can use them later. After you click a photo or film clip in the filmstrip, the familiar Share button appears in the bottom-right corner of the window, inviting you to take any of a series of actions, including:

» Sending the photo in an email or as a Messages attachment

» Saving the photo directly to Photos

» Sharing the photo or video on Twitter, Facebook, or Flickr

» Using the image as your macOS user account icon

WHO NEEDS A FANCY GREEN SCREEN?

Ever admired the animated background behind your favorite TV weather prognosticator? Believe it or not, you don't need an expensive green-screen backdrop (and time spent in a video-editing application) to create the same effect. Instead, use Photo Booth to create those outrageous images and video clips! Photo Booth provides a surprising array of visual effects you can use.

Within Photo Booth, click the Effects button to start the ball rolling and then click the right arrow next to the Effects button until you reach the series of thumbnails with names like Hologram, Pop Art, Fish, and Rollercoaster. These are the animated backgrounds. Click a background, and Photo Booth asks you to step outside the frame for a second so that your iMac can detect the patterns behind you. When the background animation begins, step back into the frame, and capture your image or video clip. (Just as you do with a real green-screen backdrop, you get the best results if you shoot your images and video in front of a blank white wall.)

You're not limited to the Apple animated backgrounds: Use your own image or video clip by choosing one of the eight predefined User Backdrop thumbnails.

TIP

To delete an image from the Photo Booth filmstrip, click the offending photo and then click the X button that appears in the top-left corner of the thumbnail.

Conversing with FaceTime

With Apple's FaceTime technology, you can video-chat with owners of iOS devices and Macs, and if they can run FaceTime, they're guaranteed to have the right video hardware!

At this writing, the minimum requirements for FaceTime-compatible devices include:

» Macs running OS X 10.9.2 (or later)

» An iPhone 4/4s or 5/5s/5c running iOS 4.1 (or later)

» A second-generation iPad (or later)

» A fourth-generation (or later) iPod touch running iOS 4.1 (or later)

REMEMBER

If you're running a mobile device under iOS 6 or later, you can use either a Wi-Fi or cellular connection to use FaceTime, and your iMac requires either a wired or Wi-Fi connection to the Internet.

To launch FaceTime, click the Launchpad icon on the Dock, and click the jaunty-looking video camera icon. (Naturally, you can also use Spotlight to launch the application.) The first time you use the application, you have to enter your Apple ID and your email address. The folks you chat with on the other end use that same email address to call you via FaceTime. (You can call iPhone owners by using their telephone numbers.)

After you sign in, you can initiate a call with any contact by clicking the Search box near the top of the FaceTime window and typing the desired name, email address, or phone number. Click the email or telephone number that FaceTime should use, and the connection process begins.

Apple isn't satisfied with providing access to your Contacts list, however. You can use the Recent Calls list (which appears along the left side of the window) to choose a contact whom you've called or attempted to call, or who has called you within the recent past. Click the Video or Audio buttons at the top of the window to further filter the Recents list, displaying only the recent video calls or audio-only calls.

When the call is accepted, you see a large video window with a smaller picture-in-picture display. The video of the other person fills the large window, and the video that you're sending to that person appears in the small display. Click the End icon to end the FaceTime call.

TIP

To switch FaceTime to Landscape mode and take advantage of your iMac's widescreen display, choose Video➪Use Landscape or press ⌘+R. (Why let iPhone, iPod touch, and iPad owners have all the landscape fun?)

4

Living the
Digital Life

IN THIS PART . . .

Build the digital media library of your dreams with iTunes.

Create slideshows and share memories with Photos.

Put your moviemaking talents to work with iMovie.

Use GarageBand to compose and record your own music.

IN THIS CHAPTER

» **Playing music with your iMac**

» **Arranging and organizing your music collection**

» **Tuning into the world with Internet radio**

» **Sharing your songs across a network**

» **Creating eye candy with Visualizer**

» **Buying the good stuff from the iTunes Store**

Chapter **13**

The Multimedia Joy of iTunes

Sometimes, words just aren't enough. iTunes is that kind of perfection.

To envision how iTunes changes your iMac, you have to paint the picture with *music* — music that's easy to play, search for, and transfer from device to device. Whether you like classical, alternative, jazz, rock, hip-hop, or folk, I guarantee you won't find a better application than iTunes to fill your life with music. And podcasts. And video. And TV shows. And online education. And ringtones. And Internet radio. (See how hard it is to pin down this wonderful application? Along with your iMac, iTunes really *does* form the hub of your digital lifestyle.)

In this chapter, I lead you through all the features of my absolute-favorite Apple application. (It'll be pretty doggone obvious how much I appreciate this piece of software.)

What Can I Play on iTunes?

Simply put, iTunes is a media player that plays audio and video files. These files can be in any of many formats. iTunes supports these common audio formats:

- » **MP3:** The small sizes of MP3 files make them popular for file trading on the Internet. You can reduce MP3 files to a ridiculously small size (albeit at the expense of audio fidelity), but a typical CD-quality, three-minute pop song in MP3 format is 3MB to 5MB.

- » **AAC:** Advanced Audio Coding is an audio format that's similar to MP3 but offers offer better recording quality at the same file sizes. This format, however, is somewhat less compatible with non-Apple music players and software. (Luckily, you can still burn AAC tracks to an audio CD, just as you can MP3 tracks.) The tracks that you download from the iTunes Store are in AAC format, and AAC music files are becoming more popular for downloading on the Internet.

- » **Apple Lossless:** Another format direct from Apple, *Apple Lossless* format (also known as ALAC) provides the best compromise between file size and sound quality. These tracks are encoded without loss of quality, although Apple Lossless tracks are somewhat larger than AAC. This format is generally the favorite of discerning audiophiles.

- » **AIFF:** This standard Macintosh audio format produces sound of the absolutely highest quality. This high quality, however, also means that the files are pretty doggone huge. AIFF recordings typically require about 10MB per minute of audio.

- » **WAV:** Not to be outdone, Microsoft created its own audio file format (WAV), which works much like AIFF. It can reproduce sound at a higher quality than MP3, but the file sizes are very large, similar in size to AIFF files.

- » **CD audio:** iTunes can play audio CDs. Because you usually don't store CD audio anywhere but on an audio CD, file size is no big whoop — but again, 10MB of space per minute of music is a good approximation.

- » **MP2:** A close cousin of the far more popular MP3 format, MP2 is the preferred format in radio broadcasting and is a standard audio format for HDV cam-corders. It produces file sizes similar to MP3 format.

- » **Movies and video:** You can buy and download (or rent and stream) full-length movies, TV shows, music videos, and movie trailers from the iTunes Store . . . and with an Apple TV unit connected to your home theater system, you can watch those movies and videos from the comfort of your sofa on the other side of your living room (or even from your bedroom on the other side of your house).

- » **Podcasts:** These audio downloads (typically, in MP3 format) are like radio programs for your iOS devices, but iTunes can play and organize them too.

Some podcasts include video and photos to boot. You can download podcasts from the iTunes Store, and most are free.

» **iTunes U:** iTunes offers educational materials (think slideshows, presentations, and class recordings) from a wide variety of colleges and technical institutions — and virtually all free for the download.

» **Audiobooks:** You no longer need cassettes or audio CDs to enjoy your spoken books. iTunes can play them for you, or you can send them to your iOS device for listening on the go.

» **Streaming Internet radio:** You can listen to a continuous broadcast of songs from one of tens of thousands of Internet radio stations, with quality levels ranging from what you'd expect from FM radio to the full quality of an audio CD. You can't save the music in iTunes, but streaming radio is still great fun. (I run my own station; there's more on MLC Radio later in this chapter.) Unlike services like Spotify, Pandora, and Apple Music, these streaming radio stations are free and don't require a subscription!

Playing an Audio CD

If you have an optical drive (either internal or external), playing an audio CD in iTunes is simple. Just insert the CD into the drive, start iTunes by clicking its icon on the Dock, and click the Play button. (Note that your iMac Pro may be set to launch iTunes automatically when you insert an audio CD.) The iTunes interface resembles that of a traditional CD player. The main playback controls of iTunes are Play, Previous, Next, and the Volume slider, as shown in Figure 13-1.

Click the Play button to begin listening to a song. While a song is playing, the Play button toggles to a Pause button. As you might imagine, clicking that button again pauses the music. If you don't feel like messing around with a mouse or trackpad, you can always use the keyboard. The spacebar acts as the Play and Pause buttons. Press the spacebar to begin playback; press it again to stop.

Click the Next button to advance to the next song on the CD. The Previous button works like the Next button but with a slight twist: If a song is currently playing, and you click the Previous button, iTunes first returns to the beginning of the current song (just like an audio CD player). To advance to the previous song, double-click the Previous button. To change the volume of your music, click and drag the volume slider.

As with other Mac applications, you can control much of iTunes with the keyboard. Table 13-1 lists some of common iTunes keyboard shortcuts.

Play

Previous   Next   Volume

TABLE 13-1   ## Common iTunes Keyboard Shortcuts

Press This Key or Key Combination	To Do This
Spacebar	Play the currently selected song if iTunes is idle.
Spacebar	Pause a playing song.
→	Advance to the next song.
←	Go back to the beginning of a song. Press a second time to return to the previous song.
⌘+↑	Increase the volume of the music.
⌘+↓	Decrease the volume of the music.
⌘+Option+↓	Mute the audio if any is playing. Press again to play the audio.

Playing Digital Audio Files

In addition to playing audio CDs, iTunes can play the digital audio files that you download from the Internet or obtain from other sources in the WAV, AAC, Apple Lossless, AIFF, MP2, and MP3 file formats.

Enjoying a digital audio file is slightly more complicated than playing a CD. After downloading or saving your audio files to your iMac, open Finder, and navigate to wherever you stored the files. Launch iTunes, and choose the Music entry from the Media Type drop-down list in the top-left corner (or press ⌘+1); then click the Songs entry in the Sidebar. (If the Sidebar doesn't appear in your iTunes window, choose View⇨Show Sidebar.) Now you can simply drag the music files (or an entire folder of music) from the Finder window to the list of your songs on the right side of the window. The added files appear in the Music section of your iTunes Library. You can also drag a song file from a Finder window and drop it on the iTunes icon on the Dock, which adds it to your Music Library as well.

The iTunes Sidebar is a convenient beast indeed. You can drop the music file(s) on top of a playlist name in the list, and iTunes adds it to that particular *playlist* as well as the main Library. (More about playlists in a bit.) If you drop a folder of songs on top of the Playlists header in the sidebar, iTunes creates a new playlist with the name of the folder and adds all the songs in the folder to the new playlist. *Bam!*

You can customize the iTunes Sidebar to display only those media types and music classes that you prefer. (I like my Internet Radio media type and the Composers class to be visible, for example.) To edit the entries in the Sidebar, hover your pointer over the Library label at the top of the Sidebar and click the Edit link that appears; then enable or disable the check boxes next to each heading as desired.

Think of the Music Library as being a master list of your audio and video media. To view that library, choose Music from the Media Type drop-down list below the Play, Previous, and Next controls, and click the Songs entry in the Sidebar, as shown in Figure 13-2. (Go figure.) In a similar manner, you can view your movies and TV shows by choosing those types from the Media Type drop-down list. (In classic Apple style, you can also switch your media type by choosing a new one from the View menu or by pressing ⌘+1 through ⌘+5 on the keyboard). Because the current focus is on music, I discuss playing video in more depth later in this section.

To play a song, just double-click it in the Music list. Alternatively, you can use the playback controls (Play, Previous, and Next) that I discuss earlier in this chapter (refer to Figure 13-1).

The iTunes window can play media from a surprising number of sources:

>> **Library:** The Media Type drop-down list in the top-left corner of the screen can display Music, Movies, TV Shows, Podcasts, and Audiobooks.

>> **Store:** I discuss this music source in the final section, "Buying Digital Media the Apple Way."
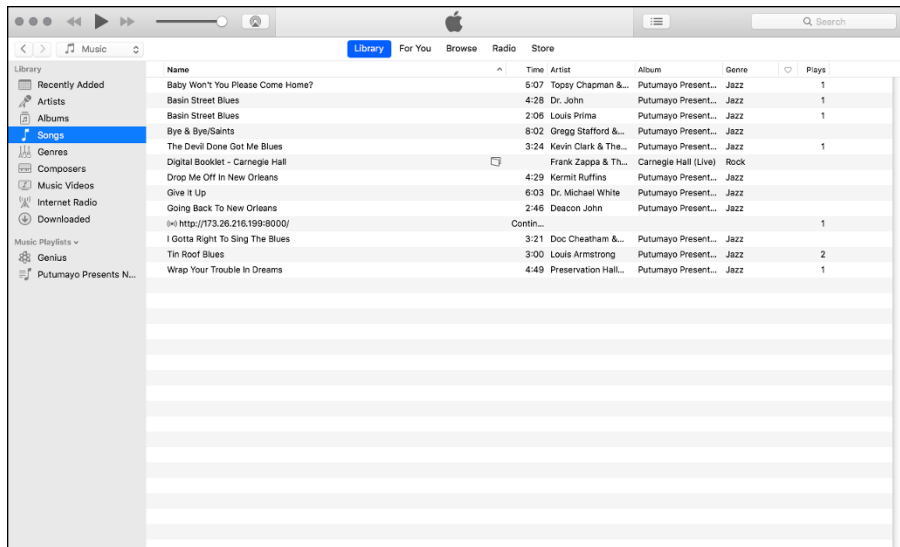
>> **Shared:** If another Mac or PC on your local network is running iTunes and is set to share part or all of its library, you can connect to the other computer for your music.

>> **Devices:** If an iPod is connected, it appears in the Sidebar and on the toolbar next to the Media Type drop-down list. (And yes, Virginia, other models of MP3 players from other companies also appear in the list if they're supported in iTunes.) If you connect an iPhone or iPad to your Mac, it shows up here as well.

>> **Genius:** Choose File⇨New⇨Genius Play list to allow iTunes to automatically create playlists from songs in your iTunes Music Library. You can also allow Genius to recommend music, movies, and TV shows based on the titles you already have in your iTunes Library. (More on this feature later in the chapter.)

>> **Audio CD:** A standard audio CD (anything from The Byrds to Justin Timberlake) shows up in as an icon if you load the CD into your optical drive.

>> **Home Sharing:** You can turn on Home Sharing to share your Mac's media library across your wireless network with up to five other Mac computers, as well as iPhones, iPads, and the iPod touch. (More on Home Sharing later in this chapter.)

>> **Playlists:** Think of playlists as folders you use to organize your music. (More on playlists later in this chapter.)

TIP

If you've invested in an Apple TV, it appears in the list as well, allowing iTunes to share media with your Apple TV, which in turn sends it to your HD–TV.

You can browse your Music Library in several ways. First, click the Media Type drop-down list, and choose Music to display your music. By default, the application sorts by Songs (active in Figure 13-2), but you can choose View⇨Sort By to sort by different criteria (including Album, Artist, Genre, and Time).

If you're using the Songs view mode, the Music Library may display information for each song that you add to it, including these items:

» **Name:** The title of the song

» **Time:** The length of the song

» **Artist:** The artist who performs the song

» **Album:** The album on which the song appears

If any song you're adding doesn't display anything for the title, album, or artist information, don't panic; most MP3 files have embedded data that iTunes can read. If a song doesn't include any data, you can always add the information to these fields manually. I show you how later, in the section "Setting or changing the song information manually."

If you'd rather eschew the iTunes menu, it's easy to change your sort order by clicking any column heading in the Music Library list; iTunes reorders the Library list according to that category. Clicking the Artist column heading, for example, alphabetizes your Library by artist name. I often click the Time heading to sort my Library according to the length of the songs. Oh, and you can drag column titles to reorder them any way you like (except for the check-box column at the far left, which remains fixed).

While listening to your music, you can always display the tracks that iTunes will play next and even change their order. (Believe me, this feature is great fun for us amateur party DJs.) Choose View⇨Show Up Next to display the list, and drag selected songs into the perfect order! (You can also click the button with the list icon that appears on the toolbar.)

Browsing the Library

After you add a few dozen songs to iTunes, viewing the Library can become a task. Although a master list is nice for some purposes, it becomes as cumbersome as an elephant in a subway tunnel if the list is very long. To help out, iTunes can display your Library in another format: namely, browsing mode. To view the Library in browsing mode, choose View⇨Column Browser⇨Show Column Browser. (Keyboard mavens can simply press the ⌘+B keyboard shortcut to switch to browsing mode.)

WILL I TRASH MY COUNT BASIE?

Novice iTunes users, take note: iTunes watches your back when you trash tracks.

To illustrate: Suppose that you delete a song from the Library that's located only in the iTunes music folder (which you didn't copy into iTunes from another location on your hard drive). That means you're about to delete the song entirely, and there'll be no copy remaining on your trusty iMac! Rest assured, though, that iTunes prompts you to make sure you really want to move the file to the Trash. (I get fearful email messages all the time from readers who are loath to delete *anything* from iTunes because they're afraid they'll trash their digital music files completely.)

Remember: If you delete a song from the Library that *also* exists elsewhere on your hard drive (outside the reach of the iTunes music folder), it isn't deleted from your drive. If you mistakenly remove a song that you meant to keep, just drag it back into iTunes from Finder, or even from the Trash. 'Nuff said.

The Browse mode of iTunes displays your library in a compact fashion, organizing your tunes into up to five sections:

- » Genres
- » Artists
- » Albums
- » Composers
- » Groupings

Selecting an artist from the Artist list in Browse mode causes iTunes to display that artist's albums in the Album list. Select an album from the Album list, and iTunes displays that album's songs in the bottom section of the Browse window. (Those Apple software designers . . . always thinking of you and me.) You can also specify which sections you want to include in Browse mode by choosing View⇨Column Browser; click a section name to toggle the display of that section on or off.

Finding songs in your Music Library

After your collection of audio files grows large, you may have trouble locating that Swedish remix version of "I'm Your Boogie Man." To help you out, iTunes has a built-in Search function. To find a song, type some text into the Search box in the top-right corner of the iTunes window. While you type, iTunes tries to find a

selection that matches your search text. The search is thorough, showing any matching text from the artist, album, song title, and genre fields in the results. If you type **Electronic** in the field, for example, iTunes might return results for the band named Electronic or other tunes that you classified as electronic in the Genre field. (The section "Know Your Songs," later in this chapter, tells you how to classify your songs by genre, among other options.) Click the magnifying-glass icon at the left end of the Search field to restrict the search even more: by Artists, Albums, Composers, and Songs.

Removing old music from the Library

After you spend some time playing songs with iTunes, you may decide that you didn't *really* want to add 40 versions of "Louie Louie" to your Library. (I prefer either the original or the cast from the movie *Animal House.*) To remove a song from the Library, click the song to select it and press the Delete key on your keyboard, or right-click the song entry and choose Delete from the contextual menu.

You can also remove a song from the Library by dragging it to the Trash on the Dock.

Watching Video

Watching video in iTunes is similar to listening to your music. To view your video collection, click the Media Type drop-down list in the top-left corner of the iTunes window, and choose Movies or TV Shows. Music videos appear as a Smart Playlist within the iTunes Sidebar, as I discuss later in the chapter.

From your collection, you can do the following:

>> Double-click a video thumbnail or an entry in the list.

>> Drag a QuickTime–compatible video clip from the Finder window to the iTunes window. (These clips typically include video files ending in `.mov`, `.mv4`, or `.mp4`.)

iTunes plays video in the box below the Source list, within the iTunes window, or in full-screen mode, depending on the settings you choose by choosing View ⇨ Video Playback. In full-screen mode, move your pointer to display a control strip at the bottom of the screen. This control strip sports the standard slider bar that you can drag to move through the video, as well as a volume control and a Fast Forward/Reverse button. You can also pause the video by clicking the Pause button.

Keeping Slim Whitman and Slim Shady Apart: Organizing with Playlists

As I mention earlier, the iTunes Music Library can quickly become a fearsomely huge beastie. Each Library can contain thousands upon thousands of songs: If your Library grows anywhere near that large, finding all the songs in your lifelong collection of Paul Simon albums is *not* a fun task. Furthermore, with the Library, you're stuck playing songs in the order in which iTunes lists them.

To help you organize your music in groups, use the iTunes playlist feature. Typically, a *playlist* is a collection of some of your favorite songs from the Library, but playlists can also include media such as movies and audiobooks. You can create as many playlists as you want, and each playlist can contain any number of items. Whereas the Music Library lists all available songs, a playlist displays only the items that you add to it. Further, any changes you make in a playlist affect only that playlist, leaving the Library untouched.

To create a playlist, do any of the following:

» Choose File⇨New⇨Playlist.

» Press ⌘+N.

» Choose File⇨New⇨Playlist from Selection. This command creates a new playlist and automatically adds any tracks that are currently selected.

» Choose File⇨New⇨Genius Playlist. iTunes builds a playlist of songs that are similar in some way (typically, by matching the genre of the selection or the beats per minute, but also based on recommendations from other iTunes members). Note that your iMac needs an Internet connection to create a Genius playlist, and the larger your music library is, the longer it takes iTunes to build your playlist. You also need to turn on the Genius feature by choosing File⇨Library⇨Turn on Genius and entering your Apple ID. (Note that Genius playlists sometimes mix tracks containing explicit content with less objectionable material — especially in the comedy and rap genres.)

» Drag a folder containing audio files from a Finder window to the Playlists heading in the Sidebar

To help organize your playlists, it's a good idea to . . . well, *name* them. (Aren't you glad now that you have this book?) Suppose that you want to plan a party for your polka-loving friends. Instead of running to your computer after each song to change the music, you could create a polka-only playlist. Select and start the playlist at the beginning of the party, and you won't have to worry about changing the music the whole night. (You can concentrate on playing the accordion.) To load a playlist, select it in the Sidebar list; iTunes displays the songs for that playlist.

SOME PLAYLISTS ARE SMARTER THAN OTHERS

You can create a Smart Playlist in the iTunes Sidebar by choosing File⇨New Smart Playlist, or by pressing Option+⌘+N.

The contents of a *Smart Playlist* are automatically created from a specific condition or set of conditions that you set via the Smart Playlist dialog. You can limit the track selection by mundane things, such as album, genre, or artist; you can get funky and specify songs that were played last, or by the date you added tracks, or even by the sampling rate or total length of the song. iTunes can create a playlist packed with songs that are shorter than three minutes, for example, so you can fill your iPod touch with more stuff! If you want to add another criterion, click the plus sign on the right side of the dialog, and you get another condition field to refine your selection even further. Smart Playlists can even contain TV shows, movies, podcasts, and audiobooks.

You can choose the maximum songs to add to the Smart Playlist, or limit the size of the playlist by the minutes or hours of play or the number of megabytes or gigabytes that the playlist will occupy. (Again, this feature is great for automatically gathering as much from your KISS collection as will fit into a specific amount of space on a CD or your iPod.) Mark the Live Updating check box for the ultimate in convenience. iTunes automatically maintains the contents of the Smart Playlist to keep it current with your conditions at all times in the future. (If you remove tracks from a Smart Playlist manually, iTunes adds other tracks that match your conditions.)

Now think about what all these settings mean when combined. *Whoa.* Here's an example yanked directly from my own iTunes library. I created a Smart Playlist that selects only those songs in the Rock genre. It's limited to 25 songs, selected by least often played, and live updating is turned on. The playlist is named Tracks I've Gotta Hear because it finds the 25 rock songs (from my collection of more than 10,000 songs) that I've heard least often! After I listen to a song from this Smart Playlist, iTunes automatically "freshens" it with another song, allowing me to catch up on the tracks I've been ignoring.

The same items can appear in any number of playlists because the items in a playlist are simply pointers to the media in your Music Library — not the actual songs, movies, or TV shows themselves. Add them to any playlist and remove them at will, secure in the knowledge that the items remain safe in your Library. Removing a playlist is simple: Select the playlist in the Sidebar, and press Delete.

REMEMBER

Removing a playlist doesn't delete any songs from your Library.

Know Your Songs

Besides organizing your music into Elvis and non–Elvis playlists, iTunes gives you the option to track your music at the song level. Each song you add to the Music Library has a complete set of information associated with it. iTunes displays this information (see upcoming Figure 13-3) on the Details tab:

>> **Song Name:** The name of the song

>> **Artist:** The name of the artist who performed the song

>> **Album Artist:** The name of the artist responsible for a compilation or tribute album

>> **Album:** The album where the song appears

>> **Grouping:** A group type that you assign

>> **Composer:** The name of the astute individual who *wrote* the song

>> **Comments:** A text field that can contain any comments on the song

>> **Year:** The year the artist recorded the song

>> **Track:** The position of the song on the original album

>> **Genre:** The classification of the song (such as rock, jazz, or pop)

>> **Disc Number:** The original disc number in a multi-CD set

>> **BPM:** The beats per minute (indicates the song's tempo)
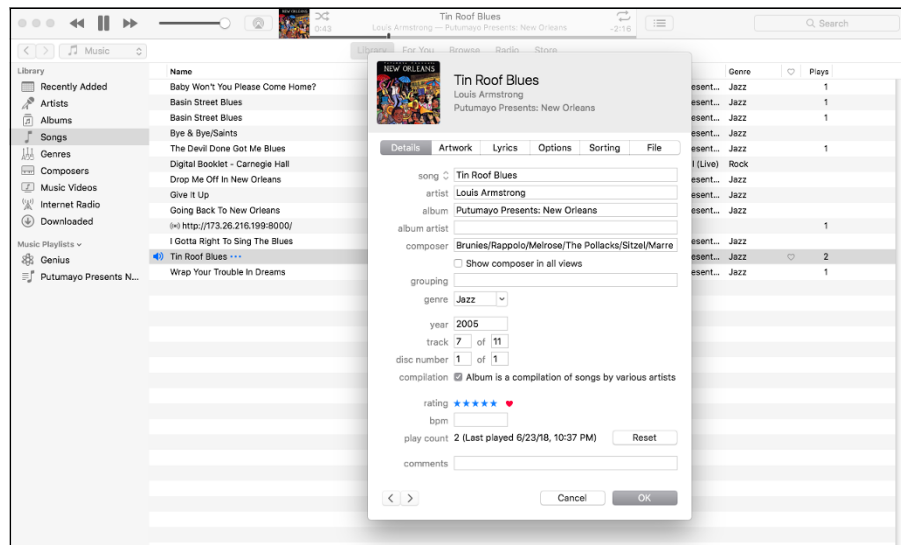
FIGURE 13-3:
View and edit song information here.

You can display this information by clicking a song name and pressing ⌘+I. The fields appear on the Details tab.

Setting the song information automatically

Each song you add to the iTunes Music Library may have song information included with it. If you add music from a commercial audio CD, iTunes connects to a server on the Internet and attempts to find the information for each song on the CD. If you download a song from the Internet, it often comes with some information embedded in the file; the amount of included information depends on what the creator supplied. (And that information is often misspelled; think *Leenard Skeenard*.) If you don't have an Internet connection, iTunes can't access the information and displays generic titles instead.

Setting or changing the song information manually

If iTunes can't find your CD in the online database, or someone gives you an MP3 with incomplete or inaccurate information, you can change the information yourself. Believe me, you want to have at least the artist and song name! To view and change the information for a song, follow these steps:

1. **Select the song in the Song list or a playlist.**

2. **Press ⌘+I, or choose File⇨Get Info.**

3. **Click a field to edit the song's information on the Details tab, as shown in Figure 13-3.**

> **TIP**
> You can move to the next or previous tracks in the Music Library list or playlist by clicking the Next or Previous buttons in the bottom-left corner of the dialog.

> **REMEMBER**
> The more work you put into setting the information of the songs in your Music Library, the easier it is to browse and use iTunes. Incomplete song information can make it more difficult to find your songs in a hurry. If you prefer, you don't have to change all information about a song (but you make life easier later if you do). Normally, you can get away with setting only a song's title, artist, and genre. The more information you put in, however, the faster you can locate songs and the easier they are to arrange. iTunes tries to help by automatically retrieving known song information, but sometimes, you have to roll up your sleeves and do a little work. (Sorry, but some things can't be automated.)

"What about cover art, Mark?" Well, I'm overjoyed that you asked! iTunes can try to locate artwork automatically for the tracks you select. (Note that embedding

large images can significantly increase the size of the song file.) Follow these steps:

1. **Select the desired songs from the track list.**

2. **Choose File ⇨ Library ⇨ Get Album Artwork.**

You can set iTunes to automatically attempt to add album artwork every time you rip tracks from an audio CD (as described in the next section) or when you add songs without artwork to your Music Library. Choose iTunes ⇨ Preferences ⇨ Store, and select the Automatically Download Album Artwork check box in the resulting dialog. (By the way, if you buy tracks or an album from the iTunes Store, Apple includes album covers automatically!)

Want to add album covers to your song info manually? Select one or more songs in the track list, display the Info dialog, and click the Artwork tab. Now launch Safari, visit Amazon.com, and search for the same album (or search an online art-work library such as AllCDCovers.com). Drag the cover image from the web page right into the Info dialog, and drop it on top of the "sunken square" Artwork image well. When you click OK, the image appears in the Artwork tab of the Info dialog.

Ripping Audio Files

You don't have to rely on Internet downloads to get audio files: You can create your own MP3, AAC, Apple Lossless, AIFF, and WAV files from your audio CDs with iTunes. The process of converting audio files to different formats is called *ripping.* (Audiophiles with technical teeth also call this process *digital extraction,* but they're usually ignored at parties by the popular crowd.) Depending on what hardware or software you use, each has its own unique format preferences.

The most common type of ripping involves converting CD audio to MP3 (or AAC) format. To rip MP3s from an audio CD, follow these simple steps:

1. **Launch iTunes by clicking its icon on the Dock.**

   Alternatively, you can locate iTunes in your Applications folder or in Launchpad.

2. **Choose iTunes ⇨ Preferences.**

3. **In the Preferences dialog that appears, click the General tab.**

4. **Click the Import Settings button that appears at the bottom of the Preferences dialog.**

5. **Choose MP3 Encoder from the Import Using pop-up menu.**

6. **Choose High Quality (160 Kbps) from the Setting pop-up menu, and click OK to return to the Preferences dialog; click OK again to return to iTunes.**

   This bit-rate setting provides the best compromise between quality (better-than-CD quality, which is 128 Kbps) and file size (significantly smaller tracks than audiophile bit rates such as 192 Kbps or higher).

   The songs you buy and download from the iTunes Music Store are all 256 Kbps.

7. **Load an audio CD into your Mac's optical drive.**

   The CD title shows up in the iTunes Source list (below the Devices heading), which is on the left side of the iTunes window. The CD track listing appears on the right side of the window.

   If iTunes asks whether you want to import the contents of the CD into your Music Library, you can click Yes and skip the rest of the steps; if you've disabled this prompt, continue with the remaining two steps.

8. **Clear the check box of any song you don't want to import from the CD.**

   All songs on the CD have a check box next to their title by default. Unmarked songs aren't imported.

9. **Click the Import CD button.**

Tweaking the Audio for Your Ears

Besides the standard volume controls that I mention earlier in this chapter, iTunes offers a full equalizer. An *equalizer* permits you to alter the volume of various frequencies in your music, allowing you to boost low sounds, lower high sounds, or anything in between.

To open the Equalizer, choose Window➪Equalizer or press ⌘+Option+E. Use the leftmost slider (Preamp) to set the overall level of the Equalizer. The remaining sliders represent various frequencies that the human ear can perceive. Setting a slider to a position in the middle of its travel causes that frequency to play back with no change. Move the slider above the midpoint to boost that frequency; conversely, move the slider below the midpoint to reduce the volume of that frequency.

Continue adjusting the equalizer sliders until your music sounds the way you like it. In case you prefer to leave frequencies to the experts, the iTunes Equalizer has several predefined settings to match most musical styles. Open the pop–up menu at the top of the Equalizer window to choose a genre. When you close the Equalizer window, iTunes remembers your settings until you change them again.

A New Kind of Radio Station

Besides playing back your favorite audio files, iTunes can tune in Internet radio stations from around the globe. You can listen to any of a large number of preset stations, seek out lesser-known stations that aren't recognized by iTunes, and even add your favorite stations to your playlists. You can also subscribe to the iTunes Radio feature to create a custom station dedicated to the genres and artists you prefer. This section shows you how to do it all.

Internet Radio

Although it's not a radio tuner in the strictest sense, iTunes can locate virtual radio stations all over the world that send audio over the Internet — a process usually dubbed *streaming*. iTunes can track down hundreds of Internet radio stations in a variety of styles with only a few mouse clicks.

To begin listening to Internet radio with iTunes, click the Internet Radio item in the Sidebar list. (If Internet Radio doesn't appear under the Library heading in the Sidebar, it's hidden. Hover your pointer over the Library label at the top of the Sidebar, click the Edit link that appears, and then click the Internet Radio check box to enable it.) The result is a list of more than 20 types of radio stations, organized by genre.

When you expand an Internet category by clicking its disclosure triangle, iTunes queries a tuning server and locates the name and address of dozens of radio stations for that category. Whether you like Elvis or not-Elvis (those passing fads, such as New Wave, classical, or alternative), something's here for everyone. The Internet also offers news, sports, and talk radio.

WHAT'S WITH THE NUMBERS NEXT TO THE STATION NAMES?

When choosing an Internet radio station, keep your Internet connection speed in mind. If you're using a broadband DSL or cable connection — or if you're listening at work over your company's high-speed network — you can listen to stations broadcasting at 128 Kbps (or even higher). The higher the bit rate, the better the music sounds. At 128 Kbps in AAC format, for example, you're listening to sound that's as good as an audio CD.

HAVE AN ITCH TO HEAR "KUNG FU FIGHTING"?

As you can probably tell from this chapter, music is very important to me. This particular technology author has a preference for a certain hot jam spot: *MLC Radio,* the Internet radio station I've been running for several years now. I call my station a '70s Time Machine because it includes hundreds of classic hits from 1970 through 1979. You hear everything from "Rock and Roll Hoochie Koo" by Rick Derringer to "Moonlight Feels Right" by Starbuck. (Hey, I'm summing up a decade here, so be prepared for both Rush and the Captain & Tennille.) The station broadcasts at 128 Kbps (audio CD quality), so you need a broadband connection to listen. For the station's Internet address or to ask for help connecting to MLC Radio, visit my website at www.mlcbooks.com.

After iTunes fetches the names and descriptions of radio stations, double-click one that you want to hear. iTunes immediately jumps into action, loads the station, and begins to play it.

Tuning in your own stations

Although iTunes offers you a large list of popular radio stations on the web, it's by no means comprehensive. Eventually, you may run across a radio station that you'd like to hear but don't find listed in iTunes. Luckily, iTunes permits you to listen to other stations, too. To listen to a radio station that iTunes doesn't list, you need the station's web address.

In iTunes, choose File⇨Open Stream (or press ⌘+U). In the Open Stream dialog that appears, enter the URL of your desired radio station, and click OK. In seconds, iTunes tunes in your station.

Radio stations in your playlists

If you find yourself visiting an online radio station more than once, you'll be glad to know that iTunes supports radio stations in its playlists. To add a radio station to a playlist from the Internet Radio list, follow these steps:

1. **Open the category that contains the station you want to add to your playlist.**

2. **Locate the station you want to add to your playlist, and drag it from the Radio list to the desired playlist on the left.**

TIP

If you haven't created any playlists yet, see the section "Keeping Slim Whitman and Slim Shady Apart: Organizing with Playlists" earlier in this chapter to find out how.

You can also follow the same steps to add a radio station that doesn't appear in the Radio list. iTunes allows you to load a radio station URL manually by choosing File⇨Open Stream; any station that you play by using the Open Stream command is automatically added to your Songs list. Therefore, you can drag the station from the Songs list to any playlist.

Creating a custom iTunes Radio station

The recent addition of iTunes Radio makes it possible for you to listen to the artists, songs, and genres that you prefer in iTunes without selecting a specific Internet radio station. To use iTunes Radio, click the Radio button at the top of the iTunes window, and type the artist name, song name, or genre in the Search field. (Note that iTunes Radio is an Apple Music subscription service, unlike the Internet Radio stations I describe in the preceding section.)

As you download new music from the iTunes Store (and add new artists and genres in iTunes Radio), the service learns more about your musical tastes and can automatically play and recommend new music, much like the Genius feature I discussed earlier in this chapter.

REMEMBER

Like Internet radio, the iTunes Store, and Apple's iTunes Match subscription service (described in the next section), iTunes Radio requires an Internet connection and an Apple ID.

Your iTunes Radio station is automatically shared among all your Macs running OS X Lion or later (as well as any devices you own that run iOS 7 or later).

iTunes and iCloud Together

iTunes is connected closely with the Apple iCloud service, allowing you to share music betwixt all your Macs and iOS devices. To download a local copy of any iCloud item, simply click the iCloud icon next to the item. After the local copy has been saved to your Mac's drive, the iCloud icon disappears, and you're ready to listen or watch your purchase.

Apple's iTunes Match subscription service builds on this same functionality, allowing you to store *all* your music in iCloud (including the songs you've ripped from audio CDs and downloaded from other sources) and listen to it on any of your Macs, PCs, or iOS devices! When you join iTunes Match, all the songs that aren't available from the iTunes Store are automatically uploaded to iCloud.

At this writing, the service is $25 a year and is limited to a maximum of 10 devices and 100,000 songs. (Note that purchases you make from the iTunes Store don't count toward that 100,000-song limit.)

To subscribe to iTunes Match or manage your Match storage, click the Store button to display the iTunes Store, and click the iTunes Match link on the right side of the screen.

iSending iStuff to iPod, iPhone, and iPad

If you're cool enough to own an iPod, you'll be happy to know that iTunes has features for your personal audio and video jukebox as well. The *iPod touch,* Apple's multimedia player, will set you back $200 to $300 (depending on storage capacity). The iPod touch can hold thousands of songs, as well as podcasts, photos, and video. This great gadget and those like it have become known worldwide as *the* preferred portable digital media players.

If you own an iPhone or iPad, you probably already know that these devices can act as music players as well. You can listen to music you've purchased through the iTunes Store on any of your iOS devices. You can buy all sorts of applications for these devices at the iTunes Store. iTunes even keeps track of these applications as part of your iTunes Library.

To sync correctly, your computer and the device *must* share an Apple ID.

REMEMBER You connect your iPod to any Macintosh or Windows PC that has USB 2.0 ports, using the included cable. After the iPod is connected, you can synchronize it with iTunes. By default, this process is automatic: The iPod and the iTunes software communicate with each other and figure out what items are in your iTunes Library (compared with the iPod Library). If they discover songs, podcasts, and video in your iTunes Library that are missing from your iPod, the items automatically transfer to the iPod. Conversely, if the iPod contains stuff that's no longer in iTunes, the iPod automatically removes those files from its drive.

WARNING

Go back and reread that last sentence about how the iPod *automatically removes* files from its drive. (I'll wait.) Apple added this feature in an effort to be responsive to copyright concerns. The reasoning is that if you connect your iPod to your friend's computer, you can't transfer songs from the iPod to that computer. Always pay close attention and read all warning dialogs when connecting to a computer other than your own; otherwise, you might wipe out your iPod's library.

You can change your settings on the device's Summary pane so that iTunes auto-syncs only selected playlists. (Click the device icon in the top-left corner of the window to display the Summary pane). If you're really nervous, you can choose to manually manage the contents of your iPod with iTunes from the Summary pane.

Sharing Your Media across Your Network

Ready to share your music, podcasts, and video — *legally,* mind you — with other folks on your local network? You can offer your digital media to other iTunes users across your home or office. Follow these steps:

1. **Choose iTunes⇨Preferences to open the Preferences dialog.**
2. **Click Sharing.**
3. **Select the Share My Library on My Local Network check box.**
4. **Specify whether you want to share your entire library or only selected playlists and files.**

   Sharing selected playlists is a good idea for those Marilyn Manson and Sex Pistols fans who work at a cubicle farm in a big corporation.
5. **If you want to restrict access to a few people, select the Require Password check box, and then type a password in the text box.**
6. **Click OK.**

   Note that the music you share with others can't be imported or copied, so everything stays legal.

TIP

Want to change that frumpy default name for your shared media library to something more exotic, like "Dan's Techno Beat Palace"? No problem. Display the Preferences dialog again, click the General tab, and click the Library Name text box. Edit your network-entertainment persona to your heart's content.

You can also share your media library by using Home Sharing, which allows others join in the fun, including up to five Mac computers and iOS devices (your iPad, iPhone, and iPod touch). Home Sharing requires a network connection for all your devices, and you have to enter the same Apple ID information on each device. To turn on Home Sharing in iTunes, choose File ➪ Home Sharing, and select Turn On Home Sharing. (Don't forget to repeat this setup on each computer and iOS device.) After Home Sharing is enabled, a Shared Libraries heading appears in the Sidebar.

Burning Music to Shiny Plastic Circles

Besides being a great audio player, iTunes is adept at creating CDs. (Your iMac must have an internal SuperDrive or an external optical drive to record CDs, of course.) iTunes makes the process of recording songs to a CD as simple as making a few clicks on the mouse or taps on the trackpad. Making the modern version of a compilation (or *mix*) tape is easier than getting a kid to eat ice cream! If you have an internal or external optical drive, iTunes lets you burn CDs in any of three formats:

» **Audio CD:** This format is the typical kind of commercial music CD you buy at a store. Most typical music audio CDs store up to 800MB of data, which translates into about 80 minutes of music.

» **Data CD or DVD:** A standard computer CD-ROM or DVD-ROM is recorded with the audio files. This disc can't be played in any standard audio CD player (even if it supports MP3 CDs, which I discuss next). Therefore, you can listen to these songs only by using your Mac and an audio player, such as iTunes or a PC running Windows.

WHAT THE HECK IS A PODCAST?

Today's podcasts are much like the recurring radio commentary programs of old, covering a huge range of subjects. Most are produced by fans of a particular topic (as you can create your own website, you can create your own podcast),but others are offered by major news outlets and talk radio shows, sometimes as companions to their broadcasts.

Podcasts are designed to entertain and inform, usually while you're doing something else, but they can contain video as well. A typical podcast is released on a regular schedule, and iTunes helps you maintain the schedule by allowing you to subscribe to a podcast from within the iTunes Store. After you subscribe, iTunes automatically downloads new episodes of the podcast.

To get started with podcasts, click Store on the iTunes toolbar, and choose Podcasts from the Media Type drop-down list. Remember, virtually all podcasts are free!

≫ **MP3 CD:** As does the ordinary computer CD-ROM that I describe, an MP3 CD holds MP3 files in data format. The files, however, are arranged in such a way that they can be recognized by audio CD players that support the MP3 CD format (especially boomboxes, DVD players, personal CD players, and car stereos). Because MP3 files are so much smaller than the digital audio tracks on traditional audio CDs, you can fit as many as 160 typical four-minute songs on one disc. These discs can also be played on your Mac via iTunes.

WARNING

Keep in mind that MP3 CDs aren't the same as the standard audio CDs you buy at the store, and you can't play them in older audio CD players that don't support the MP3 CD format. Rather, this disc is the kind of archival disc that you burn at home for your own collection or for use in a CD/DVD player or car audio system that supports MP3 discs.

To begin the process, build a playlist (or select an existing playlist that you want to record). If necessary, create a new playlist and add to it whatever songs you'd like to have on the CD. (See the earlier section "Keeping Slim Whitman and Slim Shady Apart: Organizing with Playlists" if you need a refresher.) With the songs in the correct order, right-click the playlist and choose Burn Playlist to Disc from the contextual menu to commence the disc-burning process. Click the desired recording format (again, usually Audio CD) in the Burn Settings dialog that appears.

TIP To save yourself from sonic shock, I always recommend that you enable the Use Sound Check check box before you burn.When you do, iTunes adjusts the volume on all the songs on your audio CD so that they play at the same volume level.

Ready to go? Click Burn, and load the blank disc. iTunes lets you know when the recording is complete.

Feasting on iTunes Visuals

By now, you know that iTunes is a feast for the ears, but did you know that it can provide eye candy as well? With just a click or two, you can view mind-bending graphics that stretch, move, and pulse with your music.

To begin viewing iTunes visuals, choose View⇨Show Visualizer (or press ⌘+T). Immediately, most of your iTunes interface disappears and begins displaying groovy lava lamp–style animations (like, sassy, man). To stop the visuals, choose View⇨Hide Visualizer (or press ⌘+T again). The usual sunny aluminum face of iTunes returns.

You can also change the viewing size of the iTunes visuals in the View menu. Choose View⇨Enter Full Screen (or press ⌘+Control+F). To escape Full Screen Visuals mode, press Esc, or press ⌘+Control+F again.

TIP You can still control iTunes with the keyboard while the visuals are zooming around your screen. See Table 13-1 earlier in this chapter for a rundown on common keyboard shortcuts.

Exercising Parental Authority

Do young children use your Mac? I'll be honest here: A large amount of content in the iTunes Store (including audio, movies, and even apps) is stuff that I don't consider suitable for kids. And what about the media that others in the family may decide to share? Such is the world we live in today, and the good folks at Apple recognize that you may not want to inadvertently allow your kids to have access to explicit content.

Luckily, you can use the Restrictions settings in iTunes to build a secure fence around content that's for grownups only. Heck, you can even banish items from the Sidebar. Figure 13-4 illustrates the Restrictions pane in the iTunes Preferences dialog.

FIGURE 13-4:
Protect your kids from explicit content.

You must log in with an Administrator account to change these settings, just as with the Parental Controls in the System Preferences dialog. If the settings are locked (the padlock icon at the bottom of the dialog is closed),click the padlock and supply your administrator password to unlock them. (Read more about Parental Controls in Chapter 10.)

REMEMBER

To restrict access, follow these steps:

1. **Choose iTunes⇨Preferences.**

2. **Click the Restrictions tab.**

3. **Select any of the Disable check boxes to prevent access to those features.**

   REMEMBER

   Disabling features in iTunes applies to *all* user accounts — no matter who is logged in! Notice that any features you disable disappear from the Sidebar after you click OK at the end of these steps.

4. **Choose your country from the Ratings For pop-up menu.**

   Because Apple maintains separate iTunes Stores for different nations, you can choose which country's iTunes Store to monitor. If you like, you can disable the display of content ratings in your iTunes Library by deselecting the Show Content Ratings in Library check box.

5. **To restrict specific content in the iTunes Store, select the check box next to the source, and make choices from the corresponding pop-up menu to choose the restriction level.**

Note that these restrictions apply only to content in the iTunes Store, content that can be downloaded through iCloud, and media shared with your Mac.

6. **Click the padlock icon at the bottom of the dialog to close it and prevent any further changes.**

7. **Click OK.**

Buying Digital Media the Apple Way

The hottest spot on the Internet for buying music and video is the iTunes Store, which you can reach from the cozy confines of iTunes. (That is, as long as you have an Internet connection. If you don't, it's time to turn the page to a different chapter.)

Click the iTunes Store button near the top of the window, and after a few moments, you see the latest offerings. Click a link in the store list to browse according to media type. The Back and Forward buttons at the top of the iTunes Store window operate much the same as those in Safari, moving you backward or forward in sequence through pages you've already seen.

To display the details on a specific album, track, video, podcast, or audiobook (whew), just click it. If you're interested in buying certain tracks (for that perfect road-trip mix), you get to listen to 90 seconds of any track — for free, no less, and at full sound quality. When you're ready to buy, click the Buy Now button. (At this writing, tracks are usually 99 cents a pop, and an entire album is typically $9.99. What a bargain!)

The iTunes Store uses your Apple ID to identify you, and it keeps secure track of your payment information for future purchases. After you use the iTunes Store once, you rarely have to log in again or retype your credit card information.

The tracks and files that you download are saved to a separate playlist called Purchased. When the download is finished, you can play them, copy them to other playlists, burn them to CD or DVD, share 'em over your network, or ship them to your iOS devices via iCloud, just as you can any other item in your iTunes Library.

TIP

iTunes can automatically download the media you purchase on another iCloud device (including another Mac and your iPhone, iPad, or iPod touch). To set up automatic downloading, choose iTunes ⇨ Preferences to open the Preferences dialog, and click the Downloads tab. After you're signed in at the iTunes Store, you can choose to download music or app purchases, and you have the option to check for new downloads automatically. Click OK to save your changes.

Chapter **14**

Focusing on Photos

F or decades now, the Mac has been the choice of professional photographers for working with digital images — not surprising, considering the Mac's graphical nature. Apple continues this tradition with *Photos,* its photography tool for the home user that can help you organize, edit, and even publish your photographs. (It sports more features than a handful of Swiss army knives.) After you shoot your photos with a smartphone or a digital camera, you can import them into Photo, edit them, and publish them. You're not limited to photos that you take yourself, either; you can edit, share, and organize all kinds of digital image files, as well as video clips. You can even create a photo album and use the third-party applications to order a handsome soft-bound or hard-bound copy shipped to you, or create a slideshow that you can upload to YouTube.

In this chapter, I walk you through an overview of what Photos can do. After that, I give you a brief tour of the controls in Photos so that you can see what features are available to you, including those for managing, printing, and publishing your photos.

Delving into Photos

Figure 14-1 shows most of the major controls Photos offers. (Other controls appear automatically when you enter different modes; I cover them in upcoming sections.)

Zoom   Toolbar   Viewer   Share   Info   Add to Favorites

Sidebar   Thumbnails
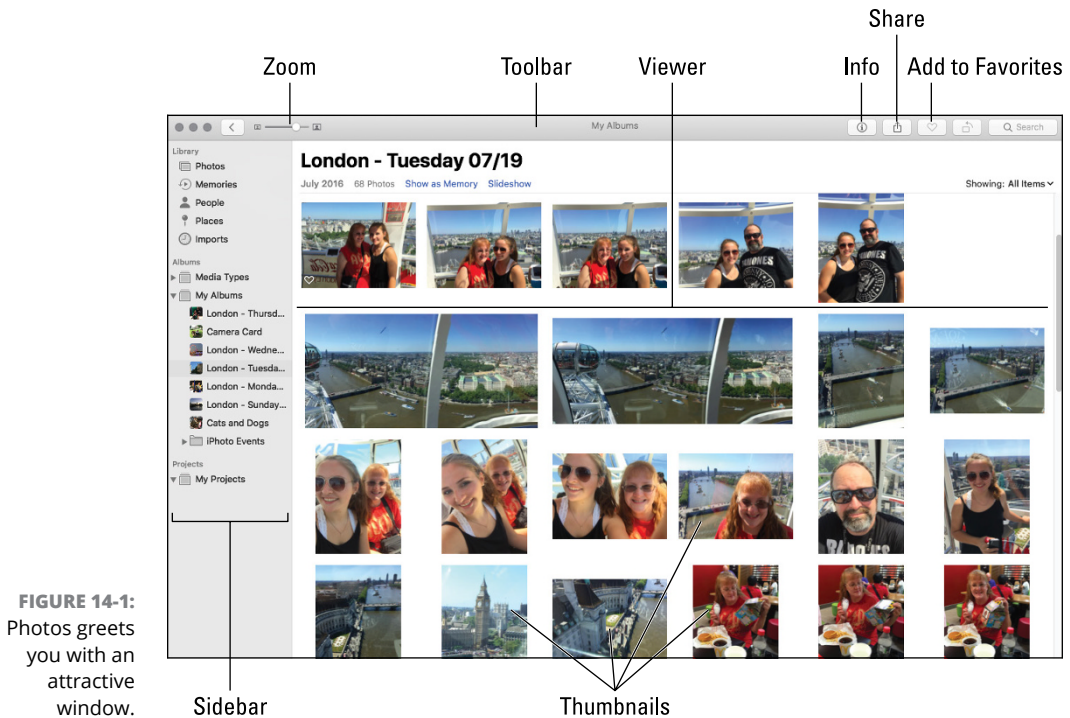
FIGURE 14-1:
Photos greets
you with an
attractive
window.

These controls and sections of the window are covered in more detail in the fol-lowing sections. For now, here's a quick rundown of what you see when you launch Photos and click the Photos mode button at the top center of the initial screen:

» **Sidebar:** Like iTunes, Photos sports a sidebar that displays different locations and groupings within the application —photos you've recently imported, for example, or specific photo albums and book projects you've created. Switching among your photo library, your albums, and your proj-ects involves a single click.

» **Toolbar:** This group of controls determines how many images the Photos Viewer displays and allows you to perform several actions with selected photos:

● You can display photos by *moment* (photos taken around the same time and at the same location), *collection* (a group of related moments, like each day of a family reunion), or *year* (the year when the photos were taken). If the Back button is visible, you can click it to see more images. To zoom in on a specific photo, click the desired thumbnail. To switch among groupings, click one of the four view buttons on the toolbar (or press ⌘+1 through ⌘+4 on the keyboard). The Photos view button returns you to an overview of your entire library.

- You can create new albums, slideshows, and print projects (such as books, calendars and cards) by using your photos. These new thumbnails appear when you click the My Albums or My Projects entries in the sidebar, which makes it much easier to organize your photos.

- You can share selected photos in a slew of ways, including Apple Mail, Messages, and AirDrop networking, as well as popular online sites such as Facebook, Twitter, and Flickr. If you've enabled iCloud Photo Sharing, you can also share photos to your other Macs and iOS devices.

- You can search for specific images. Just click the search box and start typing to search by description and title, or even by Faces and keywords, which I cover later in the chapter.

» **Viewer:** This pane displays the images from your Photos Library.

TIP

You can click and drag or ⌘+click to select photos in the Viewer for further tricks, such as assigning keywords and image editing.

» **Thumbnails:** If you're displaying a single image from your Library, you can press Option+S to open and close the Thumbnails pane. The Thumbnails pane allows you to quickly switch to another image by clicking the desired thumbnail — a helpful feature when you're editing several images taken around the same time.

» **Full Screen:** Click the Full Screen/Maximize button in the top-left corner of the window to switch to a full-screen display of your photos. In full-screen mode, you can double-click a thumbnail to view the image in your supercomputer's entire screen real estate. (The toolbar is available at any time: just move your pointer to the top of the screen to display it.) Press Esc to return to windowed mode.

TIP

Click View ➪ Always Show Toolbar and Sidebar in Full Screen to prevent the toolbar and sidebar from disappearing in full-screen mode.

» **Zoom:** Drag this slider to the left to reduce the size of the thumbnails in the Viewer, which allows you to see more thumbnails at one time, which is convenient for quick visual searches. Drag the slider to the right to expand the size of the thumbnails, making it easier to differentiate details in similar photos in the Viewer. You can also use the Zoom slider when a single image is displayed in the Viewer.

» **Add To Favorites:** This toolbar button (which bears a heart icon) appears on the toolbar only while you're viewing or editing a single image. Click the Add to Favorites button to add the item that's currently displayed in the Viewer as a Favorite. (When viewing your Library as moments or collections, you can also hover your pointer over an item and click the heart symbol that appears in the bottom-left corner of the photo.) You can search for Favorite photos by using keywords, which are covered later in this chapter.

>> **Info:** Click this button to display information on the item that's currently displayed in the Viewer.

>> **Share:** Click this button to share the selected photos on Flickr, Twitter, or Facebook. Choose iCloud Photo Sharing to send the selected photos to your iPhone, iPad, or iPod touch (they'll appear in the Photo Stream albums on those devices) or to another Mac. If you still use Apple's legacy Aperture application to edit or organize photos, you can add the selected photos to your Aperture library. You can also add them to a note, attach the photos to a text message, or email them.

>> **Edit:** Here's another button that's displayed on the toolbar only when you view a single image. Click this button to switch to the editing controls within Photos and make changes in the current image. I cover editing in depth later in the chapter.

>> **Auto Enhance:** Click this button to allow Photos to automatically clean up the single photo currently displayed in the Viewer by making adjustments in the contrast. After a few seconds, the corrected image appears in the Viewer. If you don't agree that the photo is "new and improved," you can press ⌘+Z to undo the changes.

>> **Rotate Counterclockwise:** This button is pretty self-explanatory: A click rotates the selected image(s) in a counterclockwise direction. I find myself doing this often, which is why Apple designers decided to park this button here.

>> **Search:** Click within the familiar confines of the Search box to filter the photos displayed in the Viewer by keyword, description, filename, or date.

Working with Images in Photos

Even a superbly designed image display and editing application such as Photos would look overwhelming if everything were jammed into one window. Thus, Apple's developers provide different operational modes, such as editing and book creation, that you can use in the one Photos window. Each mode allows you to perform different tasks.

In this section, I discuss three of these modes — import, organize, and edit — and what you can do when you're in them.

Import images 101

In *import* mode, you're ready to download images and video clips directly from your digital camera — and you're not limited to cameras, of course. You can also import items from a folder on your hard drive; a memory-card reader, such as the SDXC card slot sported by current iMac models; or even a Kodak PhotoCD.

Follow these steps to import images directly from your camera:

1. **Connect your digital camera to your iMac.**

   Plug one end of a USB cable into your camera and the other end into your computer's USB port, and prepare your camera to download images.

2. **Prepare your camera to download files.**

   The procedure for downloading images and video varies by camera, but the process usually involves turning on the camera and choosing a Download or PC mode. Check your camera's user guide for more details.

3. **Launch Photos.**

   Your Mac probably launches Photos automatically when your camera is detected, but you can always launch Photos manually by clicking the Photos icon on the Dock (or clicking the Photos icon within Launchpad).

4. **Choose File ⇨ Import, and click the device in the sidebar.**

   Photos displays all of the images and video clips currently stored on your camera in the Viewer.

5. **Click the Import All New Photos button to import all new files from the camera.**

   To select specific images to import, hold down the ⌘ key and click each desired photo; then click Import Selected instead of Import All New Photos.

   The images and clips initially appear within the Last Import album in your Photos Library, where you can organize them as you want.

6. **From the Import To drop-down menu, choose a destination for the imported files.**

   You can choose an existing album, create a new album, or add the files to your library.

Note that Photos automatically groups imported images and video into moments and collections, which use the date, time, and location where the files were created, if your camera stores this information with each file. If you want to see photos from your son's graduation, for example, they'll appear as a separate

moment. Think about that. It's pretty tough to arrange old-fashioned film prints by the moment in time they document, but Photos makes it easy for you to see which photos are part of the same group.

REMEMBER

Don't be surprised if Photos automatically appears when you connect your iPhone or iPad to your iMac, giving you a convenient opportunity to import photos with a single click.

Organize mode: Organizing and sorting your images

In the days of film prints, you could always stuff another shoebox with your latest photos or buy another sticky album to expand your library. Your digital camera, though, stores images as files instead, and many folks don't print their digital photographs. Instead, you can keep your entire collection of digital photographs and scanned images well-ordered and easily retrieved within Photos. Then you can display them in a slideshow, email them, print them, use them as Desktop backgrounds, or burn them to an archive disc.

IMPORTING IMAGES FROM YOUR HARD DRIVE TO PHOTOS

Adding items stored on your hard drive, a CD, a DVD, an external drive, or a USB flash drive is easy. If the images and clips are in a folder, just drag that folder from a Finder window into the Viewer. You can even drag items directly to the Photos icon in the Dock. Photos automatically creates a new album using the folder name, and you can sit back while the images are imported into that new album.

If you have individual images, you can drag them as well. Select the images in a Finder window, and drag them into the desired album in the Albums display. To add them to the album currently displayed in the Viewer, drag the selected photos to the Viewer instead.

If you'd rather import images by using a standard Mac Open dialog, choose File ⇨ Import. Simplicity strikes again!

You can allow Photos to import images directly from your iOS devices using My Photo Stream, which I cover later in this chapter.

A new kind of photo album

The most familiar method of organizing images in Photos is the album. Each album can represent any designation you like, be it your pets, a vacation, your daughter, or your daughter's ex-boyfriends. Follow these steps:

1. **Create a new album.**

You can choose File ⇨ New Album or press ⌘+N. If you've selected any item thumbnails in the Viewer, they're added to the new album automatically.

2. **Type the name of your new photo album in the Untitled Album text box in the sidebar (see Figure 14-2).**

3. **Press Return.**
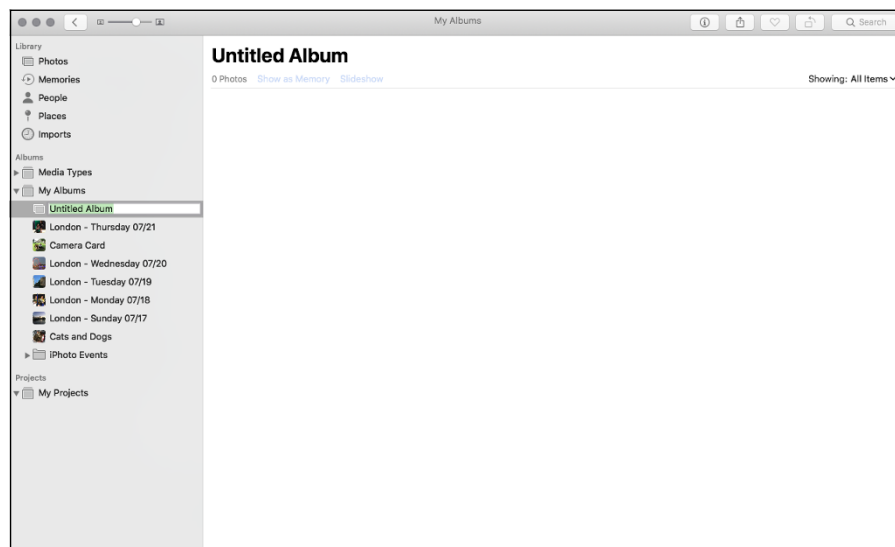
Photos also offers a special type of album called a Smart Album, which you can create from the File menu. (For even faster action, press Option+⌘+N.) If you're familiar with the Smart Folders that you can use within the Finder and the Smart Playlists within iTunes (see Chapter 13), you've figured out this one already.

A *Smart Album* contains only photos that match certain criteria you choose, including the keywords you assign your images. Other criteria include text in the photo filenames, the dates when the images were added to Photos, a specific person you've identified, and any description you added (as well as camera-specific data such as ISO and shutter speed).

Here's the really nifty angle: Photos *automatically* builds and maintains Smart Albums for you. It adds new photos that match the criteria and deletes those you remove from your Photo Library (and also removes the photos that no longer match the Smart Album's criteria). Smart Album icons carry a gear symbol in the Photos sidebar.

TIP

You can display (or edit) information about any photo or video clip. Right-click the thumbnail, and choose Get Info from the contextual menu that appears. Click the Add a Title heading in the dialog to display a text edit box, and simply type a new value. You can also type a short note or description in the Add a Description box that appears in the Info dialog.

You can copy selected items from the Viewer into any album you choose. Right-click the desired items, hover your pointer over the Add To contextual menu item, and choose the destination album. You can also copy selected items to an album by dragging them from the Viewer to the desired album entry in the sidebar.

To remove a photo or video clip that has fallen out of favor, follow these steps:

1. **Click the desired album in the sidebar.**
2. **In the Viewer, click the item you want to remove to select it.**

   (To select multiple items to delete, hold down the ⌘ key while you click them.)

3. **Press Delete.**

REMEMBER

When you remove a photo or clip from an album, you don't remove the actual file from your collection (represented by Photos button in the toolbar or the Photos entry at the top of the sidebar). An album is actually a group of links to the images in your collection, just as a playlist in iTunes is a group of links to songs in your Music Library. If you want to remove an offending photo from Photos, click the Photos button on the toolbar (or the Photos entry at the top of the sidebar) to display your entire collection of photos and clips, and delete the item there. The item disappears from all albums with which it's associated.

To remove an entire album, right-click the offending album entry in the sidebar, and choose Delete Album from the contextual menu.

To rename an album from the sidebar, click the entry below the Albums heading in the list to select it, and click again to display a text box. Type the new album name, and press Return.

TIP Change your mind? Photos comes complete with a handy-dandy Undo feature. Just press ⌘+Z, and it's as though your last action never happened. (This trick is great for those moments when you realize that you just deleted your only image of your first car from your Library.) For an extra level of backup protection for your priceless images, you can invest in an external hard drive and use the awesome macOS Time Machine backup feature.

Working with People

Photos includes a powerful organizational tool called People, which appears as a separate item within the sidebar.

People is a sophisticated recognition system that automatically recognizes human faces within the photos you add to your Photos Library. (I don't know whether it works well with pets, but you can try.) Naturally, you have to identify — or *tag* — faces before Photos can recognize them.

To tag a face, follow these steps:

1. **In the Viewer, double-click the photo with a person you want to tag.**

   Note that Photos indicates each person's face in the photo with a circle. If a face has already been tagged, the label (which appears when you hover your pointer over the icon) matches the person's face.

TIP 2. **To set Photos to always show labels in the Viewer — so that you don't have to click the Add Faces link — choose View ⇨ Show Face Names.**

3. **Click the *unnamed* label below the person's face to open a text box, as shown in Figure 14-3.**
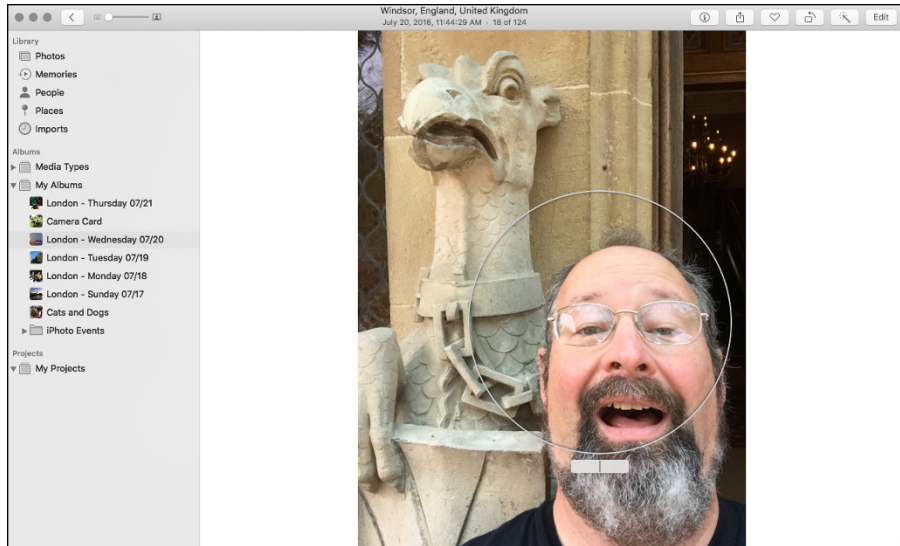
Adding another mug to my collection of Faces. (That doesn't sound right.)

4. **Type the person's name, and press Return.**

5. **If the name appears on a Contacts contact card (or is recognized as an existing People name or as one of your Facebook friends),click the matching entry that appears to confirm the identity.**

    Wowzers!

6. **To delete an incorrect face recognition, right-click inside the circle that appears around the face, and choose This is Not (Name) from the contextual menu that appears.**

TIP

Photos may not recognize the face if the person is turned at an angle to the camera or is in a darker area of the photo. If so, display the Info pane, and click the Add Faces link to display a "floating" circular outline; then click the outline, and drag the circle over the person's face. If necessary, you can resize the box by using the handle that appears on the right side of the circle. Now you can click the Click to Name label and type the person's name.

After you tag an image, it appears in your People collection, which you can view by clicking the People entry in the sidebar. You can double-click a portrait in your People collection to see all the images that contain that person.

Organizing with keywords

"Okay, Mark, albums and People are great ideas, but there has to be a way to search my Library by category!" Never fear, good Mac owner. You can also assign descriptive keywords to items to help organize your Library and locate certain

pictures and video clips fast. Photos comes with standard keywords, and you can create your own as well.

Suppose that you'd like to identify your images according to special events in your family. Birthday photos should have their own keyword, and anniversaries deserve another. By assigning keywords, you can search for Elsie's birthdays or your silver wedding anniversary (no matter what collection or album they're in), and all related photos with those keywords appear like magic!

Photos includes keywords that are already available:

» Favorite

» Family

» Kids

» Vacation

» Birthday

» Photo Booth

» Photo Stream

» Check Mark

TIP What's the check mark all about, you ask? It's a special case. The Check Mark keyword comes in handy for temporarily identifying specific items, because you can search for only your check-marked photos and clips.

To assign keywords to images (or to remove keywords that have already been assigned), select one or more photos in the Viewer. Choose Window➪Keyword Manager or press ⌘+K to display the Keywords window, as shown in Figure 14-4.
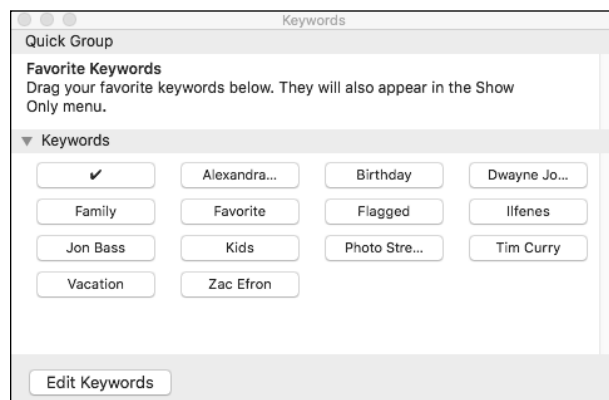
FIGURE 14-4:
Add keywords to these selected images.

TIP

Drag the keyword buttons that you use the most to the Quick Group section of the Keywords window, and Photos automatically creates a keyboard shortcut for each keyword in the Quick Group. Now you don't even need to display the Keywords window to get business done!

Click the buttons for the keywords you want to attach to the selected images to mark them. Or click the highlighted buttons for the keywords you want to remove from the selected items.

Digging through your library with keywords

Behold the power of keywords! To sift through your entire collection of images by using keywords, click the Search button on the toolbar in the top-right corner of the Photos window, and type one or more keywords. To see all the items you've flagged as Favorites that include kids, for example, you'd type *Favorite Kids*.

REMEMBER

The images that remain in the Viewer after a search must have *all* the keywords you specified. If an image is identified by only three of four keywords you chose, it isn't a match and doesn't appear in the Viewer. (You can create a Smart Album with specific keywords to get around this limitation.)

TIP

To search for a photo by words in its description, click the Search box, and start typing. You can search your images by date and rating as well.

Searching by locations where photos were taken

Photos can also track the location where photos were taken automatically, but this feature requires a digital camera that includes GPS tracking information in the image metadata for Photos to do so without your help. (Older camera models are unlikely to support GPS tracking. Naturally, newer iPhones and iPads support this feature.) You don't have to turn anything on to view photos by location.

When you're viewing photos by moments and collections, you'll notice that Photos includes the location name to identify where the photos were taken. To search for all images taken in a specific location, type the location name in the Search field.

TIP If you right-click a specific photo (that includes location information) to select it and then choose Get Info from the contextual menu, you see a close-up map of the location where the photo was taken.

Edit mode: Removing and fixing stuff the right way

Not every digital image is perfect. Just look at my collection if you need proof. For shots that need a pixel massage, Photos includes editing tools that you can use to correct common problems.

The first step in any editing job is selecting the image you want to fix. (Double-click a thumbnail in the Viewer so that it fills the screen.) Then click the Edit button on the Photos toolbar (or simply press Return) to display the Edit mode controls on the right side of the window, as shown in Figure 14-5. Now you're ready to fix problems, using the tools I discuss in the rest of this section.

REMEMBER If you display a video clip in the Viewer, you can play it by hovering your pointer over the clip and clicking the Play button that appears. You can edit only photographs, however, so the Edit button is disabled when you're viewing a video clip.

While you're editing, you can press the left- and right-arrow keys to move to the next image (or back to the previous image). This trick works whether you're browsing the Library or displaying the contents of an album. You can also display the Thumbnail pane in Edit mode.

TIP If you prefer to edit images while using more of your screen real estate, click the Full Screen/Maximize button in the top-left corner of the Photos window. To switch back to the standard window arrangement, press the Esc key.

When you're finished with Edit mode, click the (wait for it) Done button to return to the Viewer.
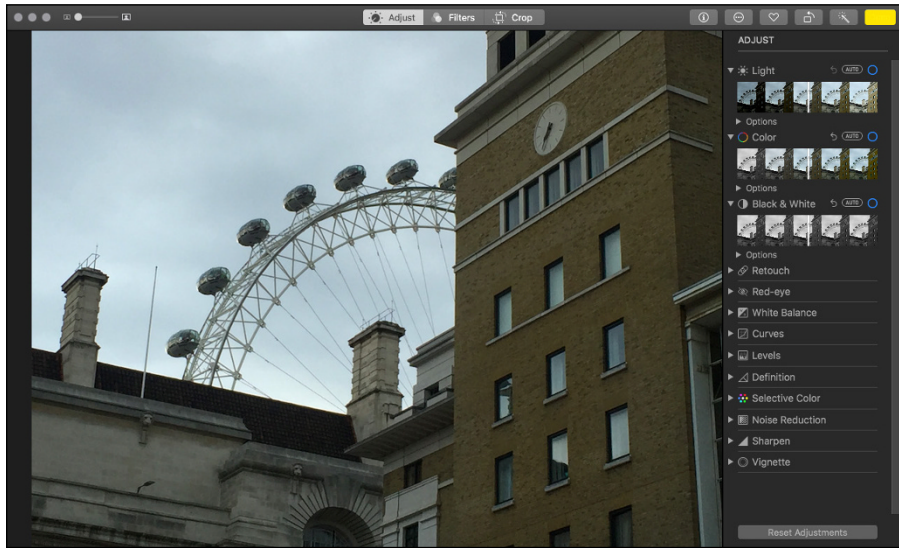
Rotating tipped-over shots

If an image is in the wrong orientation and needs to be turned to display correctly, click the Rotate button to turn it once in a counterclockwise direction. Hold down the Option key while you click the Rotate button to rotate in a clockwise direction.

Crop 'til you drop (and a whole lot more)

Does that photo have an intruder hovering around the edges of the subject? You can remove some of the border by cropping an image, just as folks once did with film prints and a pair of scissors. (We've come a long way.) With Photos, you can remove unwanted portions from the edges of an image, which is a great way to get Uncle Milton's stray head (complete with toupee) out of an otherwise-perfect holiday snapshot.

While you're in Editing mode, follow these steps to crop, flip, and straighten an image:

1. **Click the Crop button at the top of the window.**

2. **Select the portion of the image you want to keep.**

   In the Viewer, click and drag the right-angle handles in the corners of the rectangle to outline the part of the image you want. Whatever is outside this rectangle disappears when the crop is complete.

When you drag a corner or edge of the outline, a semi opaque grid (familiar to amateur and professional photographers as the nine rectangles from the Rule of Thirds) appears to help you visualize what you're claiming. (Check it out in Figure 14-6.)

You can expand the outline to the image's full dimensions at any time by clicking the Reset button.

Notice the attractive Auto button that appears in the bottom-right corner of the Photos window when you click the Crop button? A single click of the Auto button, and Photos takes its best shot at producing the ideal cropping and straightening job for you! If you don't like the results, use the Undo feature (⌘+Z) to return the photo to its previous appearance.

Photos features multiple Undo levels, so you can press ⌘+Z several times to travel back through several changes. Alternatively, you can return the image to its original form (before you did any editing at all) by clicking the Reset button.

FIGURE 14-6:
Select the stuff you want to keep in your photo.

3. **(Optional) Choose a preset aspect ratio.**

You may want to force your cropped selection to a specific aspect ratio, such as 4×3 or 16×9 for a widescreen desktop background, or 4×6 or 5×7 to match the dimensions of photo paper. If so, click the Aspect item on the right side of the window, and choose that ratio from the pop-up menu that appears. (Choose the Square menu item for the perfect Facebook profile image and Freeform to allow any aspect ratio when your cropping is done.)

4. **(Optional) Flip your photo horizontally.**

   A click of the Flip item gives you the mirror image of your original photo.

5. **(Optional) Straighten what's crooked.**

   Was your camera slightly tilted when you took the perfect shot? Never fear! Click the circular angle control at the right edge of the image, and drag in the desired direction. (Besides straightening the subject, you can do some truly wild camera angles this way, just like in the '60s *Batman* TV series!)

6. **Click the Done button.**

Enhancing images to add pizzazz

If a photo looks washed out, click the Auto Enhance button to increase (or decrease) the color saturation and improve the brightness and contrast. Auto Enhance is automatic, so you don't have to set anything — but be prepared to use Undo if you're dissatisfied with the changes.

Removing rampant red-eye

Unfortunately, today's digital cameras can still produce the same "zombies with red eyeballs" as traditional film cameras. *Red-eye* is caused by a camera's flash reflecting off the eyes' interior surfaces, and it can occur with both humans and animals. (I'm told that pets get green-eye or blue-eye, but Photos can handle them too.)

Photos can remove red-eye and green-eye and turn frightening zombies back into your family and friends. In Editing mode, click the Adjust button at the top of the window; then hover your pointer over the Red-Eye item on the right side of the screen, and click the Auto button that appears. Photos automatically attempts to remove any red-eye effect it detects in the photo, and a blue check mark appears next to the Red-Eye item to indicate that a change was made.

Retouching like the pros

The Photos Retouch feature is perfect for removing minor flecks or lines in an image (especially those that you've scanned from prints). Click the disclosure triangle (which looks like a right arrow) by the Retouch item, and click the Edit button that appears (it carries a paintbrush icon). Now hover your pointer over the photo to display the circular retouch tool. You can drag the Size slider to change the size of the retouch tool. Drag the pointer across the imperfection, and click Done when you're finished touching up. Don't forget to take a moment to marvel at your editing skill!

I REALLY NEED A SLIDESHOW

You can use Photos to create slideshows by following these steps:

1. **Right-click the desired album in the sidebar, and choose Create ⇨ Slideshow from the contextual menu.**

2. **Type the name of the slideshow in the text box, and press Return.**

   Photos adds a adds a new entry below Projects in the sidebar. Also, a scrolling thumbnail strip appears at the bottom of the Viewer, displaying the images in the album.

3. **Click and drag the thumbnails to the desired order.**

After creating your slideshow, you can customize it with the controls that appear on the right side of the Photos window:

- **Themes:** Click the Theme Picker button to choose the theme for your slideshow. The theme you choose controls the animation, transition type, and screen layout that Photos uses — everything from the classic Ken Burns "moving photo" animation to a nifty Sliding Panels layout.

- **Music:** Click the Music button to display Apple's theme music, as well as the tracks from your iTunes Library. To choose a standard theme, choose Theme Songs from the Source pop-up menu; then click the perfect song to select it. To choose songs from your iTunes Library, choose iTunes from the Source pop-up menu; then click the songs you want in the order in which you want them.

- **Duration:** Click the Duration Settings button, and choose to fit the display of images to the length of the music you've chosen, or set individual timings for the slide thumbnails you've selected. If you want your slideshow to loop when it finishes, click the Loop icon that appears in the bottom-right corner of the Viewer to toggle it on. (The icon turns blue when the feature is on.)

  To display a preview of your slideshow without leaving the Photos window, click the Preview button in the bottom-left corner of the Viewer. This preview is a handy way to determine whether the theme and music you've selected are really what you want. When you're ready to play your slideshow, click the Play button that appears below the Viewer, and Photos switches to full-screen mode. To create a movie file from your completed slideshow, click Export on the Photos toolbar.

Using filters and adjustments to add a mood

Wonder whether a particular photo in your Library would look better as a black-and-white *(grayscale)* print? Click the Filters button at the top of the screen to display a list of effects that you can apply to the photo, including black-and-white

effects, enhanced color levels, and subtle shading. Click any thumbnail on the strip to apply the filter.

If you'd like more precise manual control of your image attributes — including sharpness, color levels, shadows, definition, and white balance — click the Adjust button at the top of the screen, and explore the lengthy array of options. Note that most of the adjustments offer an Auto button if you hover your pointer over the entry, and you can click the disclosure triangle to the left of each entry to display additional controls that you can use to create a different look.

Exploring iCloud Photo Library

Yes, Apple has decided that everything except the kitchen sink should be stored online in iCloud — first your iTunes Music Library; then your Pages, Numbers, and Keynote documents; and it's your photographs and video clips. To turn the iCloud Photo Library feature on, choose Photos⇨Preferences, click the iCloud tab of the Preferences dialog, and click the iCloud Photos check box to enable it.

With iCloud Photo Library, your entire Photos Library is stored online, and every-thing in your Library is also accessible from other Macs and iOS devices, such as your iPad and iPhone. (Think "central storage house for everything visual that you can reach from anywhere with an Internet connection.") If you take a photo with your iPhone, for example, you'll see it appear automatically within Photos. And if you've recently cropped and edited a photo to perfection with Photos, you'll be able to retrieve that edited photo on any of your iOS devices or another Mac.

From the same iCloud pane in the Preferences dialog, you can choose to:

>> Download copies of the full-size images and full-resolution videos on your iMac Pro's internal drive (allowing you to edit or view the originals even when you're not connected to the Internet)

>> Store smaller images and smaller-resolution videos on your internal drive, with the ability to retrieve the originals from the iCloud at any time (if you're connected to the Internet)

Naturally, if you're a photographer who needs constant, instant access to your original images, the first option is preferable. (Choose the Download Originals to This Mac option in the iCloud pane.)If your iMac's drive is nearly full, however, and you'd like to conserve space, the second option is attractive. (Choose the Optimize Mac Storage option in the iCloud pane.)

All this goodness is handled automatically, but there's a catch: Your *entire* Photos Library needs to fit within your free 5GB of iCloud storage. Otherwise you'll have

to pay a monthly subscription to get additional elbow room! (Storage subscriptions range from 99 cents a month for 50GB of space to $10 a month for a whopping 2TB of space.) If you have only 3GB of photos, you may be able to use iCloud Photo Library without spending anything extra, but because my Photos Library is nearing 10GB, I'd probably need to subscribe to take full advantage of the feature. The choice is yours, dear reader: If you decide not to use the iCloud Photo Library, rest assured that Photo Stream will still work as it did in iPhoto.

Putting My Photo Stream and iCloud Photo Sharing to Work

Like iPhoto before it, Photos includes the My Photo Stream feature that automatically shares the photos you take among your Macs, your PCs, and iOS devices. Unlike with iCloud Photo Library, however, your images and videos are stored on your iMac's internal drive, *not* in your iCloud storage. (The images and videos are also always full-size and full-resolution.)

To turn on My Photo Stream, choose Photos⇨Preferences, click the iCloud toolbar button on the Preferences dialog, and select the My Photo Stream check box. When the feature is turned on, Photos should automatically import My Photo Stream photos taken with iOS devices and other Mac computers to your Photos Library.

When the My Photo Stream feature is turned on, it's a cinch to share images and videos across your Apple computers and devices. Simply copy the items to the My Photo Stream location in the sidebar. Photos automatically sends the selected images to all compatible devices over your Internet connection. (Note that all devices that use My Photo Stream must be configured with the same Apple ID.)

You can also choose to share specific photos by using Shared Albums, which can be turned on from the Photos Preferences dialog. Choose Photos⇨Preferences, click the iCloud tab on the toolbar in the Preferences dialog, and select the Shared Albums check box.

To subscribe to a shared-album invitation from another person, right-click the desired shared album in the sidebar, and click Accept.

To create your own shared album, select the images you want to share, click the Share button on the toolbar, and click the Shared Albums item. Click the New Shared Album button, and Photos prompts you for the album name and the email addresses of the folks you want to invite to your shared album. After you enter each email address, click the Create button at the bottom of the sheet to start the ball rolling. You can also add or delete items from your shared album in the same way that you would with a regular Photos album.

Chapter **15**

Making Film History with iMovie

Remember those home movies you used to make in high school? They were entertaining and fun to create, and your friends were impressed. In fact, some kids were so downright inspired, you're not surprised when you discover at your high-school reunion that they turned out to be graphic artists or got involved in video or TV production.

iMovie, part of Apple's digital lifestyle suite, makes moviemaking as easy as those homemade movies. Apple simplifies all the technical stuff, such as importing video and adding audio, leaving you free to concentrate on your creative ideas. In fact, you won't find techy terms such as *codecs* and *keyframes* in this chapter. I guarantee that you'll understand what's going on at all times. (How often do you get a promise like that with video-editing software?)

With iMovie, digital video from your smartphone or your camcorder, and the other applications that Apple provides, you can soon produce and share professional-looking movies, with some of the same creative transitions and titles used by Those Hollywood Types every single day — all on your iMac or iMac Pro, all by yourself.

If you turn out to be a world-famous Hollywood-Type Director in a decade or so, don't forget the little people — like computer-book authors — along the way!

Shaking Hands with the iMovie Window

If you've ever tried using a professional-level video-editing application, you probably felt as though you were suddenly dropped into the cockpit of a jumbo jet. In iMovie, though, all the controls you need are easy to use and logically placed.

To launch iMovie, click the iMovie icon on the Dock or within Launchpad. (It looks like a star on the Hollywood Walk of Fame.) You can also click the Applications folder in any Finder-window Sidebar and then double-click the iMovie icon.

To follow the examples I show you here, take these strenuous steps to create a new movie project:

1. **Choose File ⇨ New Movie (or press ⌘+N).**

Alternatively, you can click the Create New thumbnail and choose the Movie entry from the pop-up menu.

TIP

You can also create movie *trailers* (short previews or teasers) within iMovie, as I demonstrate later in this chapter. Generally, however, you should create your trailer project *after* your movie is completed (unless, of course, you're specifically creating just a trailer). Why? For the same reason that studios create trailers after the filming is finished: After you complete your movie, all the clips will be imported already, and you'll have a better idea of what you want to include while "teasing" your audience!

2. **Press ⌘+6 to display the Theme Chooser.**

iMovie displays the window shown in Figure 15-1.

3. **Click a Theme thumbnail to select a theme to apply to your finished movie.**

TIP

To preview the appearance of a theme, hover your cursor over the thumbnail, and click the Play button that appears.

iMovie automatically adds the transitions and titles that correspond to that theme.

Normally, this step is what you want to do, but you can add transitions and titles manually, as I show you later in this chapter. So if you decide not to use a theme out of the gate, you don't have to open the Theme Chooser at all.
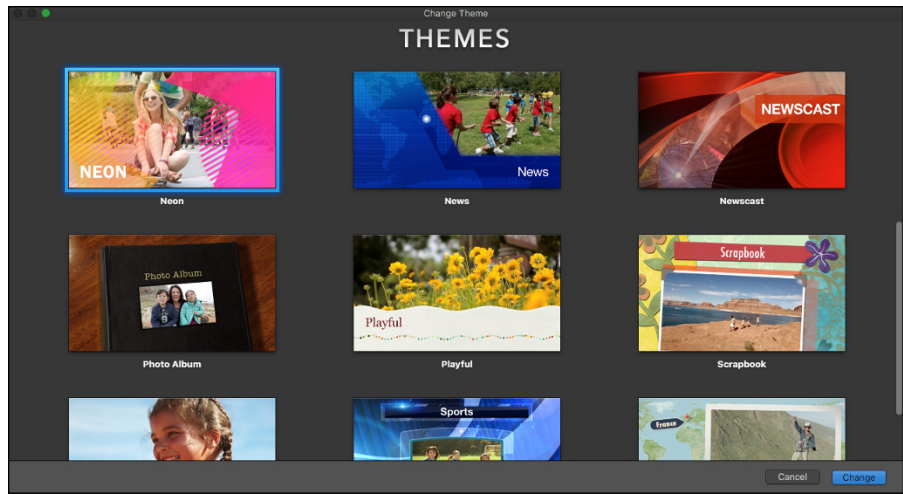
FIGURE 15-1:
Selecting a new movie project theme within iMovie.

4. **Click the Change button in the bottom-right corner of the window.**

iMovie adds the new project to the list in the sidebar, and you're on your way! Check out Figure 15-2: the whole enchilada in one window.

Content Library

Libraries List   Event/Project Library pane   Toolbar   Viewer
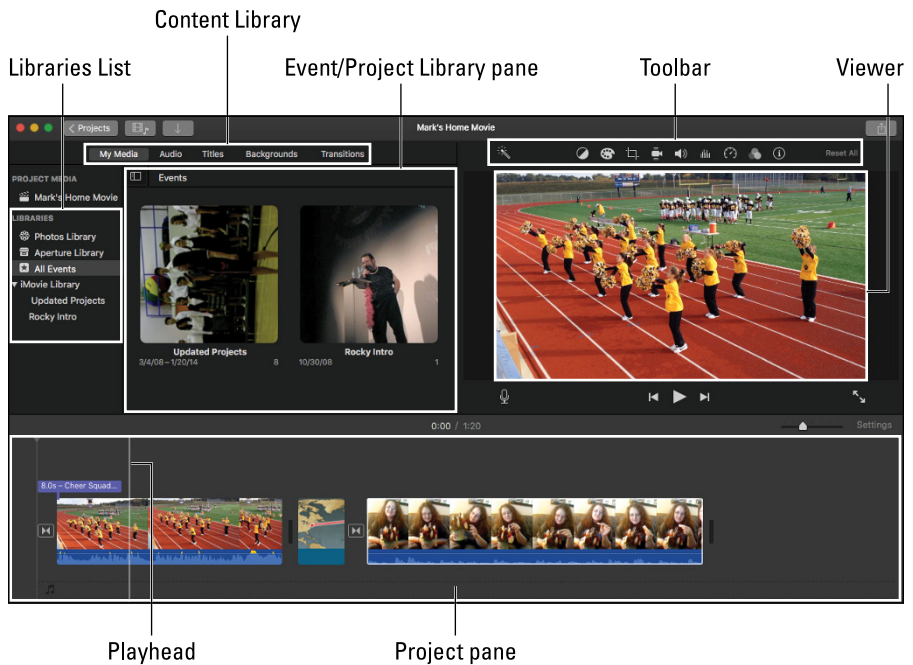
FIGURE 15-2:
iMovie is a lean, mean, video-producing machine.

Playhead   Project pane

You'll use these controls and displays most often:

- **Viewer:** Think of the Viewer as being like your TV or computer monitor. Your video clips, still images, and finished movie play here. You also crop and rotate your video within the Viewer.

- **Content Library:** This row of buttons allows you to add photos, video clips, audio, and effects (such as transitions, titles, music, and sounds).

- **Libraries List:** This sidebar list allows you to display your photos from your Photos library. (You can also display images from your Aperture library, if you used this legacy application.) Additionally, the Libraries list displays all the video clips you can add to your project from events you've imported. The items in the list change, depending on the type of content you've chosen from the Content Library. You can also select an existing iMovie project from the iMovie Library. To hide the Libraries list and make more room for the media pane, click the Hide button that appears in the top-right corner of the Libraries list. (To display the Libraries list again, click the same button, which now reads Show.)

  You can hide and show both the Content Library and the Libraries list with one click of the Show or Hide the Media Library button, which appears in the top-left corner of the iMovie window. By hiding both, you maximize the space available for your Viewer.

  TIP

- **Event/Project Library pane:** If you select an event from the All Events entry in the Libraries list, iMovie displays a thumbnail of that event's content in the Event pane. (Move your cursor over the Event thumbnail to see previews of the clips.) If you decide that you want to include a clip, double-click the Event to display the clips, and add the desired clip to your project. This pane also acts as the Project Library pane, where you can display your existing iMovie projects; click the Projects entry in the Libraries list to display your projects as thumbnails. To load a project, double-click the thumbnail; it appears in the Project pane.

  The Event/Project Library pane displays different content, depending on the entry you select in the Libraries list.

  REMEMBER

- **Project pane:** This pane is where most of your work gets done within iMovie, displaying the elements you added to that specific project (such as video clips, still photos, and audio clips). Your movie appears as a linear strip of thumbnails, making it easy to select, insert, and delete elements.

- **Playhead:** The white vertical line you see in the Project pane (or the red vertical line you see in the Event/Project Library pane) is the *playhead*, which indicates the current editing point while you're browsing your clips or creating

your movie. When you're playing your movie, the playhead moves to follow your progress through the movie.

» **Toolbar:** This strip of buttons allows you to enhance and adjust photos and video clips.

Those elements are the major highlights of the iMovie window. A director's chair and megaphone are optional, of course, but they do add to the mood.

A Bird's-Eye View of Moviemaking

I don't want to box in your creative skills. After all, you can attack the moviemaking process from several angles (pun unfortunately intended).I've found, however, that my movies turn out best when I follow a linear process. So before I dive into specifics, allow me to give you an overview of moviemaking with iMovie.

Here's my take on the process, reduced to seven basic steps:

1. **Import your video clips from your camcorder, your iMac's FaceTime HD camera, your Photos Library, or your internal/external drive.**

2. **Drag your clips from the Event pane to the Project pane, and arrange them in the desired order.**

3. **Import or record audio clips (from iTunes, GarageBand, or external sources, such as audio CDs or audio files you've recorded yourself), and add them to your movie.**

4. **Import your photos (directly from Photos or your hard drive), and place them where needed in your movie.**

5. **Add professional niceties, such as voiceovers, transitions, effects, and text to the project.**

6. **Preview your film, and edit it further if necessary.**

7. **Share your finished film with others through the web, email, your Apple TV, an iOS device (an iPhone or iPad), or within iMovie Theater.**

   If you have a iMac with an internal optical drive or an external USB optical drive, you can also use a DVD recording application to create a DVD movie disc of your exported movie. I use (and recommend) Toast 16Titanium by Roxio(`www.roxio.com`).

Wonder how you save your project in iMovie, especially when the File menu has no Save item? iMovie automatically saves your project as you work, leaving you free to concentrate on your moviemaking art.

Importing the Building Blocks

Sure, you need video clips to create a movie of your own, but don't panic if you have a small supply. You can certainly turn to Apple's other digital media applications for additional raw material. (See, I told you that whole "integration" thing would come in handy.)

Along with video clips you import from your DV camcorder, your iMac's trusty built-in FaceTime HD camera (or an external webcam), and your hard drive, you can call on Photos (as well as the legacy applications iPhoto and Aperture) for the still images you'll need for your credits. On the audio side, you can call on iTunes and GarageBand for background audio and effects. In this section, I show you how.

Pulling in video clips

Your aluminum supercomputer comes equipped with extras that come in handy for video editing: a large internal drive and ports to connect stuff. Depending on the iMac model you're using and your external devices, you may use a USB or Thunderbolt connection. Today's mass-storage camcorders, tablets, and smartphones typically use a USB connection to transfer clips. I cover both older tape-based camcorders and USB/Thunderbolt mass-storage devices in this section.

Oh, and don't forget that your iMac has a FaceTime HD camera on board, ready to record clips. Heck, you're a self-contained movie studio!

Here's the drill if your clips are on your camcorder or mass-storage USB/ Thunderbolt video device:

1. **Plug the proper cable into your iMac.**

2. **Set the camcorder to VTR (or VCR) mode.**

   Some video devices call this mode *Play mode.*

3. **Click the Import button at the left side of the iMovie menu bar. The Import button bears a downward-facing arrow (refer to Figure 15-2).**

   iMovie opens the Import window.

4. **Open the Import To pop-up menu at the top of the Import window, and choose the destination for your new video clips.**

   To create a new event for the imported clips, choose New Event. Alternatively, you can import into an existing Event or iMovie project. If your family reunion spanned more than one day, you can create a new Event for each day. (How does Apple think up these things?)

5. **Click the desired video source in the Source list on the left side of the Import window.**

   If you're using a tape-based camcorder, playback controls appear below the Camera Import window, mirroring the controls on your camcorder. This feature allows you to control the unit from iMovie. *Keen!* If you're using a mass-storage camcorder connected by USB, you instead get an Import All button below the thumbnails of available clips. (Note that this button changes to Import Selected if you select one or more of the clips.)

   If you choose your FaceTime HD camera in the list, you see a real-time preview and a big red Record button. Click the Record button to start and stop record-ing. (You can skip the rest of the steps in this section, which deal only with camcorders.)

6. **To import selected clips from your camcorder, advance the video to a couple of seconds before the point where you want to start your capture; then click Import.**

7. **Click OK, and admire your handiwork.**

   iMovie begins transferring the footage to your drive and automatically adds the imported clips to the specified destination.

TIP

If your clips are already on your drive, rest assured that iMovie can import them, including those in high-definition video (HDV) format and 4K format. iMovie also recognizes other video formats, as shown in Table 15-1.

To import a movie file, follow this bouncing ball:

1. **Click the Import button on the toolbar.**

2. **Click the drive that stores your clips in the window's sidebar, and navigate to their location.**

3. **Select the desired clips in the list.**

4. **From the Import To pop-up menu at the top of the Import window, choose the destination within iMovie.**

5. **Click Import.**

TABLE 15-1   **Video Formats Supported by iMovie**

File Type	Description
DV	Standard 4:3 digital video
DV widescreen	Widescreen 16:9 digital video
MOV	QuickTime movies
HDV and AVCHD	High-definition (popularly called *widescreen*) digital video, in 720p and 1080i
MPEG-2	Digital video format used for DVD movies
MPEG-4	A popular format for streaming Internet and wireless digital video, as well as handheld iOS devices such as the iPad, iPhone, and iPod touch

Alternatively, you can drag a video clip from a Finder window and drop it in the Project pane.

Making use of still images

Still images come in handy as impressive–looking titles or as ending credits for your movie. (To be truly professional, make sure that you list a *gaffer* and a *best boy*. I have no idea what they do, but they're always listed.) You also can use still images to introduce scenes, close scenes, and separate clips. I use stills when delineating the days of a vacation within a movie or different Christmas celebrations over time.

Here are two methods of adding stills to your movie:

» **Adding images and video clips from Photos (or Apple's legacy iPhoto and Aperture applications):** Click the Photos, iPhoto, or Aperture Library entry in the Libraries list to access your images right from iMovie (as shown in Figure 15-3). When you find the image you want to add, drag it to the right spot in the Project pane.

» **Importing images from your drive:** If you're a member of the International Drag-and-Drop Society, you can drag TIFF, JPEG, GIF, PICT, PNG, and PSD images directly from a Finder window to the Project pane.
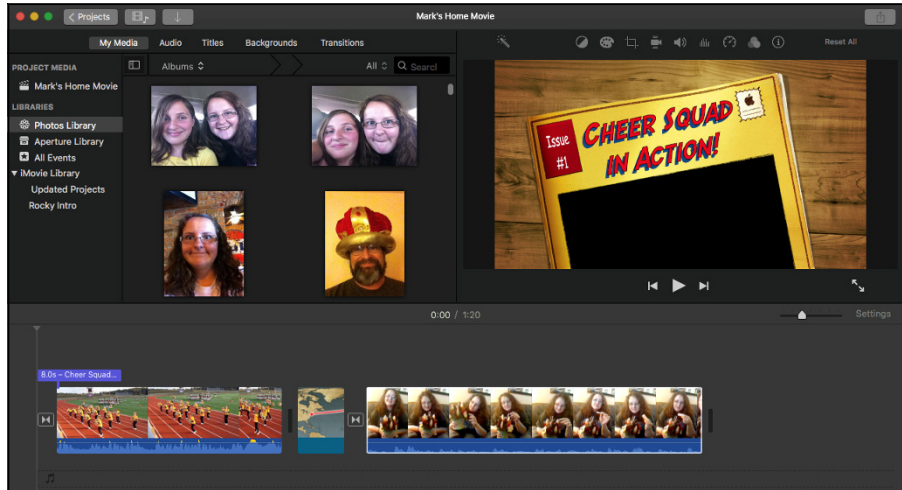
FIGURE 15-3:
Pulling still images from Photos is child's play.

Importing and adding audio from all sorts of places

You can pull in everything from Wagner to Weezer as both background music and sound effects for your movie. In this section, I focus on how to get those notes into iMovie and then how to add them to your movie by dragging them to the Project pane.

You can add audio from several sources:

» **Adding songs from iTunes and GarageBand:** Click the Audio media button in the Content Library, and click the iTunes entry in the sidebar to display the contents of your iTunes Library. Click the desired song in the scrolling list (which displays all your music). To display a playlist or Smart Playlist, click the Music drop-down list box above the waveform display. Figure 15-4 illustrates a playlist of Frank Sinatra I selected for this project. You can add a track to your movie by dragging any song entry from the list to the desired spot in the Project pane. (If you'll be sharing your video with the public, you should have permission to include all of the music tracks in your work.)

You're not limited to iTunes for ear candy, however. If you exported any original music you've composed in GarageBand to your iTunes Library, you can use those songs in your movie. Click the GarageBand button in the sidebar to view your GarageBand music, and then drag and drop to your heart's content.
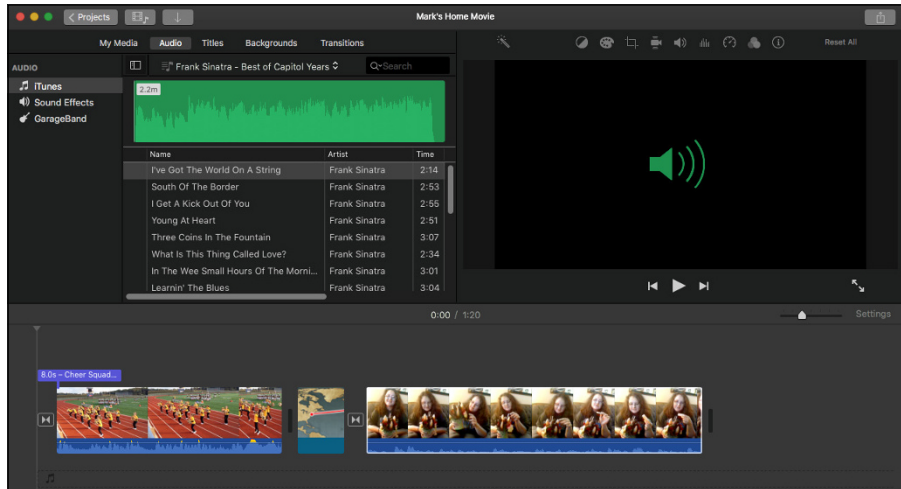
>> **Adding sound effects:** If you need the sound of a horse galloping for your Rocky Mountains vacation clips, click the Audio button in the Content Library; then click Sound Effects in the sidebar. iMovie includes several top-shelf audio effects that you can use in the sound-effects audio track in the Project pane. This way, you can add sound effects even when you've already added a background song. Again, to add a sound effect, drag it to the perfect spot in the Project pane.

If you have several gigabytes of music in your iTunes Library, it maybe more of a challenge to locate Janis Joplin's rendition of "Me and Bobby McGee," especially if she's included in a compilation. Let your supercomputer do the digging for you! Click the Search box above the track list (which carries the familiar magnifying-glass icon), and begin typing a song name. iMovie narrows down the song titles displayed to those that match the characters you type. To reset the search box and display all your songs in the Library or selected playlist, click the X icon that appears to the right of the box.

>> **Recording directly from a microphone:** Yep, if you're thinking voiceover narration, you've hit the nail on the head. Check out the nearby sidebar "Narration the easy way" for the scoop.

NARRATION THE EASY WAY

Ready to create that award-winning nature documentary? You can add voiceover narration to your iMovie project that would make Jacques Cousteau proud. In fact, you can record your voice while you watch your movie playing, allowing perfect synchronization with the action! To add narration, follow these steps:

1. **Press V to display the Voiceover controls below the Viewer.**

2. **Click the Voiceover Options button, and select the input device.**

    Today's iMac models sport stereo internal microphones, but you can always add a professional-grade USB microphone to your system for higher-quality recording.

3. **Drag the input volume slider to a comfortable level.**

4. **To mute the audio from your movie (which may make it easier to concentrate on your narration), select the Mute Project check box.**

5. **Click the desired spot within your movie in the Project pane where the narration should begin.**

6. **Click the Start Recording button.**

    iMovie prompts you with three tones before the playhead reaches the selected spot in your movie, so make sure that you begin speaking after the third tone.

7. **Watch the video while you narrate so that you can coordinate your narration track with the action.**

8. **Click the red Stop Recording button to stop recording.**

    iMovie adds an icon to the Project pane below the video with the voiceover.

9. **Click the Close button in the Voiceover controls.**

Building the Cinematic Basics

It's time to dive in and add the building blocks to create your movie. Along with the video clips, audio tracks, and still images you've imported, you can add Hollywood–quality transitions, optical effects, and animated text titles. In this section, I demonstrate how to elevate your collection of video clips into a real-life, honest-to-goodness movie.

Adding clips to your movie

You can add clips to your movie via the Project pane and Event/Project Library pane (refer to Figure 15-2). The Dynamic Duo works like this:

» **Project pane:** This pane displays the media you've added to your project so far, allowing you to rearrange the clips, titles, transitions, and still images in your movie.

» **Event/Project Library pane:** This pane acts as the source repository for all your clips, displaying them arranged by Event (the date when they were shot or imported) or by Project (media you've added to existing iMovie projects).

Typically, you add a clip to your movie from an Event. Follow these steps:

1. **Click the My Media button in the Content Library.**

2. **Click the All Events entry in the Libraries list.**

3. **Move the cursor across clips in the Event pane to watch a preview of the video.**

4. **When you've decided what to add to your project, add the entire clip or a selection:**

   ● *To select an entire clip:* Right-click the clip's thumbnail, and choose Select Entire Clip from the contextual menu that appears.

   ● *To select a portion of a clip:* Click and hold down the mouse button, and drag the cursor across the thumbnail. A yellow frame appears around your selection. To change the length of the selected video, hover the cursor over either end of the clip, and drag the handle that appears on either side. If you make a mistake while selecting video, click any empty space within the Event pane to remove the selection frame and try again.

5. **Drag the selection from the Event pane to the spot where it belongs in the Project pane.**

   Alternatively, you can press the E key.

Preview your work — and do it often.

iMovie includes a Play Full Screen button, which appears at the lower-right corner of the Viewer. (Alternatively, press ⌘+Shift+F or choose View➪ Play Full Screen to watch the selection.) Press the spacebar to pause, and press Esc to return to iMovie. You can also move the cursor across the filmstrip in the Project pane to browse your project quickly.

To play a selection from the beginning, press \ (the backslash). If you've ever watched a director at work on a movie set, you may have noticed that he or she constantly watches a monitor to see what things will look like for the audience. You have the same option in iMovie!

Marking clips

While you're watching video in the Event/Project Library pane, you may decide that a certain clip has a favorite scene or that another clip has material you don't want, such as Uncle Ed's shadow puppets. (Shudder.) iMovie features Favorite and Rejected frames, allowing you to view and use your best camera work (and ignore the worst stuff).

To mark a great video clip as a Favorite, select and right-click a range of frames or the entire clip in the Event/Project Library pane; then choose the Favorite item from the contextual menu (or press F). To mark clips that are subpar, select the offending clip in the Event/Project Library pane, and press Delete (or right-click it and choose Reject from the contextual menu). Clips marked as Favorites have a green line, and clips marked as Rejected have a red line.

You can use the Search Filter option to specify which types of marked clips are shown. Click the pop-up menu next to the Search field at the top of the Event/Project Library pane. Your options include displaying all clips, displaying only Favorite clips, hiding Rejected clips, or displaying only Rejected clips.

If you decide that a Rejected clip isn't so bad after all or that a Favorite really isn't your best work, no problem. Unmark any selected Favorite or Rejected scene in the Event/Project Library pane by choosing Mark⇨Unrate (or pressing U).

Removing clips from your movie

Don't like a clip? Bah. To banish a clip from your movie, follow these steps:

1. **Click the offending clip in the Project pane to select it.**

   Alternatively, you can select a portion of a clip by holding down the mouse button (or maintaining pressure on the trackpad) and dragging the selection box that appears.

2. **Press Delete.**

   This step deletes the clip from the Project pane, but the clip is still available if you choose All Events or the iMovie Library from the Libraries list.

If you remove the wrong clip, don't panic. Instead, use iMovie's Undo feature (press ⌘+Z) to restore it.

Reordering clips in your movie

If Day One of your vacation appears after Day Two, you can easily reorder your clips and stills by dragging them to the proper space in the Project pane. When you take your finger off the mouse (or trackpad), iMovie automatically moves aside the rest of your movie with a minimum of fuss and bother.

Editing clips in iMovie

If a clip has extra seconds of footage at the beginning or end (as it should, to ensure that you get all the action), you don't want that superfluous stuff in your masterpiece. Our favorite video editor gives you the following basic functions:

- » **Crop:** Removes unwanted material from a video clip or still image
- » **Rotate:** Rotates a clip or image on its center axis
- » **Trim:** Trims frames from a video clip

Before you can edit, however, you have to select a section of a clip:

1. **Click a clip or image in the Project pane (where changes you make are specific to this project) or the Event pane (where edits you make are reflected in any project that uses that footage).**

    iMovie displays the clip or image in the monitor.

2. **To select the entire clip or image, click it.**

3. **Drag the cursor across the thumbnail to select the section of the media you want to edit.**

    Some editing functions, such as Crop and Rotate, automatically apply to the entire clip.

    The selected region is surrounded by a yellow frame. You're ready to edit that selected part of the clip.

    TIP

4. **Make fine changes to the selected section by dragging the handles that appear when you move the cursor to the beginning or end of the selection.**

- *To crop:* Click the Crop button on the toolbar at the top of the Viewer. Drag the edges of the frame, using the handles to select the section you want to keep. To preview your selection, click the Play button that appears when you move the cursor into the Viewer pane. When you're ready, click the Done button (which bears a check mark), and everything but the selected region is removed.

- *To rotate:* Click the Crop button. Now click one of the two rotation buttons that appear at the right side of the Viewer (both of which carry a box and curved-arrow icon). Each click rotates the media 90 degrees in the indicated direction. Click the Done button (with the check mark) when the clip or image is properly oriented.

- *To trim:* Right-click the selection, and choose Trim to Playhead from the contextual menu. iMovie removes the frames up to the playhead position from the selected video.

Transitions for the masses

Many iMovie owners approach transitions as visual bookends, merely acting as placeholders that appear between video clips. Nothing could be further from the truth, though, because judicious use of transitions can make or break a scene. Which would you prefer after a wedding ceremony: an abrupt, jarring cut to the reception or a gradual fadeout to the reception?

REMEMBER

Because today's audiences are sensitive to transitions, you should try not to over-use the same transition. Pick two or three that match the mood of your film and the scenes between which you're transitioning. Also, carefully weigh the visual impact of a transition. You may even decide that having no transition is the most effective. (Directors call the deliberate lack of a transition a *jump cut.*)

iMovie includes a surprising array of transitions, including old favorites (such as Fade In and Dissolve) and some nifty stuff that you may not be familiar with (such as Cube and Page Curl). To display your transitions collection (see Figure 15-5), click the Transitions entry in the Content Library.

To see what a particular transition looks like, click the thumbnail to select it, and move the cursor over the thumbnail to display the transition in the Viewer.

Adding a transition couldn't be easier: Drag the transition from the thumbnail list, and drop it between clips or between a clip and a still image in the Project pane. In iMovie, transitions are applied in real time.
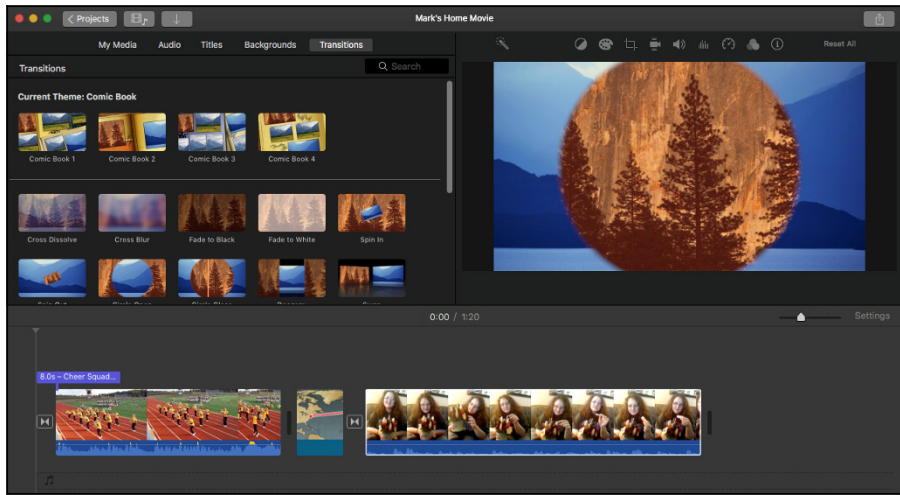
FIGURE 15-5:
Add transitions
for flow between
clips in iMovie.

Even Gone With the Wind had titles

The next stop on the iMovie Hollywood Features Tour is the Titles list, shown in Figure 15-6. You find it by clicking the Titles entry in the Content Library. You can add a title with a still image, but iMovie also includes everything you need to add basic animated text to your movie.
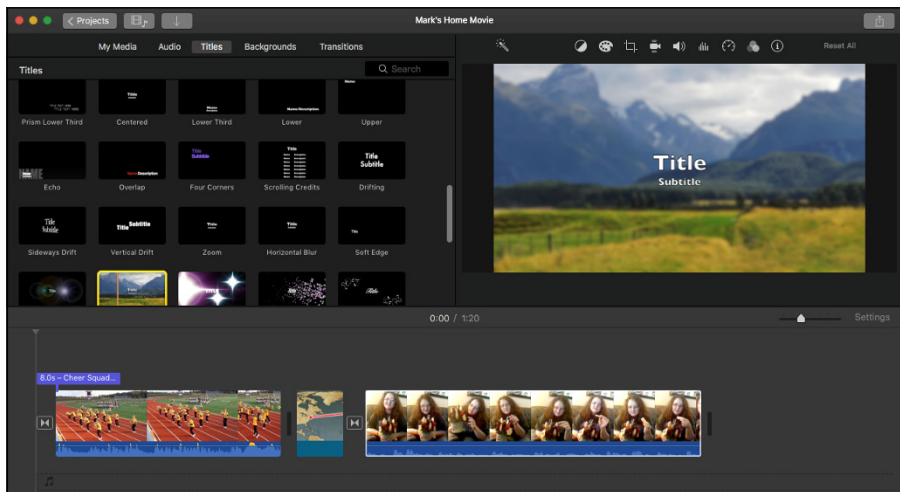
FIGURE 15-6:
Add titles for your
next silent film.

Most of the controls you can adjust are the same for each animation style. You can change the font, the size of the text, and the color of the text. To add a title manually, follow these steps:

1. **Select a Title animation thumbnail from the Titles list, and drag it to the desired spot in the Project pane.**

   Note that the title is previewed in the Viewer as well as in the Project pane.

2. **Click the title strip in the Project pane to select it.**

3. **Click the Title Settings button (which bears a capital-*T* symbol) in the toolbar to make any changes in the fonts or text attributes.**

4. **Click the text box within the Viewer to delete the default text and type your own titles.**

5. **Click the Done (checkmark) button to save your changes.**

6. **Click the Play button in the Viewer to preview your title.**

   iMovie displays a preview of the effect in the Viewer with the settings you choose.

Adding maps and backgrounds

iMovie includes easy-to-use animated maps — think Indiana Jones traveling by airplane from place to place — and static backgrounds that can be used with your titles. To display them, click the Backgrounds entry in the Content Library.

To use an animated map, follow these steps:

1. **Drag one of the globe or map thumbnails to the Project pane.**

2. **When the globe or map is created, click it in the Project pane to select it.**

3. **Click the Map Settings button (which bears a globe icon) and then click the Start Location button (and, optionally, the End Location button) to enter the start and stop points for the animation.**

   Type a city or place name to see your choices. (Heck, you can even type an airport code or decimal coordinates to specify the spot.)

4. **Click Done.**

   Watch as iMovie animates your location (or your trip) in seconds!

To add a static background from the browser, drag it to the desired spot within the Project pane.

Creating an Honest-to-Goodness Movie Trailer

Yes, friends, you read that correctly: iMovie includes a Trailer feature that can turn your film clips into a Hollywood–class preview, complete with genre transitions and background music.

To create a trailer project, follow these steps:

1. **Choose File ➪ New Trailer (or click the Create New button and choose Trailer from the pop-up menu).**

2. **Click a Movie Trailer thumbnail to select it.**

   If you hover the cursor over the thumbnail and click the Play icon that appears, iMovie displays a nifty preview of the trailer style you selected. You can click different thumbnails to preview their look before you decide. Naturally, you want to choose a trailer style that most closely matches the mood you want to project with your movie.

Note that each trailer has a suggested number of cast members. This number reflects the number of people who will appear in the clip placeholders during the editing process. (More on this in a moment.)

3. **Click Create.**

   iMovie replaces the Project pane with the Trailer pane, as shown in Figure 15-7. You can fine-tune your trailer with the Outline, Storyboard, and Shot List tabs:

   - *Outline:* On the Outline tab, you can edit the titles used in the trailer, as well as pop-up lists of information, such as the names of the star(s) and the logo style you want for your "studio" at the beginning of the trailer. To change a text field, click it and type the new text. The changes you make in the Trailer display appear in the Viewer in real time.

   - *Storyboard:* When you complete your edits to the titles, click the Storyboard tab. Now you can edit the text for each transition: Simply click the text to display the edit box, and type. You can also drag clips from the Event pane (or from a Finder window) to fill the storyboard's placeholders for video clips. To delete a clip from the storyboard, click it to select it, and press Delete.

     TIP To preserve the look and feel of the trailer storyboard, try to match your clips with the description and suggested activity indicated by the placeholder. (In other words, don't stick a wide-angle video clip of the family dog cavorting in the yard into a placeholder marked Closeup. You get the idea.)

     TIP The Storyboard tab may not look like an editing timeline, but you can move the cursor anywhere within the storyboard to preview your trailer. The playhead indicator appears wherever the cursor appears, allowing you to watch the clip or transition it's resting on. You'll soon be sweeping the cursor to the left or right to move through each section of your trailer.

   - *Shot List:* For an overall listing of each clip required for the full trailer, click the Shot List tab. On this tab, clips are organized by type. All the action clips appear in one section, for example, and all the landscape and close-up clips are grouped as well. If necessary, you can also add, delete, or swap video clips from the Shot List.

To preview your trailer in its entirety, click the Play button at the bottom of the Viewer (or the Play Full–Screen button at the far–right end of the Viewer controls). Naturally, any storyboard placeholder you haven't filled with a clip displays only the placeholder.

Note that iMovie displays your trailer when you click the Updated Projects entry in the Libraries list, and it now appears in the Event/Project Library pane.

I bet that all those hard–working Hollywood video editors are fuming about how easy it is to create a trailer in iMovie!
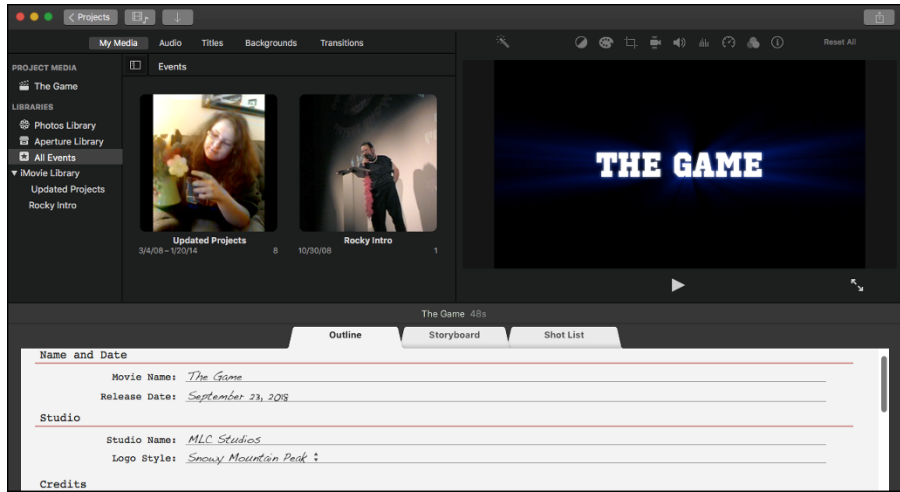
Sharing Your Finished Classic with Others

Your movie is complete, and iMovie has saved it automatically to your drive. Now you're wondering where to go from here. Select your movie in the Event/Project Library pane, and click Share in the top-right corner of the window. iMovie can unleash your movie on your unsuspecting family and friends (and even the entire world) in several ways:

- » **iTunes:** Send your movie to your iTunes Library as a movie.

- » **Theater:** Add your movie to the iMovie Theater on your iMac.

- » **YouTube/Facebook/Vimeo:** Why, certainly you can send your iMovie directly to any of these websites! Can it get any more convenient than that? (I think not.)

- » **File:** Create a copy of your movie on your hard drive in one of four resolutions (from Standard Definition to High Definition).

- » **Email:** Send your movie as an email message attachment.

  When you choose a sharing option, iMovie displays the video quality for the option and makes automatic changes to the movie attributes. (Choosing Email, for example, reduces the finished movie as far as possible in file size.)

  If you're worried about permanently reducing the quality of your project by sharing it in a smaller size, fear not! When you choose a sharing option to export your movie, your original project remains on your hard drive, unchanged, so you can share a better-quality version at any time in the future.

IN THIS CHAPTER

» **Navigating the GarageBand window**

» **Adding tracks and loops to your song**

» **Repeating loops and extending your song**

» **Building arrangements**

» **Adding effects to instruments**

» **Exporting your work across the globe**

» **Burning your song to an audio CD**

Chapter **16**

Recording Your Hits with GarageBand

D o you dream of making music? I've always wanted to join a band, but I never devoted the time to learning to play the guitar. You know the drill: Rock stars struggle for years to master an instrument, practice for untold hours, and memorize chords. Wait a second; I almost forgot. You don't need to do *any* of that now!

Apple's GarageBand lets a musical wannabe (like yours truly) make music with an iMac — complete with a driving bass line, funky horns, and perfect drums that never miss a beat. In fact, the thousands of prerecorded loops on tap in this awesome application allow you to design your music to match that melody running through your head, from techno to jazz to alternative rock.

This chapter explains everything you need to know to create your first song. I also show you how to import your hit recording into iTunes so that you can listen to it on your iPhone with a big silly grin on your face (as I do) or add it to your next iMovie project or Photos slideshow.

Don't be too smug when you think of all that practicing and hard work you missed out on. What a shame!

Shaking Hands with Your Band

As you can see in Figure 16-1, the GarageBand window isn't complex, and that's good design. In this section, I list the most important controls so you know your Play button from your Loop Browser button.

New Track
Smart Controls
Rewind/Forward
Go to Beginning
Play
Time/Tempo
Media Browser
Loop Browser
Volume slider

Track list   Playhead   Timeline

Your music-making machine includes:

» **Track list:** In GarageBand, a *track* is a discrete instrument you set up to play one part of your song. A classical piece for string quartet, for example, would have four tracks: one each for violin, viola, cello, and bass. The Track list contains all the tracks in your song, arranged so that you can easily see and modify them, like the rows in a spreadsheet. A track begins in the list,

stretching out to the right all the way to the end of the song. In the top-left corner of Figure 16-1, I already have one track defined: a Classic Electric Piano.

» **Timeline:** This scrolling area holds the loops (see the next bullet) that you add, compose, or record, allowing you to move and edit them easily. When a song plays, the Timeline scrolls to give you a visual look at your music. (Bear with me; you'll understand that cryptic statement in a page or two.)

» **Loop:** *Loops* — prerecorded clips of an instrument being played in a specific style and tempo — are the building blocks of your song. Most are five seconds in length, and others are even shorter. You can drag loops from the Loop Browser to a track and literally build a bass line or guitar solo. Loops can also be repeated within a track, which I discuss further in a page or two. (Note that loops haven't been added in Figure 16-1; you'll see them later.)

» **Playhead:** This vertical line is a moving indicator that shows you the current position in your song while it scrolls by in the Timeline. You can drag the playhead to a new location at any time. The playhead also acts like the insertion cursor in a word processing application: If you insert a section of a song or a loop from the Clipboard, it appears at the playhead's current location. (More on copying and inserting loops later, so don't panic.)

» **New Track button:** Click this button to add a new track to your song.

» **View/Hide Loop Browser button:** Click the button with the loop icon to display the Loop Browser on the right side of the window (as shown in Figure 16-1); click it again to close it. You can see more of your tracks' contents at one time without scrolling by closing the Loop Browser.

» **View/Hide Media Browser button:** Click this button (which bears icons of a filmstrip, camera, and musical note) to display the Media Browser on the right side of the window; click it again to close it (and see more of your tracks). Use the Media Browser to add media (in this case, digital song files or movies) to your GarageBand project for use as ringtones.

» **Go to Beginning button:** Clicking this button returns the playhead to the beginning of the Timeline. (Note that this button appears only when the playhead isn't already at the beginning of the Timeline.)

» **Rewind/Forward One Measure buttons:** To move quickly through your song by jumping to the previous or next measure, click the corresponding button.

» **Play button:** Hey, old friend! At last, here's a control you've probably used countless times before — and it works just like the same control within iTunes or on your audio CD player. Click Play, and GarageBand begins playing your entire song. Notice that the Play button turns green. To pause the music, click Play again; the button loses that sexy green sheen, and the playhead stops.

Time/Tempo display: This cool-looking LCD display shows you the beats and time measurements for the current playhead position.

You can click the drop-down menu at the right of the display to switch between beats and time.

Volume slider: Here's another familiar face. Just drag the slider to raise or lower the volume.

TIP

More controls are scattered around the GarageBand window, of course, but these are the main controls used to compose a song, which is the next stop!

Composing Made Easy

In this section, I cover the basics of composition in GarageBand, working from the beginning. Follow along with this running example:

1. **Click the GarageBand icon on the Dock.**

    This icon looks like an electric guitar and an amplifier.

2. **If GarageBand opens a window for a previous project, close it by clicking the Close button in each window.**

    GarageBand displays the top-level New Project dialog, shown in Figure 16-2.

3. **Click New Project in the list on the left side of the window.**

4. **Click the Empty Project icon; then click the Choose button.**

   GarageBand displays the Track Type dialog.

5. **Click the Software Instrument icon.**

   In this chapter, I focus on using software instrument tracks, which are the easiest for a nonmusician to use (and don't require you to play any notes on an instrument).

6. **Click the Create button.**

   You see the window shown in Figure 16-1. Now you're ready to add tracks.

Adding tracks

Although I'm not a musician, I'm a music lover. I know that many classical composers approached a new work the same way you approach a new song in Garage-Band: by envisioning the instruments they wanted to hear. (I imagine that Bach and Beethoven would've been thrilled to use GarageBand, but I think they did a pretty decent job with pen and paper.)

If you've followed along to this point, you've noticed these things:

» **A Musical Typing keyboard in your GarageBand window:** You can record the contents of a software instrument track by playing the Musical Typing keyboard layout. (As you might imagine, this feature isn't the best solution.) If you're a musician, the best method of recording your own notes is using a MIDI instrument, which I discuss later in the chapter. You can display the Musical Typing keyboard window at any time by pressing ⌘+K. If the keyboard window is onscreen, and you don't need it, banish it by pressing ⌘+K or by clicking the Close button in the keyboard window.

» **The example song with only one empty track:** If you want to write the next classical masterpiece for Classic Electric Piano, that's fine. (I'm a big fan of this instrument, so I'll use this track later in the example.) Note that you can always delete a track, however. Click the offending track to select it, and choose Track ➪ Delete Track.

You can use five kinds of tracks in GarageBand:

» **Software instrument tracks:** These tracks aren't audio recordings. Rather, they're mathematically precise algorithms that your iMac *renders* (builds) to fit your needs. If you have a MIDI instrument connected to your laptop, you can create your own software instrument tracks. (More on MIDI instruments later in this chapter.)

>> **Real instrument tracks:** These tracks are actual audio recordings, such as your voice or a physical instrument without a MIDI connection. (Think microphone.)

>> **Electric Guitar and Bass tracks:** GarageBand includes a real instrument track especially made for either an electric guitar or bass. This track allows you to use different amplifiers and *stompboxes* (those effect pedals that electric guitarists are always poking with their feet to change the sound of their instruments).

>> **Drummer track:** I call this feature "Ringo in a Box" — a drum track that's automatic, yet *very* configurable and easy to customize. You have presets galore, so you can quickly jump into different drum sets and playing styles.

>> **Movie tracks:** The video sound track appears if you're *scoring* (adding music to) an iMovie movie. You also get a cool companion video track that shows the clips in your movie. (For more on this topic, see the "Look, I'm John Williams!" sidebar later in this chapter.)

It's time to add a software instrument track of your very own. Follow these steps:

1. **Press ⌘+Option+N (or click the New Track button).**

   GarageBand displays the New Track sheet.

2. **Click the Software Instrument icon and then click Create.**

3. **Click the new track (the second in the list) to select it.**

4. **In the Library pane on the left side of the window, choose the general instrument category you want.**

   When you choose Guitar, you get a second list of choices, still in the Library pane.

5. **From the second list, choose your specific style of weapon, such as Classic Clean for a simple playing style.**

   Figure 16-3 shows the new track that ends up in your list when you follow these steps. Now you're ready to rock with both the original electric piano and an electric guitar! If you like, you can hide the Library by clicking the Show/Hide Library button in the top-left corner of the window.

GarageBand includes a Songwriter project (also available from the top-level New Project dialog; refer to Figure 16-2). When you choose a Songwriter project, GarageBand presents a full set of instrument tracks, plus a real instrument track for your voice. You're ready to start adding loops and recording your own voice!
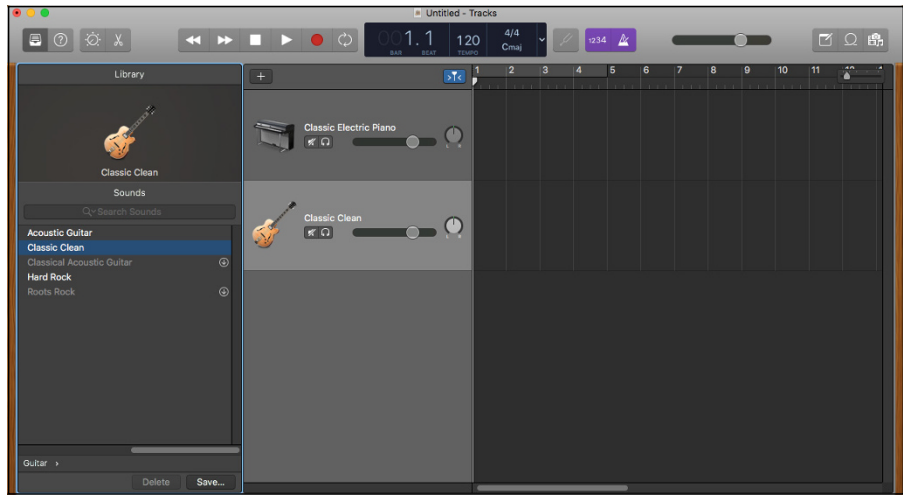
FIGURE 16-3:
The new
track appears,
ready to rock.

Choosing loops

When you have a new empty track, you can add loops to build your song from the Loop Browser. Apple gives you thousands of loops to choose among, in mind-boggling variety. Click the Loop Browser button (which bears a loop symbol, somewhat like a roller coaster; refer to Figure 16-1) to display your collection, as shown in Figure 16-4.
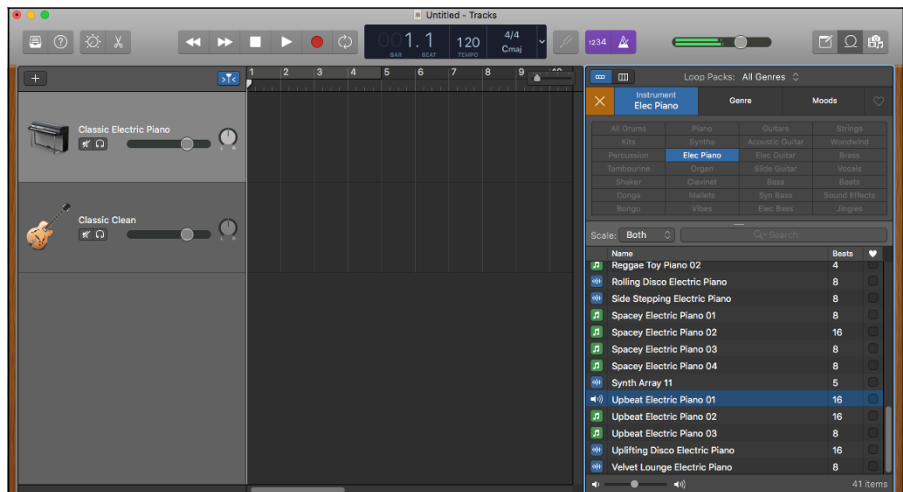
FIGURE 16-4:
The Loop
Browser is a great
hangout for any
musician.

Looking for just the right loop

The running project already includes two tracks but no loops yet. (Refer to Figure 16-3.) Just for grins, add a Classic Electric Piano loop. Follow these steps to search the loop library for just the right rhythm:

1. **In the Loop Browser, click the Instrument tab; then click the button that corresponds to the instrument you're using.**

   I chose the Elec Piano button.

   A list of beats appears in the pane at the bottom of the Loop Browser window. (Refer to Figure 16-4.)

2. **Click one of the loops that has a green musical-note icon.**

   Go ahead; this is where things get fun! GarageBand begins playing the loop nonstop, allowing you to get a feel for how that particular loop sounds.

   REMEMBER The examples I chose for this chapter are software instruments, which are identified by a green musical-note icon. (If you have a MIDI instrument that you play, have at it with real instrument loops.)

3. **Click another entry in the list, and the application switches to that loop.**

   Now you're beginning to understand why GarageBand is so cool for both musicians and the note-impaired. It's like having your own band, with members who never get tired, never miss a beat, and play whatever you want while you're composing. (Mozart would've *loved* it.)

   TIP If you want to search for a particular instrument, click the Search box near the top of the Loop Browser, and type the text you want to match. GarageBand returns the search results in the list.

4. **Scroll down the list, and continue to sample the loops until you find one that fits like a glove.**

   For this reporter, it's Upbeat Electric Piano 01. (Refer to Figure 16-4.)

5. **Drag the entry to your Classic Electric Piano track, and drop it at the beginning of the Timeline (as indicated by the playhead).**

   Your window looks like Figure 16-5.

TIP If you want that same beat throughout the song, you don't need to add any more loops to that track. (More on extending that beat in the next section.) If you want the piano's beat to change later in the song, however, add a second loop after the first one in the *same* track. For now, leave this track as is.
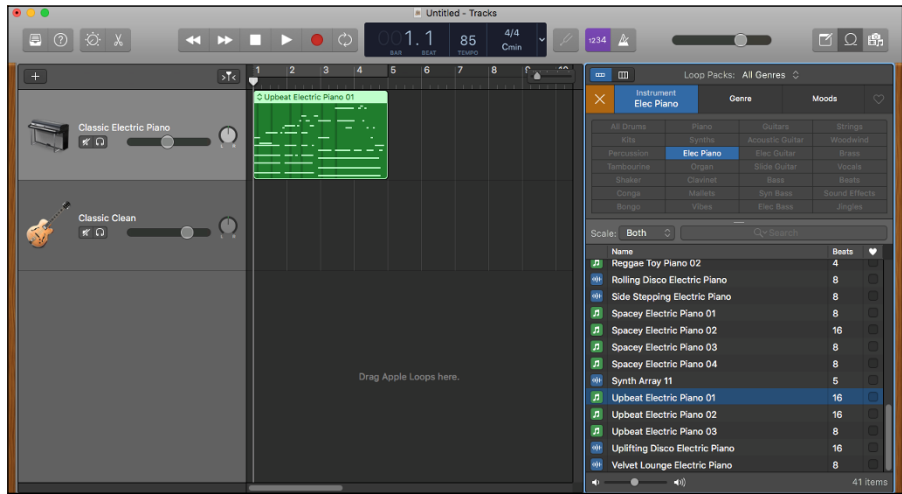
FIGURE 16-5:
A track with a loop added.

Whoops! Did you do something you regret? Don't forget that you can undo most actions in GarageBand by pressing the old standby ⌘+Z immediately afterward.

REMEMBER

Second verse, same as the first

When you compose, you can add tracks for each instrument you want in your song:

» Each track can have more than one loop.

» Loops *don't* have to start at the beginning; you can drop a loop anywhere in the Timeline. You may prefer to start a song with just your drum kit, for example, with your bass line beginning some time later (for a funkier opening).

You put loops on separate tracks so that they can play simultaneously on different instruments. If all your loops in a song are added on the same track, you hear only one loop at a time, and all the loops use the same software instrument. By creating multiple tracks, you give yourself the elbow room to bring in the entire band at the same time. It's über-convenient to compose your song when you can see each instrument's loops and where they fall in the song.

TECHNICAL STUFF

Click the Reset button in the Loop Browser (which carries an X icon) to choose another instrument or genre category.

TIP

Resizing, repeating, and moving loops

If you haven't already tried listening to your entire song, try it now. You can click Play at any time without wreaking havoc on your carefully created tracks. Sounds pretty good, doesn't it?

But wait: I bet that the song stopped after about five seconds, right? (You can watch the passing seconds using the Time/Tempo display or the second rule that appears at the top of the Timeline.) I'm sure that you want your song to last more than five seconds! After the playhead moves past the end of the last loop, your song is over. Click Play again to pause the playback; then click the Go to Beginning button (which appears next to the Play button) to move the playhead back to the beginning of the song.

The music stops so soon because your loops are only so long. As mentioned earlier, most loops are five seconds in length, and others are even shorter. To keep the groove going, you must do one of three things:

>> **Resize the loop.** Hover the cursor over the left or right edge of most loops, and an interesting thing happens: The cursor changes to an icon representing the left or right edge of the loop, with arrows pointing both ways. That's your cue to click and drag. As you drag, some loops expand to fill the space you're

making, repeating the beats in perfect time. To resize a loop, drag the loop's edge as long as you like.

» **Repeat the loop.** Depending on which loop you chose, you may find that resizing it doesn't repeat the measure. Instead, the new part of the loop is dead air. In fact, the length of many loops is one to five seconds. If you move the cursor over the *corner* of a loop that you want to extend, however, the cursor it turns into a vertical line with a circular arrow, which tells you that you can click and repeat the loop. GarageBand adds multiple copies of the same loop automatically for as far as you drag the loop. In Figure 16-6, you can see how I repeated the Upbeat Electric Piano 01 loop.
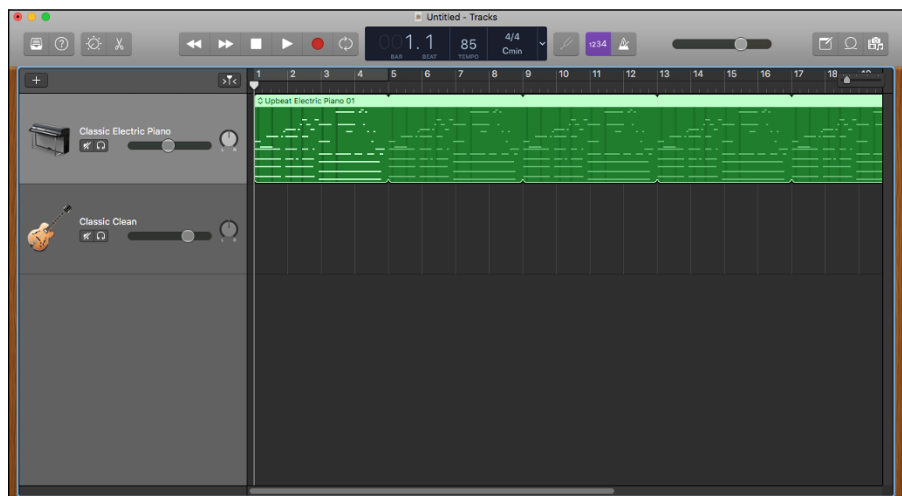
FIGURE 16-6:
By repeating a loop, you can keep the notes flowing.

» **Add a new loop.** You can switch to a different loop to change the music's flow. Naturally, the instrument stays the same, but there's no reason why you can't use a horn-riff loop in your violin track (as long as it sounds good played by a violin)! To GarageBand, a software instrument track is compatible with any software instrument loop you add from the Loop Browser, as long as that loop is marked with your old friend the green musical note. You'll find dozens of these software instrument loops available within GarageBand.

TIP

You can also use the familiar Cut (⌘+X), Copy (⌘+C), and Paste (⌘+V) editing keyboard shortcuts to cut, copy, and paste loops both on the Timeline and from track to track. And you can click a loop and drag it anywhere.

REMEMBER

A track doesn't have to be filled for every second with one loop or another. Most of my songs have repeating loops with empty space between them as different instruments perform solo.

Each track can be adjusted so you can listen to the interplay between two or more tracks or hear how your song sounds without a specific track:

>> **Mute a track.** Click the tiny speaker button below the track name in the list, and the button turns blue to indicate that the track is muted. To turn off the mute, click the speaker icon again.

>> **Change the volume or balance of a track.** Use the mixer that appears next to the track name. This feature comes in handy if you want an instrument to sound louder or confine that instrument to the left or right speaker.

Using the Arrangement track

GarageBand includes another method that you can use to monkey with your music: Use the Arrangement track to define (or *mark*) specific sections of a song, allowing you to reorganize things by selecting, moving, and copying entire sections. You're probably familiar with a song's chorus (or refrain) and how often it appears during the course of the tune. With the Arrangement track, you can reposition the entire chorus within your song, carrying all the loops and settings within the chorus along with it. If you need another chorus, just copy that arrangement.

To use the Arrangement track, display it by choosing Track➪Show Arrangement Track. The Arrangement track appears as a thin strip at the top of the Track list. Click the Add Marker button (the circular button bearing a plus sign) at the right end of the Arrangement track, and a new marker appears, as shown in Figure 16-7. You can drag the right end of the Arrangement marker to the left or right to resize it, or drag it to move it anywhere in the song.

TIP

To rename an Arrangement marker, click the current name to display the menu of existing marker names, click Rename, type a new name for the marker in the text box, and press Return. (You can also choose one of the existing names from the menu.) In Figure 16-7, the first marker is named Intro.
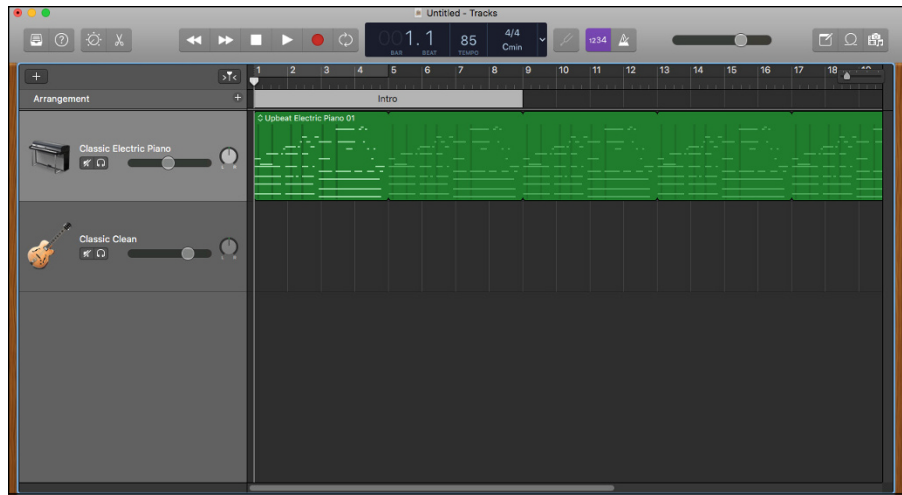
Now, here's where Arrangement markers get *cool:*

>> **To move an entire Arrangement marker:** Click anywhere on the marker's title bar (except the title itself), and drag it anywhere you like in the song. (You can hold down Shift while clicking multiple contiguous markers to select more than one.)

>> **To copy an Arrangement marker:** Hold down the Option key, and drag the desired marker's title to the spot where you want the copy to appear.

>> **To empty the regions in an Arrangement marker:** Select it, and press the Delete key. To delete the marker, press Delete a second time.

Tweaking the settings for a track

You don't think that bands like Rush and U2 just "play and walk away," do you? No, they spend hours after their recording session is over, tweaking their music in the studio and on the mixing board until every note sounds just as it should. You can adjust the settings for a track, too. The tweaks you can perform include adding effects (pull a Hendrix by adding echo and reverb to your electric guitar track) and kicking in an equalizer (for fine-tuning the sound of your background horns).

To make adjustments to a track, follow these steps:

1. **Click the desired track in the track list to select it.**

2. **Click the Smart Controls button in the top-left corner of the GarageBand window (labeled in Figure 16-1).**

   You can also press B to hide or display the Smart Controls pane.

3. **Click the Controls tab to show the settings shown in Figure 16-8.**

   Note that the settings you see will vary according to the type of instrument track you've selected.

FIGURE 16-8:
Finesse your tune by tweaking the sound of a specific track.

4. **Click the knob control or slider for a specific effect to change the sound.**

   TIP

   GarageBand offers a Visual Equalizer window that you can use to create a custom equalizer setting for each track. In the Smart Controls pane, click the EQ button. To change the Bass, Low Mid, High Mid, or Treble setting for a track, click and drag the equalizer waveform in the desired direction. Yep, you can do this while your song is playing, so you can use both your eyes *and* ears to define the perfect settings!

5. **Click the Smart Controls button (or press B) to return to GarageBand.**

Time for a Mark's Maxim:

AUTHOR SAYS

Save your work often **in GarageBand. One power blackout, and you'll never forgive yourself. When you're pleased with the progress you've made in your project, press ⌘+S, and enjoy the peace of mind (and use Time Machine with an external backup drive for good measure).**

JOIN IN AND JAM . . . OR TALK!

GarageBand is even more fun if you happen to play an instrument! (And yes, I'm envious, no matter how much I enjoy the techno and jazz music I create. After all, take away my iMac, and I'm back to playing the kazoo — at least until I absorb all the Learn to Play lessons for the guitar. More on Learn to Play in the next sidebar.)

Most musicians use MIDI instruments called *controllers* to play music on the computer. That pleasant-sounding acronym stands for *Musical Instrument Digital Interface.* A wide variety of MIDI controllers is available these days, from traditional MIDI keyboards to more exotic fun, such as MIDI saxophones. Apple sells a 37-key MIDI keyboard from iRig for around $150. Alternatively, the highly recommended Casio CTX-3200 offers 61 keys, and it's available online for about $130. (Both keyboards connect to your trusty iMac Pro via a USB cable.)

If you have an older instrument with traditional round MIDI ports — you'll never confuse them with USB connectors — you need a USB-to-MIDI converter. You can find this type of converter for around $50 on websites that cater to musicians.

You can also connect microphones or traditional electric instruments into your iMac for use with GarageBand. You'll need an audio interface, which feeds the signal from these traditional sources into your laptop through the USB port.

When your instrument is connected, you can record tracks with any software instrument. Create a new software instrument track as I demonstrate in this chapter, select it, and play a few notes. Suddenly, you're playing the instrument you chose! If nothing happens, check the MIDI status light in the Time display to see whether it blinks with each note you play. If not, check the installation of your MIDI connection, and make sure that you've loaded any required drivers, as well as your MIDI settings within QuickTime and the input settings in the System Preferences Sound pane.

Drag the playhead to a beat or two before the spot in the Timeline where you want your recording to start. This gives you time to match the beat. Then click the big red Record button, and start jamming! When you're finished, click the Play button to stop recording.

Sharing Your Songs

When you finish your song, you can play it whenever you like through Garage–Band. But then again, that isn't really what you want, is it? You want to share your music with others on an audio CD or download it to your iPhone so that you can enjoy it yourself while walking through the mall.

HEY, GARAGEBAND, TEACH ME HOW TO PLAY!

In the early days of GarageBand, you were limited to creating music. And if you were a nonmusician like yours truly, GarageBand had no practical use as a tool for teaching yourself how to *play* an instrument.

Ah, but Apple's addition of Learn to Play actually turns GarageBand into your private video tutor for basic piano and guitar! Click the Learn to Play entry in the list on the left side of the New Project dialog (refer to Figure 16-2) to display your guitar and piano lessons. Right out of the box, you have a solid introduction to both instruments. You can also download more lessons — which cover more-advanced topics such as fingering and chords — for each instrument from the Lesson Store (available from the New Project dialog). Your onscreen instructor can even record what you play.

In fact, GarageBand includes the How Did I Play feature, which can pinpoint the portions of a lesson you played correctly and which spots in the song you need to work on. (I'm told that musicians call such trouble spots *flubs.* Having no musical talent whatsoever, anything I attempted to play would be one giant flub.) To try How Did I Play, open your favorite lesson, click the Record button (with the red dot in the center), and begin playing. To stop recording, click the Play button. Now you can see the portions of the song you played correctly (where the notation area is green) and spots where you . . . um, flubbed (the notation area turns red). Oh, and make sure that your instrument is in tune, because even correct notes played on an instrument that's out of tune produce errors for How Did I Play!

If you find the free Learn to Play lessons to be valuable, you can move up to the Artist lessons, which are taught by famous musicians, including favorites of mine such as Alex Lifeson, John Fogerty, and Sting (who actually teaches you how to play "Roxanne")! Some of the artist lessons that address learning songs and instruments are now free as well.

iTunes to the rescue! As with the other digital lifestyle applications I cover in this book, GarageBand can share the music you make through the digital hub that is your iMac. (You'll become an iTunes power user in Chapter 13.)

Creating song files in iTunes

You can create an AAC song file from any project in just a few simple steps:

1. **Open the project you want to share.**

2. **Choose Share ➪ Song to iTunes.**

    GarageBand displays the settings you see in Figure 16-9.
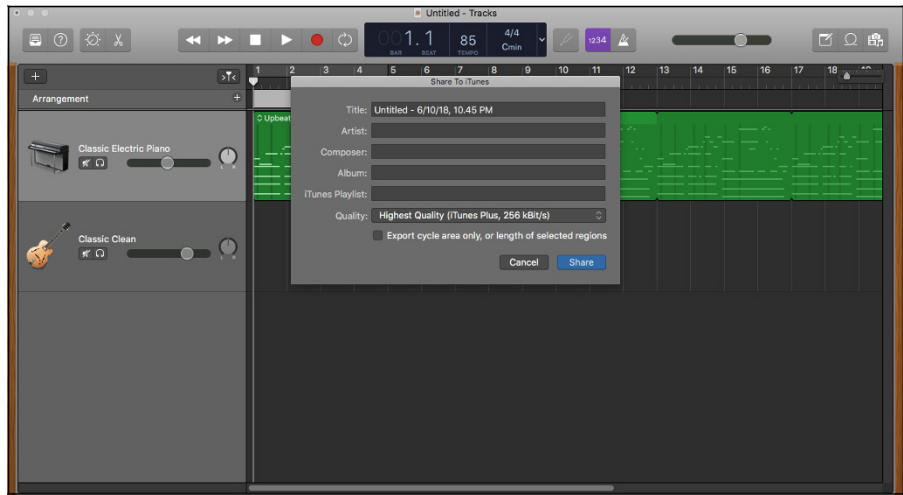
3. **Click each of the text boxes to type the title, artist name, composer name, album name, and iTunes playlist for the tracks you create.**

   You can leave the defaults as they are if you prefer. Each track you export is named after the song's name in GarageBand.

4. **From the Quality pop-up menu, choose the proper audio quality for the finished file.**

   The higher the quality, the larger the file.

5. **Click the Share button.**

   After a second or two of hard work, your iMac opens the iTunes window and highlights the new (or existing) playlist that contains your new song.

Exporting a project

Sometimes, you'd like to create an audio file from a GarageBand project, but you'd rather not automatically add that song to your iTunes Music Library. (Perhaps you now have audio proof that a family member does indeed snore.) In that case, you can always export a song straight to your internal drive by following these steps:

1. **Open the project you want to export.**

2. **Choose Share ➪ Export Song to Disk.**

3. **Type a name for the audio file.**

   Click the button next to the Save As text box to select a specific location where the file should be created, or choose a preset from the Where pop-up menu.

4. **From the Quality pop-up menu, choose the desired audio quality.**

   As with sharing a song to iTunes, the higher the quality, the larger the file.

5. **Click Export.**

Burning an audio CD

Ready to create a demo CD with your latest GarageBand creation? If your iMac has an internal or external optical drive, follow these steps to burn an audio disc from within GarageBand:

1. **Open the song you want to record to disc.**

2. **Load a blank disc into your optical drive.**

   If you see a dialog requesting that you choose an action, click the Ignore button.

3. **Choose Share ⇨ Burn Song to CD.**

Note that the CD you create has only one track. To include more tracks on the CD, share the song to your iTunes Library (as described earlier), create a playlist containing the desired songs, and burn that playlist within iTunes.

5

Getting Productive with Your iMac

Create and format documents with Pages.

Build spreadsheets with Numbers.

Showcase your ideas with Keynote.

Chapter **17**

Desktop Publishing with Pages

W hat's the difference between word processing and desktop publishing? In a nutshell, it's in how you design your document. Most folks use a word processor like an old-fashioned typewriter, much like I'm using Microsoft Word right now. (Yawn.)

A *desktop publishing application* allows far more creativity in choosing where to place text, how to align graphics, and how to edit formats. I think desktop publishing is more visual and intuitive, allowing your imagination a free hand at creating a document.

In this chapter, I show you how to set your inner designer free from the tedious constraints of word processing. Whether you need a simple letter, a stunning brochure, or a multipage newsletter, Pages can handle the job with ease — and you'll be surprised at how simple it is to use. Plus, Pages is a *free* download for any iMac model of recent vintage (and free Apple software is always A Good Thing).

Creating a New Pages Document

To create a new Pages document, follow these steps:

1. **Click the Pages icon on the Dock.**

If the Pages icon doesn't appear on your Dock, click the Launchpad icon and then click the Pages icon (which looks like a document and pen). If you haven't installed the three Apple productivity applications yet — Pages, Numbers, and Keynote — click the App Store icon in your Dock and download them for free!

2. **Click the New Document button at the lower-left corner of the Open dialog.**

Pages displays the Template Chooser window, shown in Figure 17-1.

You can also create a new Pages document at any time from the File menu. Just choose File ➪ New to display the Template Chooser window.
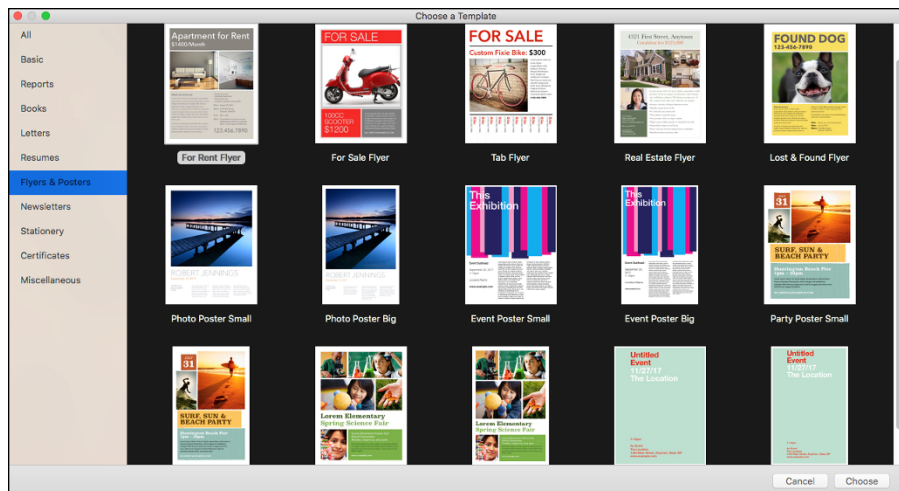
FIGURE 17-1: Select a template from the Template Chooser window.

3. **In the list to the left, click the type of document you want to create.**

The thumbnails on the right are updated with templates that match your choice.

4. **Click the template that most closely matches your needs.**

To start with a blank page, choose the Blank template from the Basic group.

5. **Click the Choose button to open a new document in the template you selected.**

Open an Existing Pages Document

Of course, you can always open a Pages document from a Finder window. Just double-click the document icon. (The All My Files location in the Finder window sidebar makes it easy to track down a document.) You can also open a Pages document from within the program. Follow these steps:

1. Launch Pages as described in the preceding section.

2. Press ⌘+O to display the Open dialog.

The Open dialog operates much the same as a Finder window in Icon, List, or Column view mode. To open a document you've already saved in your iCloud Drive, click the Pages item under the iCloud heading in the sidebar at the left of the dialog and double-click the desired document thumbnail in the display at the right side of the dialog. To open a document on your internal drive or network, click the desired location in the Open dialog sidebar. (If you're into convenience like I am, click one of the locations under the Favorites heading to jump immediately to common folders such as your Downloads or Documents folders.)

3. Click the desired drive in the Devices list at the left of the dialog, and then click folders and subfolders until you locate the Pages document.

You can also click in the Search box at the top of the Open dialog and type in a portion of the document name or its contents.

TIP If you're using Icon view mode (or you're displaying the Preview column in Column view mode), you can hover the pointer over a document thumbnail and quickly flip through the different pages by clicking on the left and right arrows that appear. This "find" feature can help you identify a particular Pages document without even opening it.

4. Double-click the thumbnail (or filename) to load it.

TIP If you want to open a Pages document you've edited in the recent past, things get even easier. Just choose File ⇨ Open Recent, and you can open the document with a single click from the submenu that appears.

REMEMBER Pages can open, edit, and save documents created with the Mac version of Microsoft Word. However, Pages doesn't support every feature within a Word document – for the full list of what Pages supports, visit the webpage at `www.apple.com/mac/pages/compatibility`.

Saving Your Work

Pages fully supports the macOS Auto-Save feature, but you may feel the need to manually save your work after you finish a significant edit (or if you need to take a break while designing). If you're editing a document that has already been saved at least once, press ⌘+S. A new version of the document is saved to its current location — and you can continue with your work.

However, if you're working on a *new* document that hasn't previously been saved, follow these steps to save it:

1. **With the Pages document open, press ⌘+S.**

2. **Type a filename for your new document.**

3. **Open the Where pop-up menu, and choose a location in which to save the document.**

   Note that Pages defaults to your iCloud Drive as the target location. This way, you can open and edit your Pages document on any Mac or iOS device that shares the same Apple ID. Alternatively, click the button sporting the down arrow to expand the Save As sheet. This allows you to navigate to a different location on your hard drive or network, or to create a new folder to store this Pages project.

4. **Click Save.**

REMEMBER

You can create a version of a Pages document by choosing File ➪ Save. To revert the current document to an older version, choose File ➪ Revert To. Pages gives you the option of reverting to the last saved version, or you can click Browse All Versions to choose from multiple versions of the document.

Touring the Pages Window

Before you dive into any real work, let me show you around the Pages window. You'll find the following major components and controls, as shown in Figure 17-2:

» **Pages list:** This thumbnail list displays all the pages you've created within your document. (For a single-page document, of course, the Page list contains only a single thumbnail.) You can switch instantly between different pages in your document by clicking the desired thumbnail in the list. If the list isn't visible, click the View button at the left side of the Pages toolbar and click Show Page Thumbnails.

- **»** **Layout pane:** This section takes up most of the Pages window. It's where you design and edit each page in your document.

- **»** **Toolbar:** Yep, Pages has its own toolbar. It keeps all the most common application controls within easy, one-click reach.

- **»** **Inspector:** This window extension allows you to quickly switch the appearance of selected paragraphs, characters, and lists (in Format mode) or specify settings that affect the entire document (in Document Setup mode). You can hide and display the Inspector from the View menu, or by clicking the Format or Document buttons on the toolbar.

Toolbar

Pages List   Layout pane   Inspector
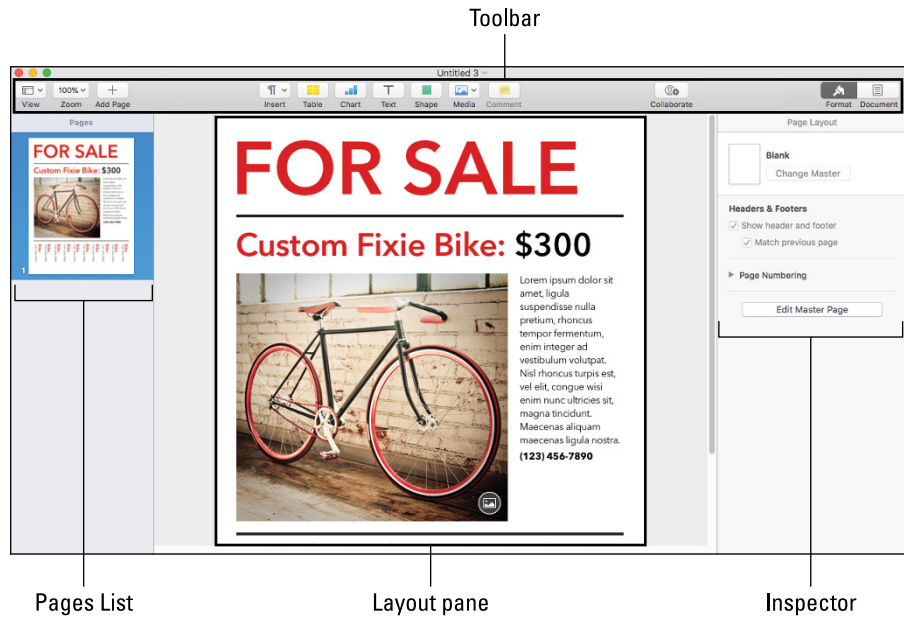
Entering and Editing Text

If you've used a modern word processing program, you'll feel right at home typing within Pages. The bar-shaped text cursor, which looks like a capital letter *I*, indicates where the text you enter will appear in a Pages document. To enter text, simply begin typing. To edit existing text in your Pages document, select and highlight the text. As you type, Pages replaces the existing text. You can delete text by clicking and dragging across the characters to highlight them and then pressing Delete.

Using Text, Shapes, and Graphics Boxes

Within Pages, you'll quickly learn that text, shapes, and graphics appear in *boxes,* which can be resized by clicking and dragging one of the handles that appear around the edges of the box. (Click the box to select it and hover the mouse cursor over one of the square handles; you'll see that it changes to a double-sided arrow, indicating that Pages is ready to resize the box.)

You can also move a box, including all the stuff it contains, to another location within the Layout pane. Click inside the box, and drag the box to the desired spot. Note that Pages displays yellow alignment lines to help you align the box with other elements around it (or with regular divisions of the page, such as the vertical center of a poster or flyer).

REMEMBER

To select text or graphics within a box, you must first click the box to select it and then double-click the line of text or the graphic you want to change.

The Three Amigos: Cut, Copy, and Paste

"Hang on, Mark. You've covered moving stuff, but what if you want to *copy* a block of text or a photo to a second location? Or how about cutting something from a document open in another application?" Good questions. That's when you can call on the power of the cut, copy, and paste features within Pages. The next few sections explain these actions.

Cutting stuff

Cutting selected text, shapes or graphics removes them from your Pages document and places that material on the Clipboard. (Think of the *Clipboard* as a holding area for snippets of text and graphics you want to manipulate.) To cut, select some material and choose Edit⇨Cut or press ⌘+X.

Copying text and images

When you copy text, shapes, or graphics, the original selection remains untouched, and a copy of the selection is placed on the Clipboard. Select some material and choose Edit⇨Copy or press ⌘+C. To copy selected items by dragging, hold down the Option key while you drag the items to their destination.

If you cut or copy a new selection to the Clipboard, it erases what was there. In other words, the Clipboard holds only the latest material you cut or copied.

Pasting from the Clipboard

Wondering what you can do with the stuff that's stored on the Clipboard? Pasting the contents of the Clipboard places the material at the current location of the insertion cursor.

You must paste the contents before you cut or copy again to avoid losing what's on the Clipboard.

To paste the Clipboard contents, click to place the insertion cursor at the location you want and choose Edit ➪ Paste or press ⌘+V.

Formatting Text the Easy Way

If you feel that some (or all) of the text in your Pages document needs a facelift, you can format that text any way you like. Formatting lets you change the color, font family, character size, and attributes as necessary.

After the text is selected, you can apply basic formatting in two ways:

» **Use the Inspector.** The Inspector appears at the right side of the Pages window (refer to Figure 17-2). The controls it displays vary according to the selection you've made. (Click the Format button on the right side of the toolbar, which looks like a tiny paintbrush, to display and hide the Inspector.) Click to select a font control to display a pop-up menu, and then click your choice. For example, select a portion of text and open the Font Family pop-up menu to change the font family from vanilla Arial to something more daring. You can also select characteristics, such as the text's paragraph style, or choose italic or bold. The Inspector also provides buttons for both vertical and horizontal text alignment.

» **Use the Format menu.** Most controls displayed within the Format section of the Inspector are also available from the Format menu. Click Format and hover the mouse cursor over the Font menu item, and you can then apply bold, italic, and underlining to the selected text. You can also make the text bigger or smaller. To change the alignment from the Format menu, click Format and hover the mouse cursor over the Text menu item.

Adding a Spiffy Table

In the world of word processing, a *table* is a grid that holds text, shapes and graphics for easy comparison. You can create a custom table layout within Pages with a few simple clicks.

Follow these steps:

1. **Click to place the insertion cursor where you want the table to appear.**

2. **Click the Table button on the Pages toolbar.**

Pages displays thumbnail images of different table styles. You have a selection of colors. Some tables also include highlighted rows and columns. Use the left and right buttons to display different styles of thumbnails until you find the one that's closest to the table you need.

TIP

Don't worry if the style isn't exactly right. You can always change the layout by selecting the table and displaying the Format Inspector, where you can fine-tune all sorts of font, color, grid, and border options.

3. **Click the style thumbnail to insert the table.**

If you need to change the number of rows or columns in your table, Pages makes it easy. To add or delete rows or columns directly from the table, select it and click the row and column buttons that appear. (Each bears two horizontal or vertical lines, as shown in Figure 17-3.)
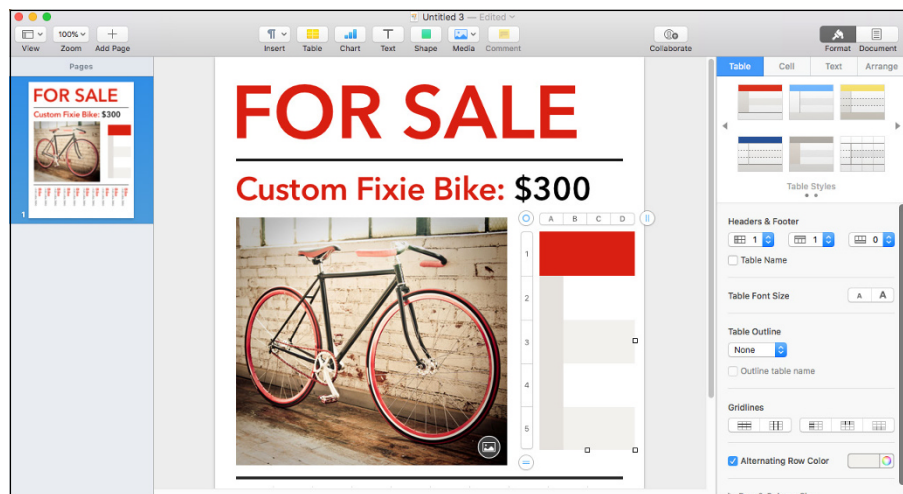
FIGURE 17-3:
Use Table controls to tweak your table.

4. **Click within a cell in the table to enter text.**

The table cell automatically resizes and *wraps* the text you enter to fit.

You can paste material from the Clipboard into a table. See the earlier section "Pasting from the Clipboard" for details.

Here are a few pointers on how to dress up your table and make its data more attractive and readable:

>> **Change the borders on a selected cell.** Click the Format icon on the toolbar to open the Inspector, click the Cell tab, and then click the desired button in the Border section.

Select a range of cells in a table by holding down Shift as you click. Hold down ⌘ and click to select multiple cells that aren't contiguous.

>> **Add a background color to selected cells, or fill them with an image for a background.** Click the Cell tab, and then click the Fill section in the Inspector and choose a type of background.

Adding Alluring Photos

You can choose between two methods of adding a picture within your Pages document:

>> **As a floating object:** You place the image in a particular spot, and it doesn't move even if you make changes to the text. To add a floating object, drag an image file from a Finder window and place it at the spot you want within your document. Alternatively, you can click the Media button on the toolbar, click Photos, navigate to the location where the file is saved, and click the image thumbnail. Figure 17-4 shows the Media Browser in action.

Click the magnifying glass icon within the Media Browser to search for a specific item using keywords or by filename.

Note that a floating object (such as a shape or image) can be sent to the *background,* where text does not wrap around it. To bring back a background object as a regular floating object, click the object to select it and choose Arrange ➪ Bring to Front. (More about background objects later in this chapter.)

>> **As an inline object:** The image flows with the surrounding text as you make layout changes. To add an inline object, hold down the ⌘ key as you drag an image file from a Finder window and place it where you want within your document. You can also click the Media toolbar button and click Photos to display the Media Browser. Navigate to the location where the file is saved, hold down the ⌘ key, and drag the image thumbnail to the spot where you want it in the document.
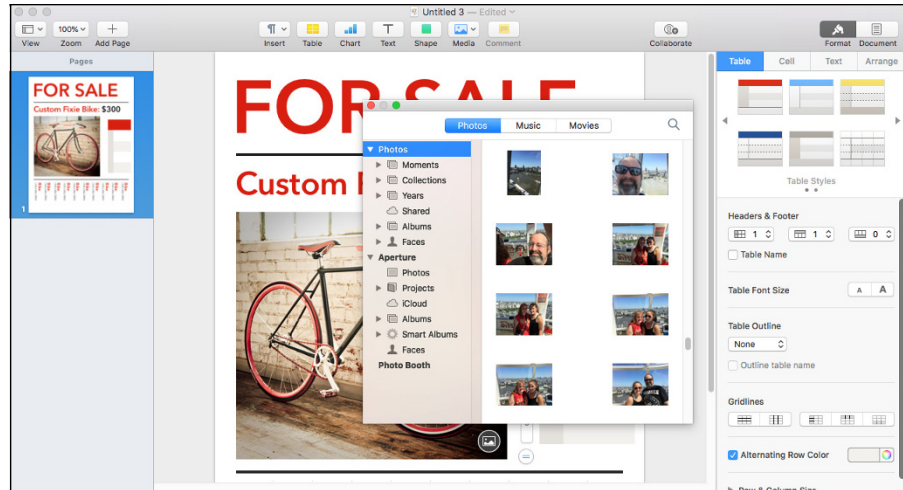
To resize an image object, click the image to select it and drag one of the selection handles that appear along its border. (The handles look like tiny squares.) The side-selection handles drag only that edge of the frame. The corner-selection handles resize both adjoining edges of the selection frame. Hold down the Shift key to make the vertical and horizontal proportions remain fixed.

Adding a Shape as a Background

To add a shape (such as a rectangle or circle) as a background for existing text, follow these steps:

1. **Click to place the insertion cursor anywhere on the page where you want the shape to appear.**

2. **Click the Shape button on the Pages toolbar and choose a shape.**

    The shape appears in your document.

3. **Click inside the shape and drag it to a new spot.**

   Shapes can be resized or moved in the same manner as image boxes. See the preceding section.

REMEMBER You can type over a shape set as a background. Before you do, though, select the shape, and choose Arrange➪Send to Back.

Are You Sure about That Spelling?

Pages can check spelling as you type (the default setting) or after you complete your document. If you find automatic spell-checking distracting, you should pick the latter method.

REMEMBER As my technical editor reminds me, spell-checking only confirms that a word matches an entry in the Pages dictionary, *not* that it's the right word for the job! If you've ever "red" a document that someone else "rote," you understand.

To check spelling as you type, follow these steps:

1. **Click the Edit menu, and hover the pointer over the Spelling and Grammar menu item.**

2. **Choose Check Spelling While Typing from the submenu that appears.**

   If a possible misspelling is found, Pages underlines the word with a red dashed line.

3. **Right-click the word to choose a possible correct spelling from the list, or choose Ignore Spelling if it's spelled correctly.**

   To turn off automatic spell-checking, click the Check Spelling While Typing menu item again to deselect it.

To check spelling manually, follow these steps:

1. **Click within the document to place the insertion cursor where the spell check should begin.**

2. **Click Edit, hover the pointer over the Spelling and Grammar menu item, and choose Check Document Now from the submenu that appears.**

3. **Right-click any possible misspellings, and choose the correct spelling, or choose Ignore Spelling if the word is spelled correctly.**

Printing Your Pages Documents

Ready to start the presses? You can print your Pages document on real paper, of course, but don't forget that you can also save a tree by creating an electronic PDF instead of a printout. You'll find the PDF dropdown menu at the bottom of the standard Mojave Print dialog.

To print your Pages document on old-fashioned paper, follow these steps:

1. **Within Pages, choose File ⇨ Print.**

   Pages displays the Print sheet.

2. **Click in the Copies field, and enter the number of copies you need.**

3. **Select the pages to print:**

   - *To print the entire document,* select All.

   - *To print a range of selected pages,* select the From radio button and enter the starting and ending pages.

4. **Click the Print button to send the document to your printer.**

Sharing That Poster with Others

Besides printing — which is, after all, so *very* passé these days — you can choose to share your Pages document electronically via the Internet or your network:

» **Send a Copy:** To send a copy of the actual document (which the recipient can open using Pages on his or her own Mac or iOS device), click Share on the Pages menu, and hover the pointer over the Send a Copy item. You can send the document via Mail, Notes or Messages, or you can make it available through AirDrop (if the recipient is within range of your iMac's Wi-Fi signal).

REMEMBER

If you decide to send your Pages document as an email attachment, don't forget that most ISPs have a maximum message size. If your document is too large, your mail server probably will reject it.

» **Export:** You're not limited to sharing over that Internet thing! Pages can also export your work directly to your drive in one of six formats: a PDF file, a Microsoft Word document, an ePub file (for use with electronic book apps like iBooks), a document compatible with the previous version of Pages, a Rich Text Format document, or even plain text. (Remember when everything was in plain text?) Choose File ⇨ Export To, and pick your format; Pages displays

any options you can set for that format. When you're ready, click Next and select the location where Pages should save the file. Click Export, and sit back while your favorite desktop publishing application does all the work.

TIP

If the recipient of your document doesn't need to edit your work, I recommend creating a PDF file, which keeps your document as close as possible to how it appears in Pages.

» **Collaborate:** You can choose to share your document with others — and optionally allow them to edit it — using the Collaborate toolbar button. (You determine their access from the Sharing Options that appear when you click the Collaborate toolbar button.) Pages stores your document on your iCloud Drive, and sends a link to the individuals you choose via Mail, Messages, Facebook, or Twitter. Once that lucky person clicks the link, Pages opens your document in all its glory, ready for them to view or edit.

REMEMBER

Your iCloud Drive must be active and you must be signed in to send the Collaborate sharing invitation, and the recipients you specify must be signed in using their Apple ID to receive it.

Chapter **18**

Creating Spreadsheets with Numbers

Are you downright afraid of spreadsheets? Does the idea of building a budget with charts and all sorts of fancy graphics send you running for the safety of the hall closet? Well, good iMac owner, Apple has again taken something that everyone else considers super-complex and turned it into something that normal human beings can use! (Much as Apple did with video editing and songwriting. Is there *any* type of software that Apple designers can't make intuitive and easy to use?) And Numbers is a free download from the App Store to boot!

In this chapter, I demonstrate how the Numbers spreadsheet program can help you organize data and analyze important financial decisions for home and business — everything from a household budget to your company's sales statistics!

Before You Launch Numbers . . .

In case you're unfamiliar with applications like Numbers and Microsoft Excel — and the documents they create — let me provide you with a little background information.

A *spreadsheet* organizes and calculates numbers by using a grid system of rows and columns. The intersection of each row and column is a *cell,* which can hold either text or numeric values. Cells can also hold calculations called *formulas* and *functions,* which are usually linked to the contents of surrounding cells.

Spreadsheets are wonderful tools for making decisions and comparisons, because they let you plug in different numbers — such as interest rates or your monthly insurance premium — and instantly see the results. These are some of my favorite spreadsheets that I use regularly:

» Car and mortgage loan comparisons

» A college planner

» My household budget (not that we pay any attention to it)

REMEMBER

Numbers can open, edit, and save spreadsheets created with Microsoft Excel. Note, however, that not all Excel features are supported within Numbers – for the full list of what Numbers supports, visit the webpage at `www.apple.com/mac/numbers/compatibility/`.

Creating a New Numbers Document

Like Pages (Apple's desktop publishing application that I cover in Chapter 17), Numbers ships with a selection of templates you can modify quickly to create a new spreadsheet. For example, after a few modifications, you can easily use the Budget, Loan Comparison, and Mortgage templates to create your own spreadsheets.

To create a spreadsheet project file, follow these steps:

1. **Click the Launchpad icon on the Dock.**

2. **Click the Numbers icon.**

3. Click the New Document button at the lower-left corner of the Open dialog that appears.

Numbers displays the Choose a Template window, shown in Figure 18-1. (To display the Choose a Template window and start a new Numbers project at any time, just choose File ➪ New.)
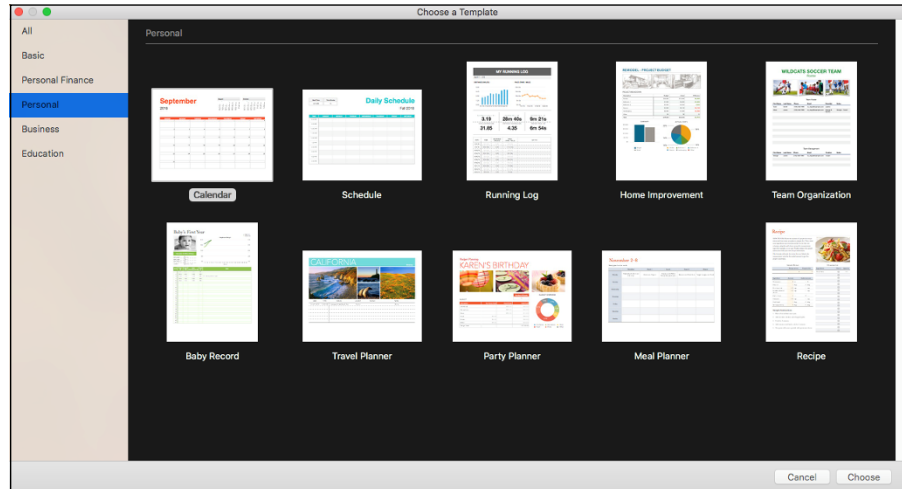
4. From the list on the left, click the type of document you want to create.

The document thumbnails in the center are updated with templates that match your choice.

5. Click the template that most closely matches your needs.

6. Click the Choose button to open a new document using the template you selected.

Opening an Existing Spreadsheet File

If you see an existing Numbers document in a Finder window or the All My Files location (or you find it using Spotlight), just double-click the Numbers document icon to open it. Numbers automatically loads and displays the spreadsheet.

It's equally easy to open a Numbers document from within the program. Follow these steps:

1. **If Numbers isn't already running, click the Numbers icon from the Launchpad to run the program.**

2. **Press ⌘+O to display the Open dialog.**

3. **If the spreadsheet is stored in your iCloud Drive, click the Numbers item under the iCloud heading in the sidebar at the left of the dialog and then double-click the desired document thumbnail to load the spreadsheet.**

   All three of Apple's productivity applications — Pages, Numbers, and Keynote — feature an Open dialog that can display the contents of your iCloud Drive as well as your iMac's internal drive.

4. **If the document is stored on your iMac's internal drive, your network, or one of your Favorites locations, click the desired drive or folder in the sidebar at the left of the dialog. Drill down through folders and subfolders until you locate the desired Numbers document, and double-click the document thumbnail to load the spreadsheet.**

   If you're unsure where the document is, click in the Search box at the top of the Open dialog and type a portion of the document name or even a word or two of text it contains. Note that you can choose to search your drive, your iCloud Drive, or both.

   If you want to open a spreadsheet you've been working on over the last few days, choose File ➪ Open Recent to display Numbers documents that you've worked with recently.

Save Those Spreadsheets!

Thanks to the macOS Auto-Save feature, you no longer have to fear losing a significant chunk of work because of a waning battery or a coworker's mistake. However, if you're not a huge fan of retyping data, *period*, you can also save your spreadsheets manually after making a major change. Follow these steps to save your spreadsheet to a specific drive or folder on your iMac:

1. **Press ⌘+S.**

   If you're saving a document that hasn't yet been saved, the Save As sheet appears.

2. **Type a filename for your new spreadsheet.**

3. **Open the Where pop-up menu and choose a location in which to save the file.**

Common locations are your iCloud Drive, Desktop, Documents folder, and Home folder.

TIP

If the location you want isn't listed in the Where pop-up menu, click the down-arrow button next to the Save As text box to display the full Save As dialog. Click the desired drive in the Devices list at the left of the dialog, and then click folders and subfolders until you reach the desired location. Alternatively, type the folder name in the Spotlight search box at the top right, and double-click the desired folder in the list of matching names. (As a bonus, you can also create a new folder in the full Save As dialog.)

4. **Click Save.**

After you save a Numbers document for the first time, you can create a version of that document by choosing File ➪ Save. To revert the current document to an older version, choose File ➪ Revert To. You can choose to revert to the last saved version, or you can click Browse All Versions to look through multiple versions of the document and choose one of those to revert to.

Exploring the Numbers Window

Apple has done a great job of minimizing the complexity of the Numbers window. Figure 18-2 illustrates these major points of interest:

» **Sheets tabs:** When a project contains multiple spreadsheets, Numbers indicates the spreadsheets in the Sheets tabbed bar at the top of the window. To switch among spreadsheets in a project, click the desired tab.

» **Sheet canvas:** Numbers displays the rows and columns of your spreadsheet in this section of the window; you enter and edit cell values within the sheet canvas.

» **Toolbar:** The Numbers toolbar keeps the most common commands you'll use within easy reach.

» **Inspector:** Located at the right side of the Numbers window, the Inspector displays editing controls for the object that's currently selected, regardless of whether it's a selection of text, a table, or a single cell. (If you enter an equal sign [=] into a cell to create a formula, the Inspector displays the Function list, where you can specify a calculation that Numbers should perform.)

Sheet tabs   Toolbar
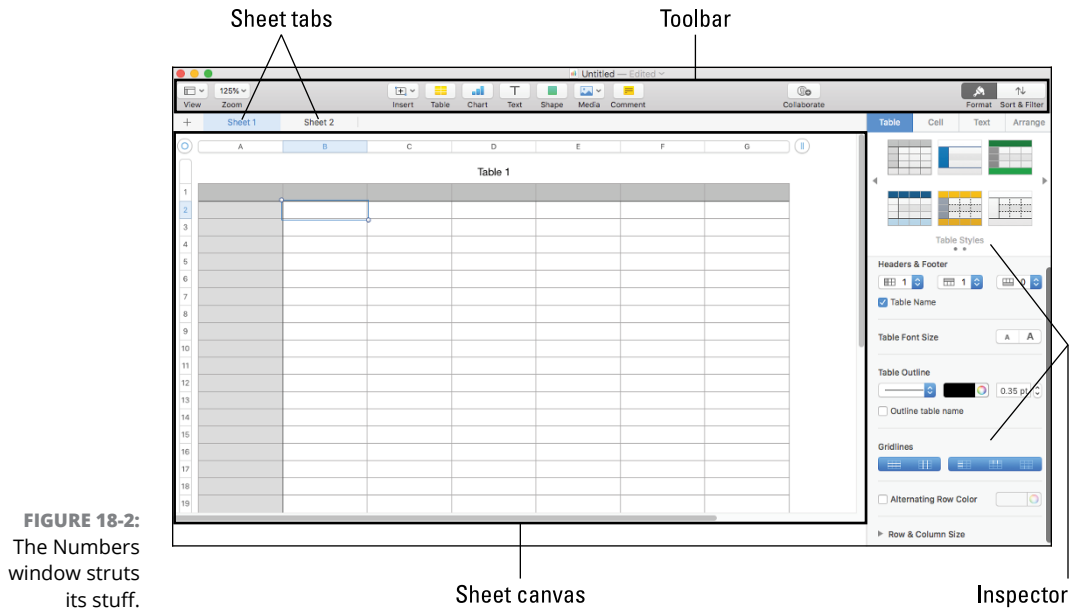
FIGURE 18-2:
The Numbers
window struts
its stuff.

Sheet canvas   Inspector

Navigating and Selecting Cells in a Spreadsheet

You can use the scrollbars to move around your spreadsheet, but when you enter data into cells, moving your fingers from the keyboard is a hassle. Numbers has various handy navigation shortcut keys you can employ, as shown in Table 18-1. After you commit these keys to memory, your productivity level will shoot straight to the top.

TABLE 18-1   Movement Shortcut Keys in Numbers

Key or Key Combination	Where the Cursor Moves
Left arrow (←)	One cell to the left
Right arrow (→)	One cell to the right
Up arrow (↑)	One cell up
Down arrow (↓)	One cell down
Home	To the beginning of the active worksheet

Key or Key Combination	Where the Cursor Moves
End	To the end of the active worksheet
Page Down	Down one screen
Page Up	Up one screen
Return	One cell down (also works within a selection)
Tab	One cell to the right (also works within a selection)
Shift+Enter	One cell up (also works within a selection)
Shift+Tab	One cell to the left (also works within a selection)

You can also use the mouse or trackpad to select cells in a spreadsheet:

» To select a *single* cell, click it.

» To select a *range* of adjacent cells, click a cell at any corner of the range you want and drag in the direction you want.

» To select a *column* of cells, click the alphabetic heading button at the top of the column.

» To select a *row* of cells, click the numeric heading button at the far left of the row.

Entering and Editing Data in a Spreadsheet

After you navigate to the cell in which you want to enter data, you're ready to type your data. Follow these steps to enter That Important Stuff:

1. Either click the cell or press the spacebar.

A cursor appears, indicating that the cell is ready to hold any data you type.

2. Enter your data.

Spreadsheets can use both numbers and alphabetic characters within a cell; either type of information is considered data in the Spreadsheet World.

REMEMBER

3. **When you're ready to move on, press Return (to save the data and move one cell down) or press Tab (to save the data and move one cell to the right).**

Make a mistake? No big deal:

» **To edit data:** Click within the cell that contains the data error (to select the cell), and then click the cell again to display the insertion cursor. Drag the insertion cursor across the characters to highlight them, and then type the replacement data.

» **To delete characters:** Select the cell, and then highlight the characters and press Delete.

Selecting the Correct Number Format

After you enter your data (in a cell, row, or column), you might need to format it so that it appears correctly. For example, say you want certain cells to display a specific type of number, such as a dollar amount, percentage, or date. Numbers gives you a healthy selection of number-formatting possibilities.

TIP

Characters and formatting rules — such as decimal places, commas, and dollar and percentage notation — are part of *number* formatting. If your spreadsheet contains units of currency, such as dollars, format it as such. Then all you need to do is type the numbers, and the currency formatting is applied automatically.

To specify a number format, follow these steps:

1. **Select the cells, rows, or columns you want to format.**
2. **Click the Format toolbar button.**
3. **Click the Cell tab in the Inspector.**
4. **From the Data Format pop-up menu, choose the type of formatting you want to apply, as shown in Figure 18-3.**
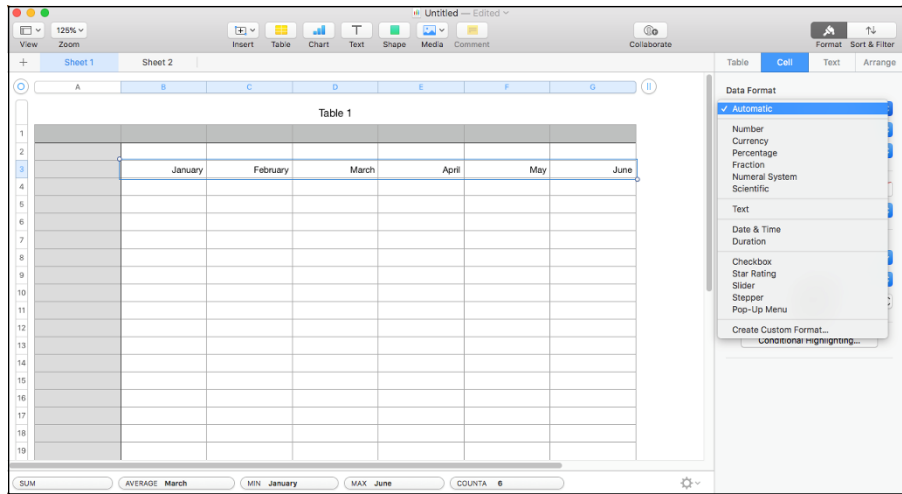
FIGURE 18-3:
From the Inspector, you can format the data you've entered.

Aligning Cell Text Just So

You can also change the alignment of text in the selected cells. The default alignment is *flush left for text* and *flush right for numeric data.* Follow these steps:

1. **Select the cells, rows, or columns you want to format.**

   See the earlier section "Navigating and Selecting Cells in a Spreadsheet" for tips on selecting stuff.

2. **Click the Format toolbar button.**

3. **Click the Text tab of the Inspector to display the settings shown in Figure 18-4.**

4. **Click the corresponding Alignment button to choose the type of formatting you want to apply.**

   You can choose left, right, center, and justified (as well as the defaults of text left and numbers right). You also can format text to be aligned at the top, center, or bottom of a cell.

> **TIP**
>
> Do you need to set apart the contents of some cells? For example, you might need to create text headings for some columns and rows or to highlight the totals in a spreadsheet. To change such formatting, select the cells, rows, or columns you want to format, and then open the Font Family, Font Size, or Font Color buttons on the Text tab.
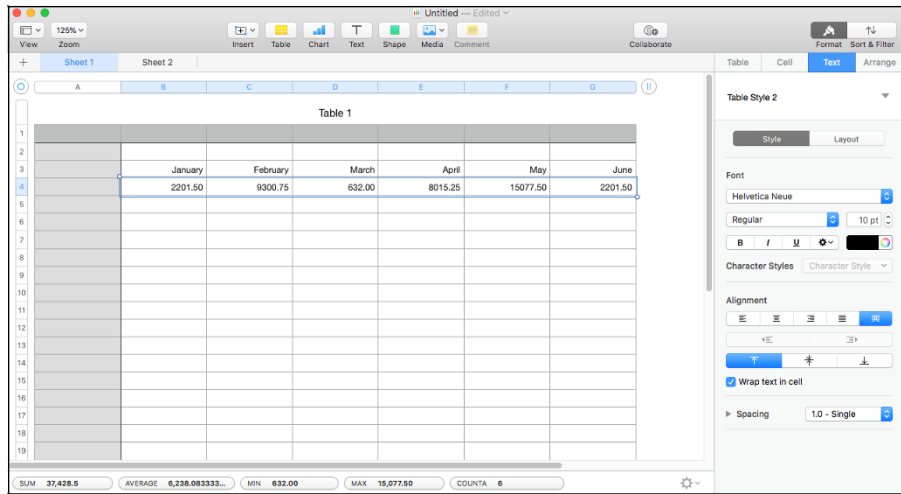
Formatting with Shading

Shading the contents of a cell, row, or column is helpful when your spreadsheet contains subtotals or logical divisions. Follow these steps to shade cells, rows, or columns:

1. **Select the cells, rows, or columns you want to format.**

2. **Click the Format toolbar button.**

3. **Click the Cell tab of the Inspector.**

4. **Click the triangle next to the Fill heading, and choose a shading option from the Fill pop-up menu.**

   Figure 18-5 shows the controls for a gradient fill.

5. **Click the color box to select a color for your shading.**

   Numbers displays a color picker (also shown in Figure 18-5).

6. **Click to select a color.**

7. **After you achieve the effect you want, click the color box again to close the color picker.**

You can also add a custom border to selected cells, rows, and columns from the Cell tab. Click the triangle next to the Border heading to select just the right border.
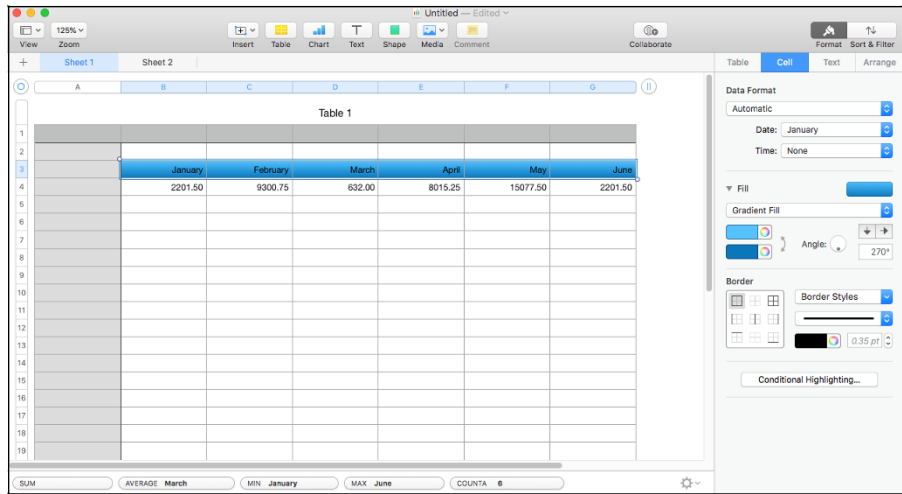
FIGURE 18-5:
Adding shading and colors to cells, rows, and columns is easy in Numbers.

Inserting and Deleting Rows and Columns

What's that? You forgot to add a row, and now you're three pages into your data entry? No problem. You can easily add — or delete — rows and columns. First, select the row or column adjacent to where you want to insert (or delete) a row or column, and do one of the following:

>> **For a row:** Right-click and choose Add Row Above, Add Row Below, or Delete Row from the shortcut menu that appears.

>> **For a column:** Right-click and choose Add Column Before, Add Column After, or Delete Column from the shortcut menu that appears.

If you select multiple rows or columns, right-click and choose Add. Numbers inserts the same number of new rows or columns you selected.

You can also insert rows and columns via the Table menu at the top of the Numbers window.

The Formula Is Your Friend

It's time to talk about *formulas,* which are equations that calculate values based on the contents of cells you specify in your spreadsheet. For example, if you designate cell A1 (the cell in column A at row 1) to hold your yearly salary and cell B1 to

hold the number 12, you can divide the contents of cell A1 by cell B1 (to calculate your monthly salary) by typing this formula into any other cell:

=A1/B1

Formulas in Numbers always start with an equal sign, and they may include one or more functions as well. A *function* is a preset mathematical, statistical, or engineering calculation that will be performed, like figuring the sum or average of a series of cells.

"So what's the big deal, Mark? Why not use a calculator?" Sure, you could. But maybe you want to calculate your weekly salary. Rather than grab a pencil and paper, you can simply change the contents of cell B1 to 52, and — boom! — the spreadsheet is updated to display your weekly salary.

That's a simple example, of course, but it demonstrates the basics of using formulas (and the reason why spreadsheets are often used to predict trends and forecast budgets). It's the what-if tool of choice for everyone who works with numeric data.

To add a simple formula within a spreadsheet, follow these steps:

1. **Select the cell that will hold the result of your calculation.**

2. **Type = (the equal sign).**

   The Formula Box appears within the confines of the cell.

3. **Click the Format button on the Numbers toolbar to display the available functions in the Inspector, as shown in Figure 18-6.**

4. **Click the category of calculation you want from the left column of the Inspector.**

   Instead of scrolling through the entire function library, it's easier to choose a category — such as *Financial* for your budget spreadsheet — to filter the selection. (Alternatively, you can click in the Search box and type a function name or keyword.)

   To display more information about a specific function, click it in the right column of the Inspector. In Figure 18-6, choosing the SUM function brings up a description at the bottom of the Inspector.

5. **After you select the perfect function in the right column, click the Insert Function button.**

   The function appears in the Formula box, along with any arguments it requires.

   In case you're unfamiliar with the term *argument,* it refers to a value specified in a cell that a formula uses. For example, the SUM formula adds the contents of each cell you specify to produce a total; each of those cell values is an argument.
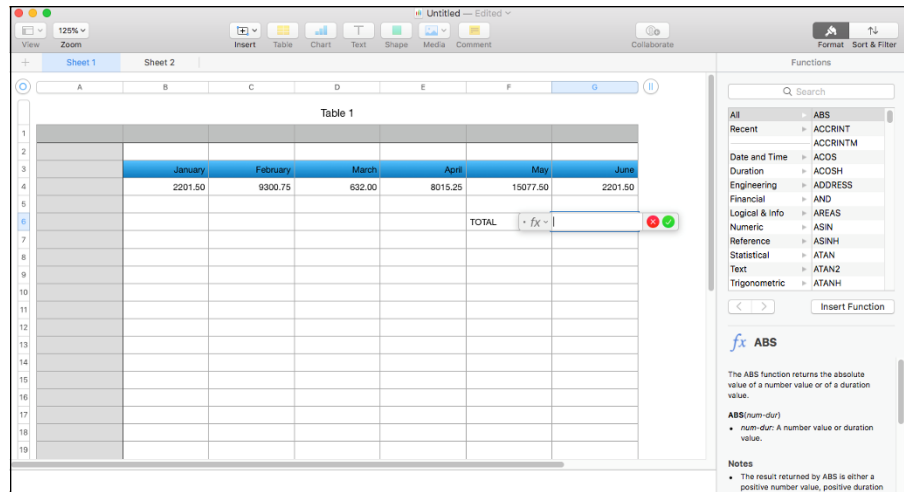
6. **Click an argument button in the formula, and click the cell that contains the corresponding data.**

   Numbers automatically adds the cell you indicated to the formula. Repeat this step for each argument in the formula.

7. **After you finish, click the Accept button — the green checkmark — to add the formula to the cell.**

That's it! Your formula is now ready to work behind the scenes, doing math for you so the correct numbers appear in the cell you specified.

Adding Visual Punch with a Chart

Sometimes, you just have to see something to believe it, so it can help to use the data you've added to a spreadsheet to generate a professional-looking chart. After you've entered the data you want to chart, follow these steps:

1. **Select the adjacent cells you want to chart by dragging.**

   To choose individual cells that aren't adjacent, you can hold down the ⌘ key as you click.

2. **Click the Chart button on the Numbers toolbar.**

   The Chart button bears the symbol of a bar graph.

Numbers displays the thumbnail menu shown in Figure 18-7. Note that you can display different categories of charts by clicking one of the three tabs at the top (2D/3D/Interactive), and you can scroll the menu to reveal additional thumbnails by using the left- and right-arrow buttons.
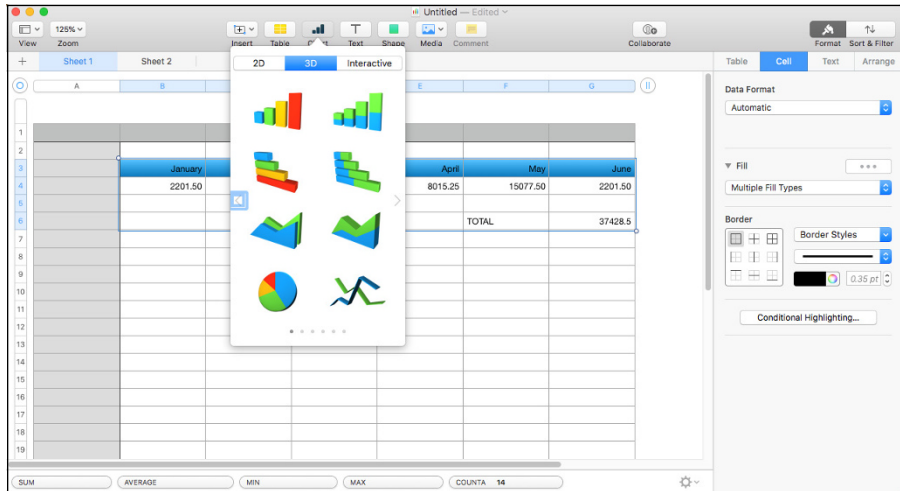
FIGURE 18-7:
Numbers displays the range of chart styles you can use.

3. **Click the thumbnail for the chart type you want.**

   Numbers inserts the chart as an object within your spreadsheet so you can move the chart. You can drag using the handles that appear on the outside of the object box to resize your chart.

   With your chart selected, click the Format toolbar button to display your old friend the Inspector, complete with the controls you can use to customize your chart's appearance. For example, you can change the colors and add (or remove) the title and legend.

4. **To change the default title, click the title box to select it; click it again to edit the text.**

Printing Your Spreadsheet

You can easily send a Numbers spreadsheet to a USB or shared network printer — or, if you'd rather create an electronic copy of the document as an Adobe PDF, you can click the PDF button that appears on the Numbers Print dialog and select a location where the file will be saved.

To print a Numbers spreadsheet on your default printer, follow these steps:

1. **Choose File ⇨ Print from the Numbers menu bar to display the Print Setup window (Figure 18-8).**

   Because a Numbers document can contain multiple spreadsheets, you can select a specific spreadsheet to print (by clicking it in the grid and clicking the Print This Sheet radio button at the bottom of the window), or you can print all spreadsheets in the document (by clicking the Print All Sheets radio button).
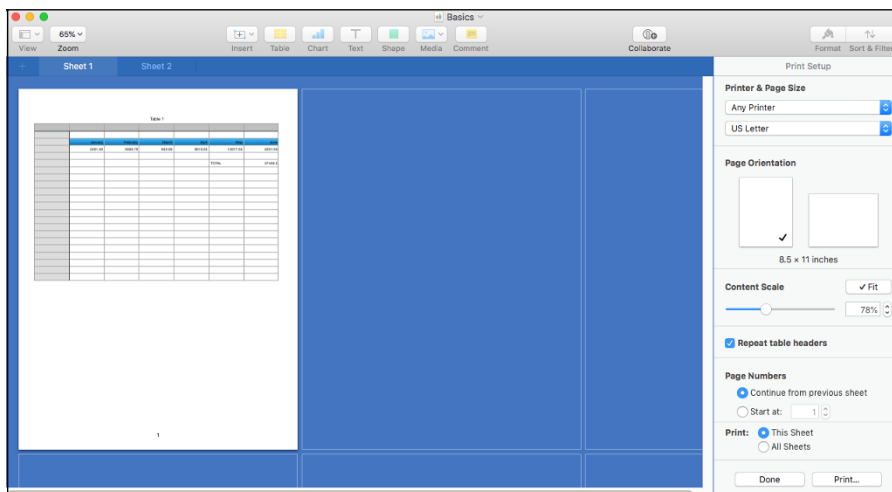
FIGURE 18-8:
Options available from the Numbers Print Setup window.

2. **Click the desired page orientation.**

   Spreadsheets with a large number of columns are often printed in landscape orientation to ensure that everything fits on the page. You can also scale the spreadsheet so it automatically fits on the page by clicking the Fit button (next to the Content Scale slider).

3. **Click Print at the bottom of the window.**

   Numbers displays the Print dialog shown in Figure 18-9. To display additional settings, click the Show Details button at the bottom of the sheet.

4. **Click in the Copies field, and enter the number of copies you need.**
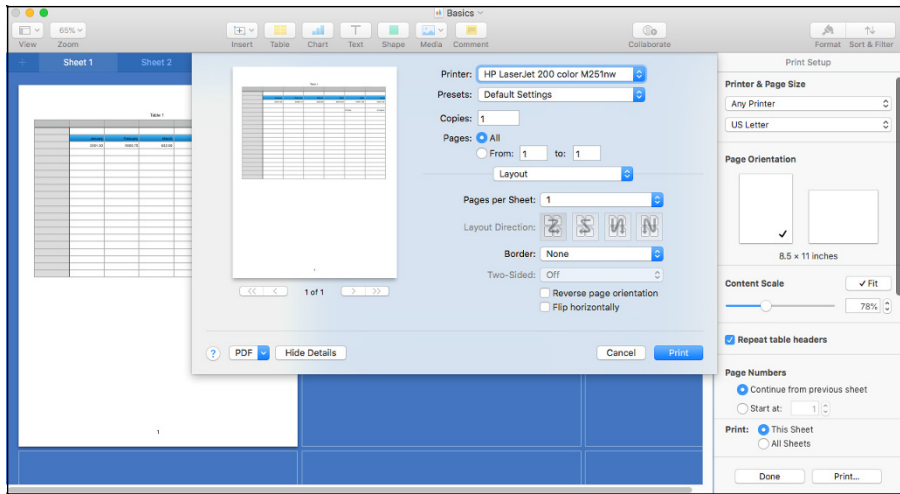
5. **Select the pages to print:**

   • *To print the entire spreadsheet,* select All.

   • *To print a range of selected pages,* select the From radio button, and enter the starting and ending pages.

6. **Click the Print button to send the document to your printer.**

   Click the Share menu item to send a copy of your spreadsheet masterpiece to others. Click the Collaborate button on the toolbar to allow others to view or edit your spreadsheet from your iCloud Drive as a shared document.

Chapter **19**

Building Presentations with Keynote

I t seems like only yesterday that I was giving business presentations with a clunky overhead projector and black-and-white acetate transparencies. Fancy color gradients and animation were unheard of, and the only sound my presentations made was the droning of the projector's fan. I might as well have been using tree bark and chalk.

Thank goodness those "cave painting" days are gone. Cutting-edge presentation software like Keynote makes slide creation easy and — believe it or not — *fun!* This is the application Steve Jobs once used for his Macworld keynotes every year. So much visual candy is available that you'll never need to shout to wake your audience again. Even better, this jewel of an application is a free download from the App Store!

In this chapter, I first demonstrate how simple it is to build a stunning Keynote presentation. Then you can see how to start and control your slide display from the keyboard (or even your iPhone, iPad, or iPod touch). And don't forget that you can print your slides and notes so that your audience can keep a copy of your brilliant work.

Creating a New Keynote Project

Like the other applications in Apple's productivity suite, Keynote begins the document creation process with a Theme Chooser window. To create a new presentation project, follow these steps:

1. **Click the Launchpad icon on the Dock.**

2. **Click the Keynote icon, which looks like a lectern.**

   The familiar visage of the Open dialog appears.

3. **Click the New Document button at the lower-left corner of the Open dialog.**

   The Theme Chooser window, shown in Figure 19-1, appears. (I have to say that these are probably the most stunning visual building blocks I've seen in a presentation application.)
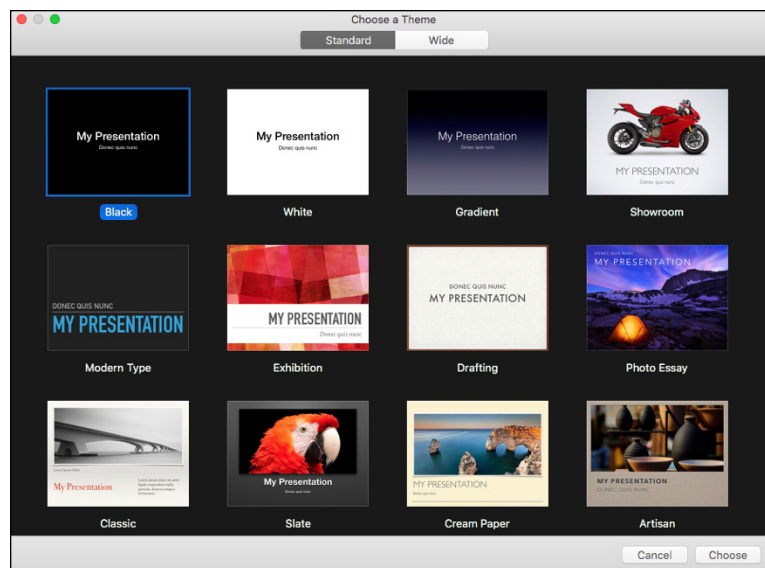
4. **Choose the aspect ratio, using either the Standard or Wide button at the top of the window.**

   Although you don't necessarily need to select an exact match for your iMac's screen resolution, it's a good idea to select the value closest to your projector's maximum resolution. If someone else is providing the projector, the Standard size is the more compatible choice. If you'll present on a typical high-resolution computer monitor, widescreen provides a better display. (Of course, nothing's

stopping you from creating *two* documents of the same presentation, one in Standard ratio and one using Wide ratio. As the Scouts say, "Be prepared!")

5. **Click the theme thumbnail that most closely matches your needs.**

6. **Click the Choose button to open a new document that uses the theme you selected.**

Opening a Keynote Presentation

If an existing Keynote presentation file is visible in a Finder window, you can double-click the document icon to open the project. If Keynote is already running, follow these steps to load a project from within the application:

1. **Press ⌘+O to display the Open dialog.**

2. **Click the desired drive in the Devices list at the left of the dialog; then click folders and subfolders until you locate the Keynote project. If the project is stored in your iCloud Drive, click the Keynote item under the iCloud heading in the sidebar at the left of the dialog, and then double-click the desired project thumbnail.**

   If the project is stored on your hard drive, the All My Files location can quickly display all your documents. You can jump directly to any location or folder under the Favorites heading by simply clicking on the entry. Oh, and don't forget that you can use the Search box at the top of the Open dialog to locate the document by name or by some of the text it contains.

3. **Double-click the filename to load it.**

TIP If you want to open a Keynote document you've edited in the recent past, things get even easier — just choose File ⇨ Open Recent, and you can open the document with a single click from the submenu that appears.

Saving Your Presentation

Because Keynote provides full support for the macOS Auto-Save feature, saving your work often isn't as critical as it used to be. To safeguard your work in a world of power failures, though, follow these steps:

1. **Press ⌘+S.**

   If you're saving a document that hasn't yet been saved, the familiar Save As sheet appears.

2. **Enter a filename for your new document.**

3. **From the Where pop-up menu, choose a location in which to save the document.**

   By default, Keynote saves the project directly to your iCloud Drive (iCloud appears in the Where pop-up menu), making it available to other Macs and iOS devices using the same Apple ID. To select a location not available from the Where pop-up menu, click the button with the down-arrow symbol to expand the sheet. You can also create a new folder from the expanded sheet.

4. **Click Save.**

REMEMBER

You can create a version of a Keynote presentation by choosing File ➪ Save. To revert the current presentation to an older version, choose File ➪ Revert To. Keynote gives you the option of reverting to the last saved version, or you can click Browse All Versions to browse multiple versions of the presentation and revert to any saved version.

Putting Keynote to Work

Ready for the 5-cent tour of the Keynote window? Launch the application and create or load a project, and you see the tourist attractions shown in Figure 19-2:

TIP

>> **Slides list:** Use this thumbnail list of all the slides in your project to navigate quickly. Click a thumbnail to switch instantly to that slide.

The Slides list can also display your project in outline format, allowing you to check all your discussion points. (This is a great way to ferret out any "holes" in your presentation's flow.) While in outline mode, you can still jump directly to any slide by clicking the slide's title in the outline. To display the outline, choose View ➪ Outline. You can switch back to the default Navigator Slides list by choosing View ➪ Navigator.

>> **Layout pane:** Your slide appears in its entirety in this pane. You can add elements to and edit the content of the slide from the Layout pane.

>> **Toolbar:** As does the toolbar in Pages and Numbers, the Keynote toolbar makes it easy to find the most common controls you'll use while designing and editing your slides. Clicking an icon on the toolbar performs an action, just as selecting a menu item does.

>> **Presenter Notes pane:** You might decide to add notes to one or more slides — either for your own use or to print as additional information for your audience. Click the View icon on the toolbar, and select Show Presenter Notes

(or choose View ⇨ Show Presenter Notes) to open the Presenter Notes pane. This text box appears under the Layout pane.

>> **Inspector:** Keynote displays this pane on the right side of the window when you click the Format button, allowing you to format selected text and images on the fly.

Layout pane   Toolbar

Slides list   Presenter Notes pane   Inspector
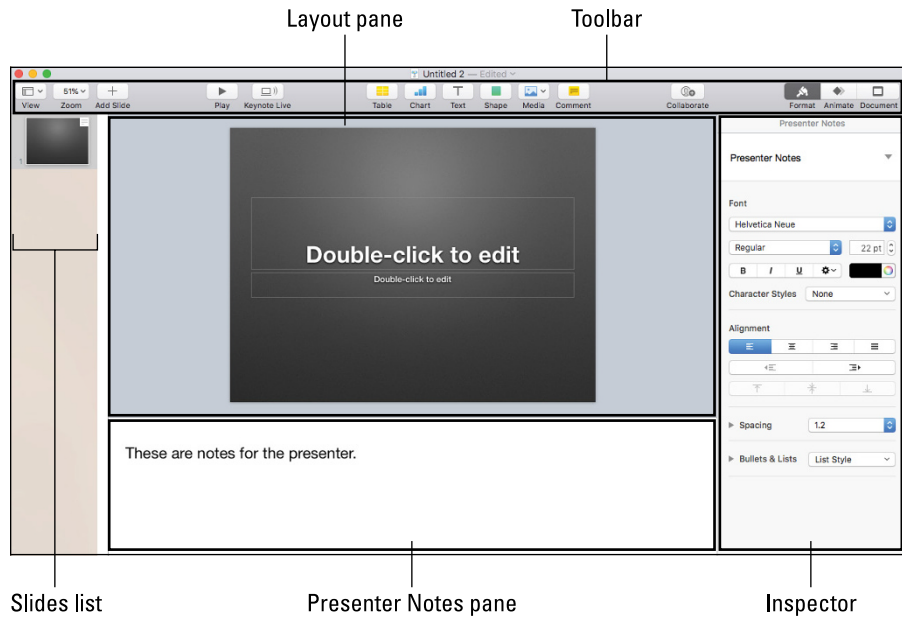
FIGURE 19-2:
The Keynote window is dominated by the Layout pane.

Adding Slides

Keynote creates a single Title slide when you first create a project. However, not many presentations are complete with just a single slide! To add more slides to your project, use one of these methods:

>> Click the Add Slide button on the toolbar.

>> Choose Slide ⇨ New Slide.

>> Press ⌘+Shift+N.

>> Right-click an existing slide in the Slides list, and choose New Slide from the menu that appears.

Keynote adds the new slide to your Slides list and automatically switches to the new slide in the Layout pane.

Need a slide that's very similar to an existing slide you've already designed? Right-click the existing slide, and choose Duplicate to create a new slide just like it. (Consider this cloning without the science.)

To move slides to different positions in the Slides list (that is, to change the order in your Keynote presentation), drag each slide thumbnail to the desired spot in the list.

Working with Text, Shapes, and Graphics Boxes

All the text, shapes, and graphics placeholders on your first Title slide appear within boxes. Keynote uses these boxes to manipulate text, shapes, and graphics. You can resize a box (and its contents) by clicking the box and dragging one of the handles that appear around the edges of the box. (The cursor changes into a double-sided arrow when you're "in the zone.") Side selection handles drag only the edge of the frame, whereas corner selection handles resize both adjoining edges of the selection frame.

To keep the proportions of a box constrained, hold down Shift while dragging the box's corner handles.

Boxes make it easy to move text, shapes, and graphics together (as a single unit) to another location within the Layout pane. Click inside the box, and drag the box to the desired spot. Keynote displays alignment lines to help you align the box with other elements around it (or with regular divisions of the slide, like horizontal center).

To select a box, click it. To select text, shapes, or graphics within a box (see the next section), double-click the box.

When you're resizing a photo in a box, hold down the Shift key while you drag the frame. Doing so tells Keynote to preserve the image's aspect ratio so that the vertical and horizontal proportions remain fixed. You can also flip images horizontally or vertically from the Arrange menu.To delete an image, just click it to select it and press Delete.

Adding and Editing Slide Text

As with Pages, which also uses boxes for text layout, you can add or edit text in Keynote with ease. For example, say you have a box with the placeholder text `Double-click to edit`. Just double-click in that box, and the placeholder text disappears, leaving the field ready to accept new text. Any new text you type appears at the blinking cursor within the box.

Here are some additional ways to work with slide text:

>> **Add a new text box:** Just click the Text button in the Keynote toolbar, and click one of the sample styles that appear. Your new text box appears in the middle of the slide.

>> **Edit existing text:** Click — using the bar-shaped cursor to select just the right spot in the text — and drag the insertion cursor across the characters to highlight them. Type the replacement text, and Keynote obligingly replaces the old text with the new text you type.

>> **Delete text:** Click and drag across the characters to highlight them; then press Delete. You can also delete an entire box and all its contents: Right-click the offending box, and choose Delete from the menu that appears.

When a box's contents are just right, and you're finished entering or editing text, click anywhere outside the box to hide it from view. You can always click the text again to display the box later.

Formatting Slide Text for the Perfect Look

Keynote doesn't restrict you to the default fonts for the theme you choose. It's easy to format the text in your slides — a different font family, font color, text alignment, and text attributes (such as bolding and italicizing) — on the fly.

Select the desired text by double-clicking a box and dragging the text cursor to highlight the characters. Now apply your formatting using one of two methods:

>> **The Inspector:** The font controls in the Inspector work in one of two ways: After you've selected text, either click a font control to display a pop-up menu, or click a button to immediately perform an action. Opening the Font Size pop-up menu, for example, displays a range of sizes for the selected text. With a single click of the B (bold) button, add the bold attribute to the highlighted

characters. To create bullets and lists, click the Text tab at the top of the Inspector.

» **The Format menu:** When you select text, the controls on the Keynote Format menu generally mirror those in the Inspector. To change the alignment from the Format menu, click Format and hover the cursor over the Text menu item. To change text attributes, click Format and hover the cursor over the Font menu.

Using Presenter's Notes in Your Project

As mentioned earlier, you can type presenter's text notes in the Presenter Notes pane. I use them to display related topic points while presenting my slideshow. However, you can also print the notes for a project along with the slides, so presenter's notes are also great for including reminders and To Do points for your audience in handouts.

To type your notes, just click within the Presenter Notes pane. If that pane is hidden, choose View ⇨ Show Presenter Notes, or click the View button at the far left of the Keynote toolbar and choose Show Presenter Notes. When you're finished adding notes, click in the Slides list or the Layout pane to return to editing mode.

TIP

To display your notes while practicing, use the Keynote Rehearsal feature. Click the Play menu at the top of the Keynote window, choose Rehearse Slideshow, click the Tools icon at the top right, and select the Presenter Notes check box to enable it. Now you can scroll through the notes while the slideshow runs.(More on slideshows in a second.)

Every Good Presentation Needs Media

Adding audio, photos, and movies to a slide is drag-and-drop easy in Keynote. Simply drag an image, audio, or movie file from a Finder window, and place it at the spot you want within your document.

You can also use the Media Browser. To do so, follow these steps:

1. **Click the Media button on the toolbar, and then click the Photos, Music, or Movies tab to select the desired type.**

   Keynote displays the contents of your various media collections (such as your Photos, iMovie and iTunes libraries).

2. **When you find the file you want to add, drag it to the spot you want in the document.**

Figure 19-3 shows the Media Browser in action.
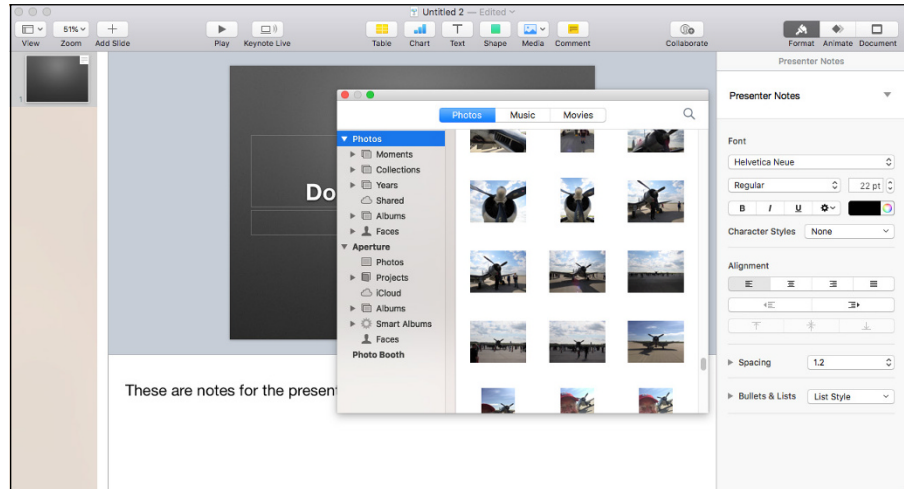
FIGURE 19-3:
It's not just photos. You can add audio and movie clips to a slide too!

Having trouble finding that specific photo or movie? Click the Search icon (which looks like a magnifying glass) at the top-right corner of the Media Browser, and you can specify a particular filename or keyword.

Adding a Background Shape

Text often stands out on a slide when it sits on top of a background shape. To add a shape (such as a rectangle or circle) as a background for your text, follow these steps:

1. **Click the insertion cursor in the location you want.**

2. **Click the Shape button on the Keynote toolbar, and choose a shape.**

   The shape appears in your document.

3. **Click the center of the shape, and drag it to a new spot.**

4. **As with image boxes, you can resize or move shapes. You can read about how to do just that in the earlier section "Working with Text, Shapes and Graphics Boxes."**

5. **When the shape is properly positioned and sized, select it, and choose Arrange ⇨ Send to Back.**

You want to "send the shape to the back" so that any text you enter sits in front of the shape, not hidden behind it.

TIP

Of course, you're not limited to creating shapes and graphics within Keynote; consider using an application like Adobe Photoshop or Illustrator to create graphics that you can import into your slides. As mentioned earlier, you can easily drag and drop your new graphic into a slide from a Finder window.

Creating Your Keynote Slideshow

The heart of a Keynote presentation is the slideshow you build from the slides you've created. A Keynote slideshow is typically presented as a full-screen presentation, with slides appearing in linear order as they are sorted in the Slides list.

You run a Keynote slideshow simply by clicking the Play button on the toolbar or by choosing Play ⇨ Play Slideshow. You can advance to the next slide by clicking, or by pressing the right bracket key, which looks like this:].

Of course, other controls are available besides just the ones that advance to the next slide. Table 19-1 lists the key shortcuts you'll use most often during a slideshow.

TABLE 19-1 ### Keynote Slideshow Shortcut Keys

Key	Action
] (right bracket)	Next slide
[(left bracket)	Previous slide
Home	Jump to first slide
End	Jump to last slide
C	Show or hide the pointer
number	Jump to the corresponding slide in the Slides list
U	Scroll notes up
D	Scroll notes down
N	Show current slide number

Key	Action
H	Hide the slideshow and display the last application used (the presentation appears as a minimized icon on the Dock)
B	Pause the slideshow and display a black screen (press any key to resume the slideshow)
Esc	Quit

TIP

Keynote offers a number of settings you can tweak to fine-tune your slideshow. To display these settings, choose Keynote ⇨ Preferences, and click the Slideshow button in the Preferences window.

TIP

If you have an iPhone, iPad, or iPod touch handy, and you've installed the iOS version of Keynote on your device, choose Keynote ⇨ Preferences to display the Preferences window. Click the Remotes tab to link your device to your iMac and Keynote. Now you can use your handheld device as a remote during your slideshow. *Sweet!*

Printing Your Slides and Notes

I'll be honest: I don't print handouts for every presentation I give. However, if you're presenting a lengthy slideshow with plenty of information you want your audience to remember or refer to later, nothing beats handouts that include scaled-down images of your slides (and, optionally, your presenter's notes).

You're not limited to paper, though. You can also use Keynote to create an electronic PDF (Portable Document Format) file instead of a printed handout, which your audience members can download from your website. Or, if you're an educator with access to an interactive whiteboard (such as a SMART Board), you can use this cutting-edge technology with Keynote.

To print your slides and notes, follow these steps:

1. **Within Keynote, choose File ⇨ Print or press ⌘+P.**

Keynote displays the Print sheet, shown in Figure 19-4. (Note that some printer-specific features may be different on your screen.) If necessary, expand the Print sheet to show all the settings by clicking the Show Details button at the bottom of the sheet.

2. **Click one of the following formats (each format displays a different set of Layout options):**

- *Slide:* Print each slide on a separate page at full size. You can optionally choose to print the presenter notes for each slide as well.

- *Grid:* Print multiple slides on a page at a reduced size. From the Slides per Page pop-up menu, specify how many slides Keynote should print on each page.

- *Handout:* Print a handout with multiple slides per page (and, optionally, with presenter's notes). Again, you can choose how many slides appear on each page.

- *Outline:* Print the contents of your Slides list in Outline view.

3. **Select the pages to print:**

- *To print the entire document,* select the All radio button.

- *To print a range of selected slides,* select the From radio button, and then enter the starting and ending pages.

4. **Select or deselect additional options from the Options section.**

5. **Click the Print button to send the job to your printer.**

> **TIP**
>
> You can also send a copy of your finished presentation as an attachment within Mail or Messages, or you can provide others with a copy through Twitter or Facebook. Click Share ⇨ Send a Copy to explore your options. To share your presentation with others (allowing them to view or edit your work), click the Collaborate button on the toolbar and specify who should receive a sharing invitation!

FIGURE 19-4:
Keynote offers a wide range of printing options for your slides and notes.
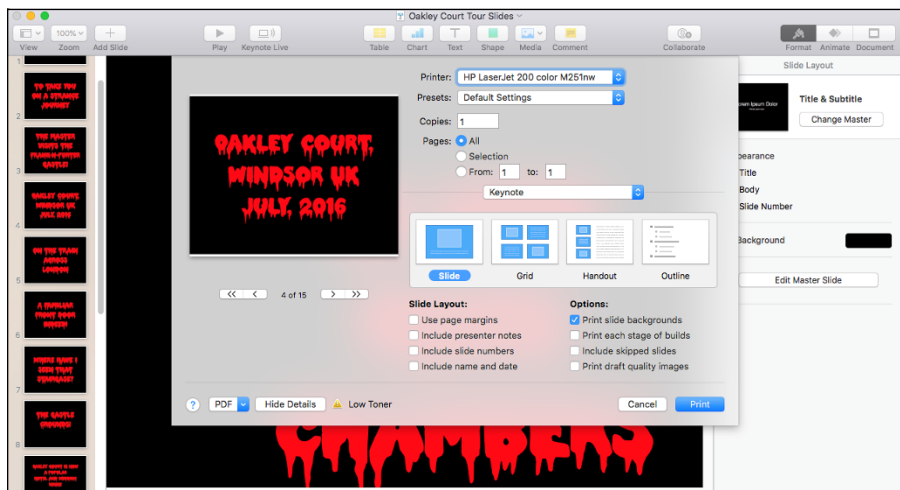
6

The Necessary Evils: Troubleshooting, Upgrading, and Maintaining

IN THIS PART . . .

Troubleshoot and fix problems with your iMac.

Expand your iMac with peripherals, external drives, and more.

Maintain your iMac properly for peak performance.

Chapter **20**

It Just . . . Sits . . .There

wish you weren't reading this chapter.

Because you are, I can only surmise that you're having trouble with your iMac, and that it needs fixing. (The other possibility — that you just like reading about solving computer problems — is more attractive but much more problematic.)

Consider this chapter a crash course in the logical puzzle that is computer *troubleshooting:* the art of finding out What Needs Fixing. I tell you what to do when you just plain can't solve the problem yourself.

Oh, and you're going to encounter a lot of Tips and Mark's Maxims in this chapter. I learned all of them the hard way, so I recommend committing them to memory.

Repeat after Me: Yes, I Am a Tech!

Anyone can troubleshoot. Believe it, and put these common troubleshooting myths to rest:

» **It takes a college degree in computer science to troubleshoot.** Tell that to my troubleshooting teen. She'll think it's a hoot, because she has an iMac in

her room, as well as Apple computers in the classroom, and she fixes minor problems all the time. You can follow all the steps in this chapter without any special training.

» **I'm to blame.** Ever heard of viruses? Failing hardware? Buggy software? Any of those things can cause the problem. It's Mark's Maxim time:

Don't beat yourself up! Your iMac *can* be fixed.

» **I need to buy expensive utility software.** Nope. You can certainly invest in a commercial testing and repair utility if you like. My favorite is Drive Genius from Prosoft Engineering (`www.prosofteng.com`), but a third-party utility isn't a requirement for troubleshooting. (I do, however, consider an antivirus application a must-have; you should have one already. Hint, hint.)

» **There's no hope if I can't fix it.** Sure, parts fail and computers crash, but your Apple Service Center can repair just about any problem. And (ahem) *if you backed up your computer* (as I preach throughout this book), you'll keep that important data (even if a new hard drive or motherboard is in your future).

» **It takes forever.** Wait until you read the number-one rule in the next section; the first step takes but 10 seconds and often solves the problem. Naturally, not all problems can be fixed so quickly. But if you follow the procedures in this chapter, you should fix your iMac (or at least know that the problem requires outside help) in an afternoon.

With those myths banished, you can get down to business and start feeling better soon.

Step-by-Step iMac Troubleshooting

In the following sections, I walk you through my should-be-patented Trouble-shooting Tree, as well as the macOS built-in troubleshooting application, Disk Utility. I also introduce you to several keystrokes that can make your Mac jump through hoops.

The number-one rule: Reboot!

The simple fact is that rebooting your iMac can often solve many problems. If you're encountering these types of strange behavior with your iMac, a reboot might be all you need:

WHY IS REBOOTING SO DARNED EFFECTIVE?

Rebooting fixes problems because it resets *everything*. Your network connection, for example, might be acting up or might have timed out, and rebooting restores it. Hardware connections are reset when you reboot, which can "magically" bring recalcitrant external peripherals back to life. Rebooting also fixes problems due to brownouts or those notorious AC power flickerings you undoubtedly have noticed from time to time. Such interruptions in constant juice might not bother you or me (or your less-intelligent toaster), but they can play tricks on your iMac that rebooting can fix.

>> Intermittent problems communicating over a network

>> A garbled screen, strange colors, or screwed-up fonts

>> The swirling Beach Ball of Doom that won't go away after several minutes

>> An application that locks up

>> An external device that seems to disappear or can't be opened

To put it succinctly, here's a modest Mark's Maxim:

Always try a reboot before beginning to worry. *Always.*

MARK'S MAXIM

If you're in the middle of a program, try to save all your open documents before you reboot. That might be impossible, but try to save what you can.

As your first (and best) option for shutting down, click the Apple menu and choose Shut Down. If you need to force a *locked* application (one that's not responding) to quit so that you can reboot, follow these steps to quash that locked application:

1. **Click the Apple () menu, and choose Force Quit.**

The dialog shown in Figure 20-1 appears.

2. **Click the offending application and then click the Force Quit button.**

When you get everything to quit, you should be able to click the Apple menu and choose Shut Down (not Restart) without a problem.

If your iMac simply won't shut down (or you can't get the offending application to quit), do what must be done:

1. Press and hold your iMac's Power button until it shuts itself off.

You have to wait about five seconds for your Mac to turn itself off.

If holding the Power button down on your iMac doesn't do the trick, press the Power button and the Left Option+Left Shift+Left Control keyboard shortcut at the same time; then release them all at the same time. (This method also resets some of your iMac's internal hardware settings, which is often A Good Thing.)

2. Wait about ten seconds.

3. Press the Power button again to restart the computer.

After everything is back up, check whether the problem is still apparent. If you use your iMac for an hour or two and the problem doesn't reoccur, you likely fixed it!

Special keys that can come in handy

Several keys have special powers over your iMac. I'm not kidding! These keys affect how your computer starts up, and they can really come in handy while troubleshooting.

Using Safe mode

You can use Safe mode to force macOS to run a directory check of your boot drive and disable any login items that might be interfering with your system. Follow these steps:

1. **Choose the Shut Down menu item from the Apple (⌘) menu to turn off your iMac.**

2. **Press the Power button to restart the computer.**

3. **Immediately after you hear the start-up tone, press and hold down the Shift key (and keep holding it down until you see the boot progress indicator).**

4. **After macOS boots, you're in Safe mode, and you can check the operation of your iMac by using Disk Utility (or a commercial utility application).**

5. **When you're ready to return to normal operation, restart your iMac again (this time, without pressing the Shift key).**

Start-up keys

Table 20-1 provides the lowdown on start-up keys. Hold down the indicated key either *when you push the Power button* or *immediately after the screen goes blank during a restart.* (As I just mentioned, the Shift key shortcut to Safe mode is the exception; you should press it and hold it down after you hear the start-up tone.)

Some of the keys and combinations in Table 20-1 might never be necessary for your machine, but an Apple technician might instruct you to use them.

TABLE 20-1   **Start-Up Keys and Their Tricks**

Key	Effect on Your iMac
C	Boots from the CD or DVD that's loaded in your optical drive (if you have one)
Media Eject	Ejects the CD or DVD in your optical drive (if you have one)
Option	Displays a system boot menu, allowing you to choose any bootable operating system on your iMac
Shift	Boots in Safe mode
T	Starts your iMac in Target Disk mode (using your Thunderbolt port)
⌘+V	Shows macOS Console messages
⌘+R	Boots from the macOS Recovery HD volume
⌘+S	Starts your iMac in Single User mode
⌘+Option+P+R	Resets Parameter RAM (PRAM)

DANGER, WILL ROBINSON!

Many Disk Utility functions can actually *wipe your drives clean of data* instead of repairing them! These advanced functions are unlikely to help you with troubleshooting a problem with your existing volumes.

Remember: Don't use the following Disk Utility functions unless an Apple technician *tells* you to:

- Partitioning and erasing drives
- Setting up RAID arrays with the Raid Assistant
- Restoring files from disk images

All hail Disk Utility, the troubleshooter's friend

The macOS *Disk Utility* is a handy tool for troubleshooting and repairing your iMac's drive — you can use it to check the format and health of both drives and volumes (and automatically correct any problems). You can find Disk Utility in the Utilities folder in Launchpad.

Fire up Disk Utility to open the rather powerful-looking window shown in Figure 20-2.
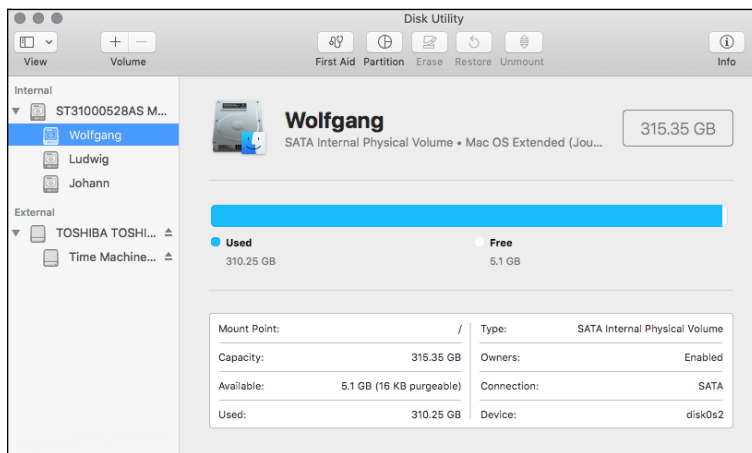
FIGURE 20-2:
The physician of drives: the Mojave Disk Utility.

Click the View drop-down list at the left corner of the window, and choose Show All Devices. In the left column of the Disk Utility window, you can now see:

>> The *physical* drives in your system (the actual hardware).

>> The *volumes* (the data stored on the drives).

    You can always tell a volume, because it's indented below the physical drive entry.

>> Any CD or DVD loaded on your iMac.

>> USB or Thunderbolt external drives.

Figure 20-2 shows that I have one internal drive (the ST3100 entry) and one USB 3.0 external drive (the TOSHIBA USB entry). The hard drive has three volumes (Wolfgang, Ludwig and Johann), and the external drive has one volume (Time Machine).

The information in the bottom section of the Disk Utility window is the specifications for the selected drive or volume. This info includes information like the capacity and available space.

Using Disk Utility to repair your hard drive carries a couple of caveats:

>> **You may not be able to immediately repair problems on your boot drive or boot volume.** This limitation actually makes sense, because you're actually using that drive and volume right now.

If First Aid finds a problem on your boot drive but reports it can't fix that error, boot your iMac from the macOS Recovery HD volume. Reboot and then hold down the ⌘+R keyboard shortcut immediately after you hear the start-up chord. Then run Disk Utility from the window that appears. Because you've booted your iMac from the Recovery HD volume, you can repair those problems with your start-up drive. (You should be able to select your boot hard drive or volume and click the First Aid button.)

» **You can't repair CDs and DVDs.** CDs and DVDs are read-only media and thus can't be repaired (at least by Disk Utility).

If your iMac is having trouble reading a CD or DVD, wipe the disc with a soft cloth to remove dust, oil, and fingerprints. Should that fail, invest in a disc-cleaning contrivance of some sort.

To check and repair problems using First Aid, follow these steps:

1. **Click the Go menu and choose Utilities; then double-click the Disk Utility icon.**

2. **In the list at the left side of the Disk Utility window, click the drive or volume you want to check.**

3. **Click the First Aid button, and click the Run button that appears.**

4. **Click Done to exit First Aid.**

   If changes were made (or if you had to boot from the macOS Recovery HD volume), Disk Utility may prompt you to reboot after repairs have been made.

Figure 20-3 illustrates the details you see if you click Show Details to expand the display. Although some of the messages might include cryptic Linux details, you can still tell from the figure that the operation is successful (and you get that snazzy green check mark). All is well!
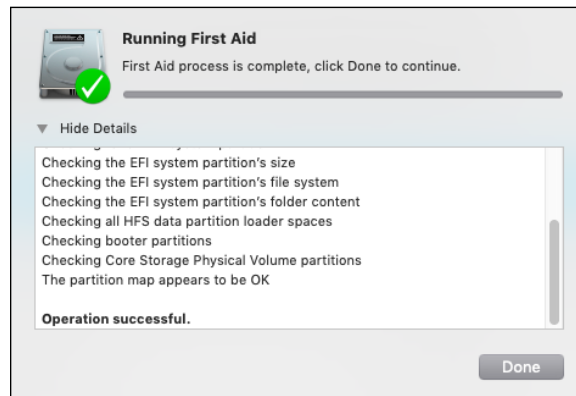
FIGURE 20-3:
First Aid reports that this drive is error-free.

Mark's iMac Troubleshooting Tree

As hip-hop artists say, "All right, kick it." And that's just what my iMac Troubleshooting Tree is here for. If rebooting your aluminum supercomputer didn't solve the problem, follow these steps in order until you either find the solution or run out of steps (more on that in the next section).

If you're not sure quite what's producing the error, this process is designed to be *linear* — followed in order — but if you already know that you're having a problem with one specific peripheral or one specific application, feel free to jump to the steps that concern only hardware or software.

Step 1: Investigate recent changes

The first step is a simple one that many novice iMac owners forget. Simply retrace your steps and consider what changes you made to your system recently. Here are the most common culprits:

» **Did you just finish installing a new application?** Try uninstalling it by removing the application directory and any support files it might have added to your system. (And keep your applications current with the most recent patches and updates from the developers' websites.)

» **Did you just apply an update or patch to an application?** Uninstall the application, and reinstall it without applying the patch. If your iMac suddenly works again, check the developer's website, or contact the application's technical support department to report the problem.

» **Did you just update macOS?** Updating Mojave can introduce problems in your applications that depend on specific routines and system files. Contact the developer of the application, and look for updated patches that bring your software in line with the latest Mojave updates.

» **Did you just make a change in System Preferences?** Return the options you changed to their original settings; then consult Chapter 5 for information on what might have gone wrong. (If the setting in question isn't listed in Chapter 5, consider searching the macOS Help system or the Apple support website for more clues.)

» **Did you just connect (or reconnect) an external device?** Try unplugging the device and then rebooting to see if the problem disappears. Remember that many peripherals need software drivers to run; without those drivers installed, they don't work correctly. Check the device's manual or visit the company's website to search for software you might need.

If you didn't make any significant changes to your system before you encountered the problem, proceed to the next step.

Step 2: Run Disk Utility

The next step is to run Disk Utility and use First Aid. The earlier section "Repairing permissions and disks" shows how to complete this task on your macOS boot drive.

Step 3: Check your cables

Cables can work themselves loose, and sometimes they fail. Check all the cables to your external devices — make sure that they're snug — and verify that everything's plugged in and turned on. (Oh, and don't forget to check for crimps in your cables or even Fluffy's teeth marks.)

If a Thunderbolt or USB device acts up, swap cables around to find whether you have a bad one. A faulty cable can have you pulling your hair out in no time.

Step 4: Check your Trash

Check the contents of the Trash to see whether you recently deleted files or folders by accident. Click the Trash icon on the Dock to display the contents. If you deleted something by mistake, right-click the item in the Trash and choose Put Back from the contextual menu.

I know this one from personal experience. A slight miscalculation while selecting files to delete made an application freeze every time I launched it.

Step 5: Check your Internet and network connections

Now that always-on DSL and cable modem connections to the Internet are the norm, don't forget an obvious problem: Your iMac can't reach the Internet if your ISP is down or your network is no longer working!

When you're at home, a quick visual check of your DSL or cable modem usually indicates whether a connection problem exists between your modem and your ISP. My modem has a set of informative activity lights that I always glance at first. If your iMac is connected to the Internet through a larger home or office network, however, and you can't check the modem visually, you can check your Internet connection by pinging `www.apple.com`, as follows:

1. **Click the Spotlight icon at the right side of the Finder menu bar, and type Network Utility in the search box.**

2. **Click the Network Utility entry.**

3. **Click the Ping button.**

4. **Enter `www.apple.com` in the Address box.**

5. **Click Ping.**

   You should see successful ping messages. If you don't get a successful ping *and* you can still reach other computers on your network, your cable modem, DSL modem, or ISP is likely experiencing problems. If you can't reach your network at all, the problem lies in your network hardware or configuration. (In an office environment, your network system administrator will be happy to help you at this point, especially if you're blood relatives.)

Step 6: Think virus

If you've made it to this point, it's time to run a full virus scan. Make sure that your antivirus application has the latest updated data files. My antivirus application of choice is Avast Security for Mac from Avast Software (`www.avast.com`). It's both excellent and free!

TIP

If a virus is detected, and your antivirus application can't remove it, try *quarantining* it instead. This basically disables the virus-ridden application and prevents it from infecting other files.

Step 7: Check your login items

macOS might encounter problems with applications you've marked as login items in System Preferences. Your account's login items are applications that run automatically every time you log in to your iMac. If one of these login items is to blame for your problems, your iMac will encounter some type of trouble every time you log in. (This is usually the case when you receive an application error message each time you start the computer.)

To check the boot process, it's time to use that fancy Safe Boot mode I discussed earlier in the chapter. Restart your iMac, and press and hold down the Shift key after you hear the start-up tone. Login items are disabled when you're running in Safe mode, so if your computer starts up without any errors, you know that one or more login items are probably to blame.

If your computer starts without problems in Safe mode, the next step is to check your login items. Restart your iMac and then follow this procedure for each item in the login list:

1. **Open System Preferences, click Users & Groups, and then click the Login Items button.**

2. **Select the first item from the list, and remove it.**

   You can delete the selected item by clicking the Delete button, which bears a minus sign. (If a recurring error message mentions a specific application that appears in the Login Items list, that's your likely culprit, so start by deleting that item.)

3. **Restart your iMac.**

4. **If your iMac is still misbehaving, repeat Steps 2 and 3, and disable a new login item.**

   When your Mac starts up normally, you have discovered the perpetrator.

5. **Delete that application, and reinstall it.**

   Don't forget to add back each of the *working* login items to the Login Items list using the Add button (which carries a plus sign)!

Step 8: Turn off your screen saver

The next step is to turn off your screen saver. This remedy is a long shot, but it isn't unheard of to discover that a faulty, bug-ridden screen saver has locked up your iMac. If you are running a screen saver other than one from Apple, and your computer never wakes up from Sleep mode or hangs while displaying the screen saver, you've found your prime suspect.

Reboot your iMac (if necessary), open System Preferences, click Desktop & Screen Saver, and click the Screen Saver button. Then do one of the following:

>> Switch to an Apple screen saver.

>> Click the Start After pop-up menu and choose Never.

Step 9: Run System Information

Ouch. You've reached the final step, and you still haven't uncovered the culprit. At this point, you've narrowed the possibilities to a serious problem, such as bad hardware or corrupted files in your macOS System folder. Fortunately, macOS includes the System Information utility, which displays real-time information on the hardware in your system. To start System Information, follow these steps:

1. **Choose About This Mac from the Apple (** **) menu.**

2. **Click the System Report button.**

3. **Click each of the Hardware categories in turn, double-checking to make sure everything looks okay.**

You don't have to understand all the technical hieroglyphics. If a Hardware category doesn't return what you expect or displays an error message, though, that's suspicious. (If your iMac doesn't have a specific type of hardware onboard — such as an optical drive — you won't see information in that category.)

The Diagnostics category shows whether your iMac passed the Power On self-test.

Okay, I Kicked It, and It Still Won't Work

Don't worry, friendly reader. Just because you've reached the end of my spiffy iMac Troubleshooting Tree doesn't mean you're out of luck. In the following sections, I discuss the online help available in macOS and on the Apple website, as well as local help in your own town.

Local service, at your service

In case you need to take in your iMac for service, an Apple Store or Apple Authorized Service Provider is probably in your area. To find the closest service, launch Safari and visit the Apple website Support page (www.apple.com/support); then click the Apple Authorized Service Providers link at the bottom of the page. You can search by city and state or zip code. Click one of the locations near you to display the provider's mailing address, website address, telephone number, and even a map of the location.

Always call your Apple Authorized Service Provider before you lug your iMac's svelte frame all the way to the shop. Make sure you know your iMac's serial number (which you can display in System Information) and which version of macOS you're using.

The macOS Help Center

Although most iMac owners tend to blow off the Help Center when the troubleshooting gets tough, that's never the best course of action. Always take a few moments to search the contents of the Help Center by choosing Finder ➪ Help to see whether any mention is made of the problem you've encountered.

Apple Help Online

If you haven't visited the Apple iMac Support site yet, run, don't walk, to `www.apple.com/support/imac.` There, you find:

>> The latest patches, updates, and tutorials for the iMac line

>> iMac and macOS discussion boards, moderated by Apple

>> Tools for ordering spare parts, checking on your remaining warranty coverage, and searching the Apple knowledge base

>> Do-it-yourself instructions (PDF files) that you can follow to repair or upgrade your iMac

Chapter **21**

I Want to Add Stuff

"No iMac is an island." Somebody famous wrote that, I'm sure.

Without getting too philosophical — or invoking the all-powerful Internet yet again — the old saying really does make sense. All computer owners usually add at least one *peripheral* (external device), such as a printer, backup drive, joystick, camera, or scanner. I talk about the ports on your iMac in Chapter 1. Those holes aren't there to just add visual interest to the back end of your treasured iMac. Therefore, I cover your USB and Thunderbolt ports (and what you can plug in to them) in detail in this chapter.

Ah, but what about the stuff *inside* your supercomputer? That's where things get both interesting and scary at the same time. In this chapter, I also describe what you can add to the innards of *some* iMac models as well as how to get inside there if you work up the courage to go exploring. (Don't tell your family or your friends, but adding memory to a late-model 27″ iMac is as simple as pressing a button and pulling a couple of plastic levers. There's actually nothing to fear whatsoever.)

Here's the trick: Just make it sound like an adventure from *Mission: Impossible,* and folks will crown you their new resident techno-wizard!

More Memory Will Help

Hey, wait a second. No *however* stuck on the end? You mean that, for once, there isn't an exception? Aren't all computers different? Hard as it is to believe, just keep in mind this Mark's Maxim:

More memory helps.

Period. End of statement. No matter what type of computer you own, how old it is, or what operating system you use, adding more memory to your system (to the maximum it supports, of course) significantly improves the performance of your operating system (and practically every application that you run).

Memory maximizes the power of your computer: The more memory you have, the less data your iMac has to temporarily store on its hard drive. Without getting into virtual memory and other techno-gunk, just consider that extra memory as extra elbow room for your applications and your documents. Believe me, both macOS and Windows efficiently make use of every kilobyte of memory that you can provide.

Figuring out how much memory you have

To see how much memory you have on your computer, click the Apple menu and choose About This Mac. Figure 21-1 shows the dialog that appears.

FIGURE 21-1:
Find out how much memory your iMac has.

The 8GB of standard memory supplied by Apple is enough for running any of the Apple applications bundled with Mojave. If your primary applications include video editing, playing the latest crop of immersive 3D games, or image editing, though, you can use all the memory your iMac can hold — as you can see from Figure 21-1, my 27″ iMac is stuffed with 32GB of RAM for just such applications.

Ah, but there's a caveat. (Go figure.) At this writing, only the 27″ iMac from the current lineup has memory sockets that you — a Regular Human Being — can access. The 27″ models provide slots for four 2400 MHz DDR4SO-DIMM memory modules at up to 8GB each. (Don't fret over what those abbreviations mean. Rest assured that this memory type is fast.)

Unfortunately, the memory in the late-model 21.5″ iMac and the iMac Pro can't be replaced or upgraded by anyone except an authorized Apple Service Center technician. So if you're using a 21.5″ iMac or iMac Pro, you can skip the rest of this section, except for the rest of this paragraph. If you're ready to order a *new* 21.5″ iMac or iMac Pro from Apple, I *strongly* recommend that you opt for as much additional memory as you can afford while configuring your dream machine, since you can't upgrade it yourself later.

In the past, Apple's prices for RAM were . . . well . . . *outrageous* (as in, "Boy, howdy, I can't afford that!"). Recently, however, Apple's memory prices have become far more competitive, so I now recommend that you add memory while configuring and ordering either model of iMac.

How you plan memory upgrades depends on how much memory you want. If your 27″ iMac uses the two default 4GB modules (8GB total) supplied by Apple, you can add RAM by inserting memory modules in the empty slots. At this writing, a 4GB memory module should set you back about $40 or so.

If your iMac already has all four memory slots filled and you'd still like to add more system RAM, it's time to remove one or all of the existing modules and replace them with full 8GB or 16GB modules. (Current prices for an 8GB module hover around $100.) With all four slots filled with 8GB modules (bringing you to 32GB) or 16GB modules (arriving at that coveted 64GB total), you'll have a 27″ iMac that marks you as one of the "In People."

If you've already bought your 27″ iMac and you'd like to shop around for the best memory prices, I can heartily recommend any one of these online sources that cater to Mac owners:

- ❯❯ MacMall (`www.macmall.com`)
- ❯❯ CDW (`www.cdw.com/content/brands/apple/default.aspx`)
- ❯❯ Crucial (`www.crucial.com`)
- ❯❯ Small Dog Electronics (`www.smalldog.com`)
- ❯❯ Newegg (`www.newegg.com`)

Installing memory modules

I'm happy to report that adding extra memory to a 27″ iMac is one of the easiest internal upgrades that you can perform. Therefore, I recommend that you add memory yourself unless you simply don't want to mess with your iMac's internal organs. Of course, your local Macintosh service specialist will be happy to install new RAM modules for you (for a price).

As you've concluded by this point in this book, Apple has designed the world's best all-in-one computer. That even includes making it EZ-Open. (Forgive me if your treasured work of art now reminds you of a longneck beer bottle. Come to think of it, the level of technical knowledge required to gain access to either one is about the same.)

Unlike earlier "picture frame" iMac models, however, you can't remove the back completely. In fact, Apple allows the owner of a 27″ iMac to perform only one kind of upgrade, and there's only one opening you need to worry about. Naturally, an Apple repair technician can get deeper into the machine, but I hope that you never need aid from those folks.

WARNING

You'll void your warranty by tinkering with anything other than your memory slots, so don't even *think* about it. (Even if your warranty has expired, I'd still stay my distance.)

To add memory modules to a late-model 27″ iMac, follow these steps:

1. **Get ready to operate:**

   (a) *Spread a clean towel on a stable work surface, like your kitchen table.* The towel helps protect your screen from scratches.

   (b) *Shut down your iMac.*

   (c) *Unplug all cables from the computer.*

2. **Tilt the computer over, and lay the screen flat (face-down) on top of the towel.**

3. **Press the button directly above the power-cord socket.**

   The memory access door pops open.

4. **Remove the memory access door.**

5. **Stow the memory access door safely out of reach of kids and cats.**

   Tah-dah! That wasn't much of a challenge, was it? Take a moment to gaze with rapt fascination at a small portion of the bare innards of your favorite computer.

6. *Ground thyself!*

Check out the "Let's get grounded!" sidebar.

7. Gently pull outward on the two plastic securing levers and then pull them toward the bottom of the access door (as shown in Figure 21-2).
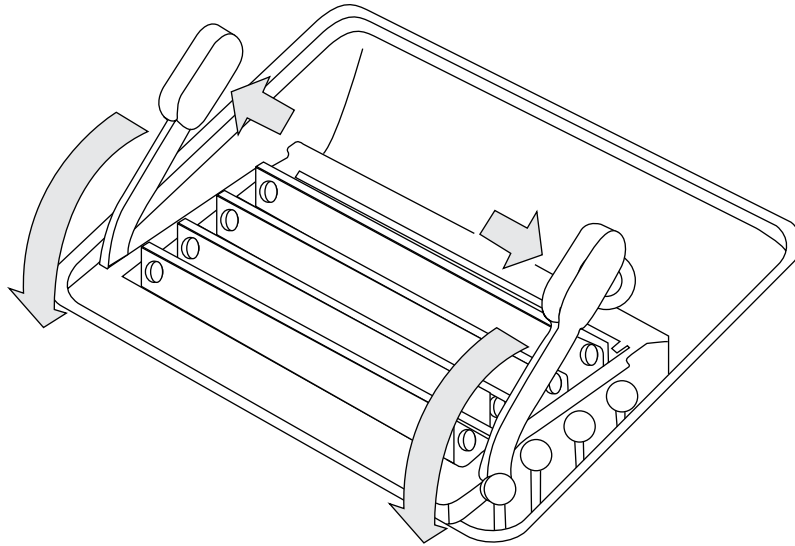
FIGURE 21-2:
Remove a memory module like a pro.

8. Remove a module by gripping it by the corners and gently pulling it straight upward.

Save the old module in the static-free packaging that held the new module. Your old RAM (which you can now sell on eBay) will be protected from static electricity.

9. Position the new module in the socket:

(a) *Line up the module's copper connectors toward the socket.*

(b) *Line up the notch in the module aligned with the matching spacer in the socket.* See what I mean in Figure 21-3, which shows the correct orientation for a late-2013 27" iMac.
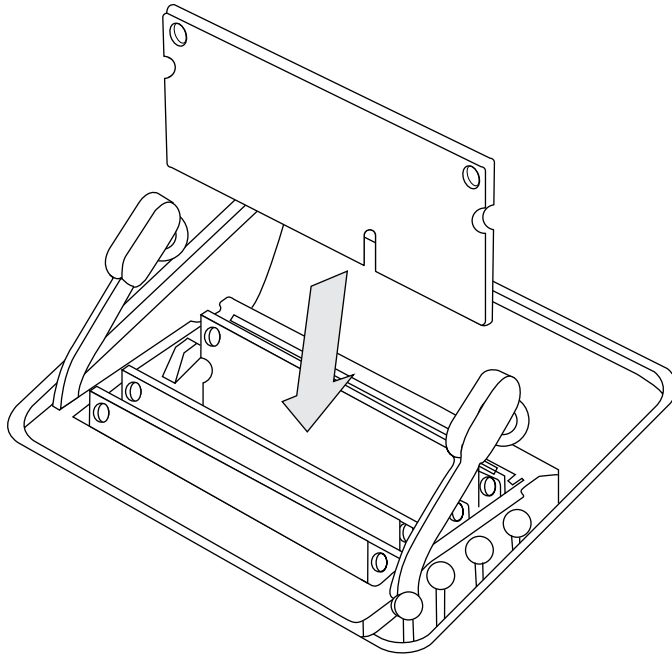
10. **Press gently (but firmly) on both ends of the module until the module clicks into place.**

11. **Repeat Steps 8–10 for each module you're replacing.**

12. **Push the two securing levers back into their original positions.**

    You should hear a click when they're seated.

13. **Replace the memory access door.**

14. **Return your iMac to its natural upright stance, and plug any cables you removed back into the back of the computer.**

    Waxing nostalgic: This is rather like changing the oil on my Dad's 1970 Ford pickup truck.

Congratulations! You've done it — and you're now an iMac memory guru! To verify that all is well with your iMac, boot the computer, click the Apple menu, choose About This Mac and click the Memory button. Your iMac should report the additional memory. If your iMac doesn't boot, check to make sure that the modules you installed are properly seated in the sockets.

LET'S GET GROUNDED!

Follow one cardinal rule when the unguarded insides of any computer are in easy reach: *Always ground yourself before you touch anything!* Your body can carry enough static electricity to damage the RAM you're installing or removing, and touching those modules without grounding yourself is an invitation for disaster.

Grounding yourself is easy to do: Just touch any metal surface around your work table, such as a chair leg or your local metal sink. After you ground yourself, you can then safely handle RAM modules that you remove (if any) as well as the new ones that you're installing. (If you often swap RAM modules on different computers, you can also invest in a device called a grounding strap that ensures you're always grounded.)

If you walk anywhere in the room — say, taking a sip of liquid reinforcement that you stashed a comfortable and safe distance away — you *must* ground yourself again before you get back to work. ***Remember:*** You can actually pick up a static charge by simply walking. Go figure.

Can I Upgrade My Internal Drive?

Asking whether you can upgrade your iMac's internal drive is a trick question. Yes, you certainly *can* upgrade your drive. But before you start cruisin' the Internet for a 4TB monster, I have two suggestions:

» **Be sure you really *need* an internal drive upgrade.**

Apple is pretty generous when configuring drive storage for its base systems. (Current models run with anywhere from a 1TB to a whopping 4TB drive — yep, that's 4 *terabytes,* or 4,000GB! Something tells me that your prized walnut brownie recipe will have plenty of elbow room on a 4TB drive, as will as a huge amount of digital video.) Naturally, if you're purchasing a new iMac and you want to avoid a bad case of "storage pinch" in the future, I definitely recommend that you opt for more than a 1TB drive.

I'll be honest here: Most folks simply don't need more than 1TB of internal drive space. You're likely to find that you still have plenty of wide-open spaces for a typical family's needs on your hard drive unless you're heavily into:

- Digital video (DV) or a large collection of movies
- Cutting-edge video games
- Tons of high-quality digital audio

- Four generations of high-resolution digital photos of your family (hey, it's possible!)

>> **If you decide that you do need to upgrade, don't install your internal drive yourself.**

Read more about dealing with the installation of an internal hard drive in the upcoming section "Gotta have internal."

TIP

If you're short on drive space, first clean up your existing internal drive by deleting all the crud you don't need, such as game and application demos, duplicate or "work" copies of images and documents, archived files you downloaded from the Internet, and the contents of your Trash. You can read how in Chapter 22.

Consider your external options

If you *do* need additional drive space, I recommend using an external drive. Use a high-speed Thunderbolt 3 or USB 3.0 port to connect a second drive the quick and easy way.

Today's Thunderbolt and USB peripherals don't even require the driver software that Mac old-timers remember with such hatred. You simply plug a device into one of these ports, and it works. And you can move your external drive between different Macs with a minimum of fuss and bother.

An external drive can do virtually anything that your internal drive can do. You can boot from it, for example, or install (and boot from) a different version of macOS (great for beta testers like me).

TIP

Apple's Time Capsule unit is an external hard drive with a difference: It stores the huge Time Machine backup files created by the Macs running macOS on your network, and it uses a wireless connection to transfer data! (In fact, if you're thinking of adding a wireless base station to your wired network, your Time Capsule actually acts as a wireless base station, complete with USB port for connecting a USB printer.) At this writing, Time Capsule is available with a 2TB ($299) or 3TB ($399) drive. Note that Apple will retire the Time Capsule line of devices in April, 2019.

TECHNICAL STUFF

Here's one problem with external drives, though. Even USB 3.0 connections transfer data more slowly this way than via an internal drive (only the newer Thunderbolt 3 connections rival the speed of an internal drive). That's why most Mac owners (especially graphics and video professionals) use their external drives for storing backups, digital media, and little-used documents and applications. Their favorite applications, work in-progress and often-used documents are housed on the internal drive.

Putting a port to work

Current iMac models carry two kinds of high-speed ports, either of which is a good match for connecting any external device.

USB 3.0

The USB standard is popular because it's just as common in the PC world as in the Mac world. (Most PCs don't have a Thunderbolt port.) Your iMac carries its USB 3.0 ports on the back of the case, which are fully compatible with older USB 2.0 devices. Hardware manufacturers make one USB device that works on both Macs and PCs.

If you're using an older iMac with USB 2.0 ports, there's no need to spend extra money on USB 3.0 devices, because you won't get the performance boost. 'Nuff said.

THUNDERBOLT 2 AND 3

Talk about raw speed. An older iMac's second-generation Thunderbolt 2 connection provides a blazing 20Gbps, which is twice as fast as USB 3.0 — and the latest iMac models sport the Thunderbolt 3 port, which doubles that transfer speed to an unbelievable 40Gbps maximum! You can use a Thunderbolt port to connect an external hard drive or even a high-resolution monitor or HD-TV. Luckily, the price for Thunderbolt external drives has dropped significantly since the port first appeared on the Mac, so you no longer have to pay a premium price for Thunderbolt devices.

Connecting an external drive

With Thunderbolt or USB, you can install an external hard drive without opening your iMac's case. With your iMac turned on and the external drive disconnected from the AC outlet, follow these steps:

1. **Connect the Thunderbolt or USB cable betwixt the drive and your computer.**

2. **If the drive requires an AC adapter, plug the external drive into a convenient surge protector or UPS (uninterruptible power supply).**

3. **Switch on the external drive.**

4. **If the drive is unformatted (or formatted for use under Windows), partition and format the external drive.**

The drive comes with instructions or software to help you do this. (Don't worry, external drives typically come from the factory completely empty, and you won't damage anything by formatting it. To be sure, check the drive's manual.) *Partitioning* divides the new drive into one (or more) volumes, each of which is displayed as a separate hard drive under macOS.

TIP

If the drive comes preformatted for use with a Windows PC, I strongly suggest reformatting it for use with macOS. Doing so results in much faster performance and more efficient use of space.

After the drive is formatted and partitioned, it immediately appears on the Desktop. *Shazam!*

Gotta have internal

If you decide that you absolutely have to upgrade your existing internal hard drive — or if your internal drive fails and needs to be replaced — you *must take your iMac to an authorized Apple Service Center* and allow the techs there to sell you a drive and make the swap. Here are four darned good reasons why:

» **Warranty:** As I mention earlier, you'll void your iMac's warranty by attempting a drive upgrade yourself.

» **Selection:** If you're worried about picking the proper drive, an Apple technician can order the right drive type and size for you . . . no worries.

» **Difficulty:** Swapping a hard drive in your iMac is nothing like adding RAM modules. It's complex and involves breaking into your iMac — not A Good Thing, even for the knowledgeable Mac guru.

» **Backup:** That very same Apple service technician can back up all the data on your existing drive and move it to the new drive, saving you from losing a single document. That will save you time and possible angst.

WARNING

To those who *truly* won't be satisfied with their lives until they upgrade an internal drive in an iMac all by themselves: Yes, I'm sure you can find a magazine article that purports to show you how. Even better, I've seen many how-to articles on the web that will lead you down a rosy path to a hard drive upgrade. Here's my take on those savvy instructions: You're walking into a field of land mines with someone else's map, so you had better have *complete* faith in your tech skills. (And a darn good backup.)

Weighing Attractive Add-Ons

The external toys I cover in this section might add a cord or two to your collection at the back of your iMac, but they're well worth the investment. And they can really revolutionize how you look at technologies such as television, digital audio, and computer gaming.

Game controllers

If you're ready to take a shot at the enemy — whether they be Nazi soldiers, chittering aliens, or the latest jet fighters — you'll likely find your keyboard and mouse somewhat lacking. (And if that enemy happens to be a friend of yours playing across the Internet, you'll be ruthlessly mocked while you're fumbling for the right key combination.) Instead, either pick up a USB joystick (for flying games) or a gamepad (for arcade and first-person shooting games)!

External drive arrays

In case you're not familiar with a drive array (typically called a *RAID array*), it's just a fancy moniker for an enclosure that holds multiple drives. "Grouping" hard drives like this provides a boost in speed, or you can use an array to make a self-maintaining redundant backup of all your data. Your Thunderbolt port is perfect for this high-tech magic. You can also pick up a wired or wireless network storage unit (commonly called a NAS, short for *network-attached storage*), which is essentially drive storage that's connected and available to your entire Ethernet network.

Video controllers

For armchair directors, specialized USB digital video controllers make editing easier. The ShuttlePRO V2 from Contour Design (`www.contourdesign.com`) provides a 15-button jog control that can be configured to match any DV editor. For around $100, you'll have the same type of editing controller as do those dedicated video-editing stations that cost several thousand dollars.

Audio hardware and MIDI controllers

Ready to put GarageBand to the test with your favorite version of "Chopsticks"? You need a USB piano keyboard, and I recommend the Keystation 88es from M-Audio (`www.m-audio.com`), which retails online for around $150. It provides 88 keys and uses a USB connection.

IN THIS CHAPTER

» **Cleaning unnecessary stuff off your hard drive**

» **Backing up your data**

» **Fixing permissions errors**

» **Automating tasks in Mojave**

» **Updating macOS automatically**

Chapter **22**

Tackling the Housekeeping

Nothing runs better than a well-oiled machine, and your iMac is no exception. (But please, don't *ever* oil your iMac; that's just a figure of speech.) In this chapter, I demonstrate how you can make good use of every byte of storage space provided by your hard drive.

With a little macOS maintenance, such as Time Machine (for backing up and restoring your hard drive) and frequent scans of your hard drive for disk errors, you can ensure that your iMac is performing as efficiently as possible. Automator allows your iMac to perform tasks automatically that used to require your attention. In addition, configuring Software Update to run automatically can allow you to live life free and easy, watching your favorite reality TV and eating ice cream (or yogurt — your pick).

Cleaning Unseemly Data Deposits

Criminy! Where does all this stuff *come* from? Suddenly, that spacious 1TB hard drive has 19GB left, and you start feeling pinched.

Before you consider buying a new internal or external hard drive (which you can read about in Chapter 21), take the smart step: Sweep your hard drive clean of unnecessary and space-hogging software.

Managing your storage in macOS (or cleaning things the elegant way)

Apple recently added the Manage Storage feature within macOS to help identify and display (and optionally delete) those huge files that are taking up so much of your drive's real estate. Right-click the Desktop icon for the hard drive you want to clean, and choose Manage Storage. After a pause (which may be considerable, depending on the capacity of the drive), you'll see the window shown in Figure 22-1.
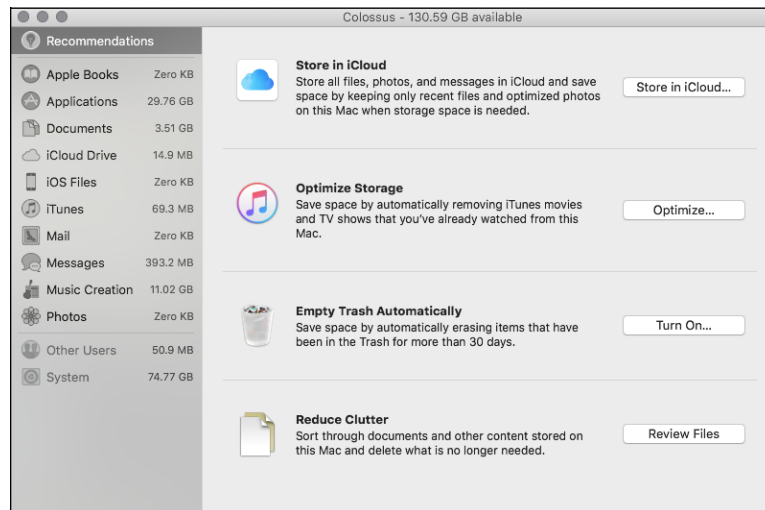
FIGURE 22-1
Manage your storage to reclaim drive space.

Note the categories in the list at the left side — from here, you can see the approx-imate amount of space taken up by notoriously spacious items like your docu-ments and your iTunes media. Click a category to display the worst offenders, sorted by size. If you see an item that you no longer need (like that 2GB happy cat video you downloaded two years ago), move your cursor over that item and click the X button that appears to delete it. If only cleaning your house were this easy!

The Recommendations category is unique, since it offers space-saving features that macOS offers rather than displaying files. For example, if you've invested in additional iCloud storage, you can choose to "offload" files, photos, and messages to iCloud rather than store them locally. (Naturally, you must be connected to the

Internet to retrieve them.) You can also choose to empty your Trash automatically from here.

Getting dirty (or cleaning things the manual way)

If you're willing to dig into your data a little, you can eschew the Manage Storage feature and dive elbow-deep into your drive to hunt down every unnecessary file. All you really need is the willpower to announce, "I simply don't need this particular item any longer." (Sometimes, that's tougher than it may seem.)

Unnecessary files and unneeded folders

Consider all the stuff that you probably don't really need:

» Game demos and shareware that you no longer play (or even remember)

» Movie trailers and other QuickTime video files that have long since passed into obscurity

» Temporary files that you created and promptly forgot

» Log files that chronicle application installations and errors

» GarageBand loops and iMovie video clips you'll never use

» StuffIt and Zip archives that you downloaded and no longer covet

» iTunes music, video, and movies that no longer appeal

How hard is it to clean this stuff off your drive? Easier than you might think!

» You can quickly delete files.

» You can remove items from your iTunes Library (especially movies, which take up several gigabytes of space *each*). If you've purchased an item from the iTunes Store, don't forget that you can download that item again in the future for free — perhaps when you've added an external drive to hold some of your stuff. You can also choose to stream your music and movies directly from iTunes, which takes up no space on your drive at all – just a fast broadband Internet connection.

» You can move seldom-used files and folders to external storage (such as a USB flash drive, an external hard drive, or a DVD).

» You can uninstall applications purchased from the App Store using Launchpad. From the Launchpad display, click and hold down the icon until it wiggles. If an

X button appears on the icon, you can click the X to remove the application from your iMac. Again, these applications can be reinstalled at any time.

» You can get rid of most of the space taken by any application (often the whole application) by deleting its application folder that was created during the installation process.

WARNING

Always check the application's README file and documentation for any special instructions before you manually delete any application's folder! If you created any documents in that folder that you want to keep, don't forget to move them before you trash the folder and its contents. In fact, some applications may come with their own uninstall utility, so checking the README file and documentation may save you unnecessary steps.

Removing an application or file from your drive usually takes two simple steps:

1. **Display the file or application folder in a Finder window.**

2. **Delete the file or folder with one of these steps:**

- Drag the icon to the Trash.

- Select the icon and press ⌘+Delete.

- Right-click the icon and choose Move to Trash from the contextual menu.

- Select the icon and click the Delete button on the Finder toolbar (if you added one).

Truly, no big whoop.

TECHNICAL STUFF

Unlike programs in the Windows world, most macOS applications don't need a separate, silly uninstall program (although some larger Mac applications include one for convenience).

REMEMBER

Don't forget to actually *empty* the Trash, or you'll wonder why you aren't regaining any drive space. (macOS works hard to store the contents of the Trash until you manually delete it, just in case you want to undelete something.) To get rid of that stuff permanently and reclaim the space, do the following:

1. **Click the Trash icon on the Dock and hold down the button — or right-click — until the pop-up menu appears.**

2. **Choose Empty Trash.**

As I mentioned earlier in the chapter, if you use the Manage Storage feature you can elect to set your Trash to empty automatically.

Associated files in other folders

Some applications install files in different locations across your hard drive. (Appli-cations in this category include the Microsoft Office suite, Adobe Creative Suite and Creative Cloud applications like Adobe Photoshop.) How can you clear out these orphan files after you delete the application folder?

The process is a little more involved than deleting a single folder, but it's still no big whoop. Here's the procedure:

1. **Click the Search text box in a Finder window.**

You can read more about Search and Finder windows in Chapter 7.

2. **Type the name of the application in the Search text box.**

Figure 22-2 shows this search. I want to remove Toast Titanium, so I search for every file with the word *Toast* in its name; therefore, I found both the applica-tion and its main folder. This trick displays files created in other folders that include your search word in their names, such as project files, PDF files, and the font files that appear in the system Fonts folder.

3. **Decide which of these files belong to the to-be-deleted application.**

Be sure that the files you choose to delete are part of the deleted application. In Figure 22-2, a word processing document named *Instructions on Making a Perfect Piece of Toast* is definitely not part of Toast Titanium!

WARNING
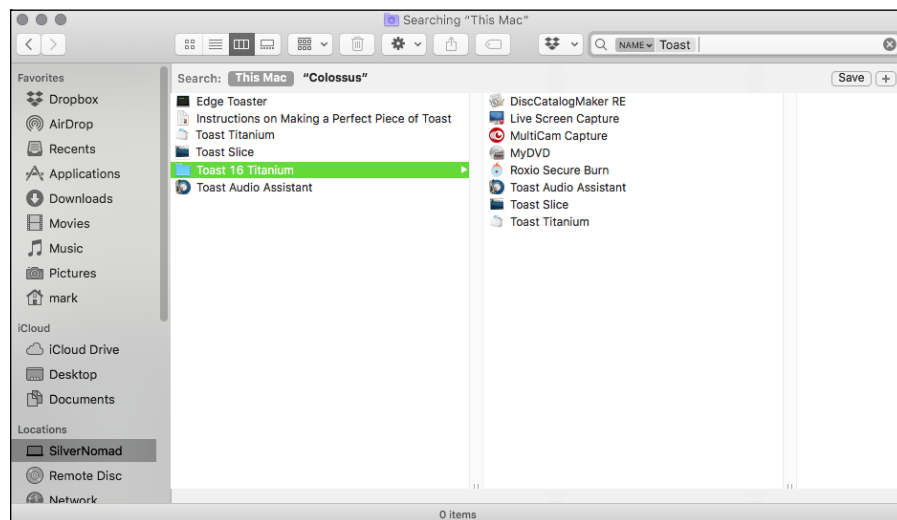
FIGURE 22-2: Mine your hard drive for additional files to delete.

Many associated files:

- Have the same icon as the parent application
- Are in the Preferences, Caches, or Application Support folder

4. **In the Search Results window, click the associated file(s) that you want to delete and just drag them to the Trash.**

Don't empty the Trash immediately after you delete these files. Wait a few hours or a day. That way, if you realize that you deleted a file that you truly need, you can easily restore it from the Trash.

Using a commercial cleanup tool

If you'd rather use a commercial application to help you clean up your drive, several applications are available, but most are shareware applications that perform only one task. For a good all-around cleanup utility, I recommend CCleaner for Mac, from Piriform (`https://www.ccleaner.com/ccleaner-mac`), as shown in Figure 22-3. This great utility can clean everything from Internet crud (browser cookies and your surfing history) to those macOS system caches that can grow so doggone huge. And you can easily fine-tune whatever CCleaner for Mac wants to remove. The utility can also uninstall many applications with a single click. Oh, and did I mention that it's free? I *really* like free!
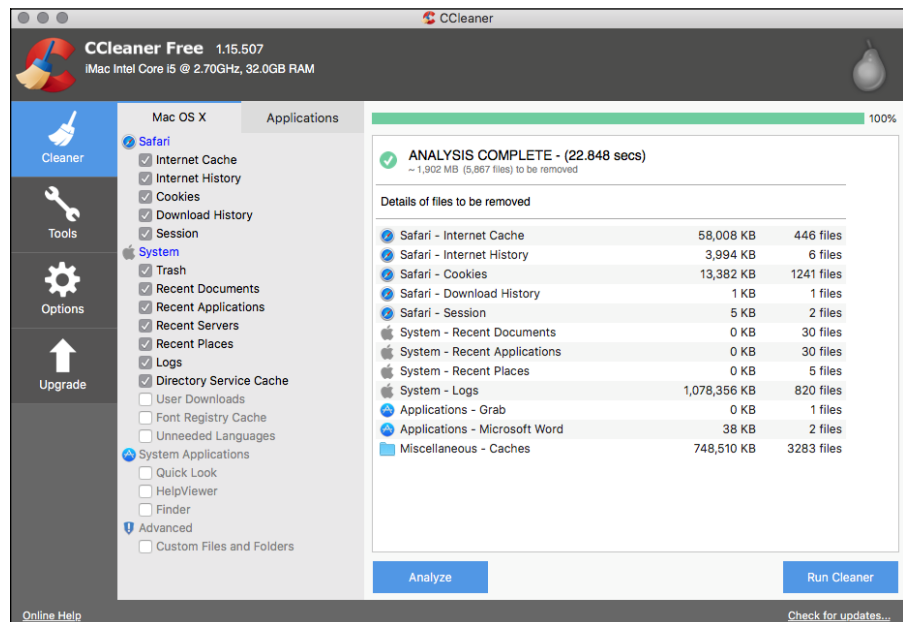
FIGURE 22-3
Piriform's CCleaner for Mac is a great tool for cleaning your iMac's drive.

Backing Up Your Treasure

Do it.

I'm not going to lecture you about backing up your internal drive . . . well, perhaps just for a moment. Imagine what it feels like to lose *everything:* names, numbers, letters, reports, presentations, saved games, photographs, video and music. Then ask yourself, "Self, isn't all that irreplaceable stuff worth safeguarding?"

Time for a Mark's Maxim:

Back up. **On a regular basis.**

Take my word for it; you *will* thank me some day!

You can back up your files either by saving them to external media or — as I strongly recommend — by using the awesome Time Machine feature included with macOS. Read more about Time Machine in the "Putting Things Right with Time Machine" section later in this chapter.

Saving Files

The simplest method of backing up files is simply to copy the files and folders to an external drive, USB flash drive or a CD or DVD. Nothing fancy — in fact, I call this procedure the "quick-and-dirty backup" — but it **works**.

Backing up to an external drive

If you have an external drive or USB flash drive on your iMac, you can easily drag backup files to it from your internal drive (I cover external drives in Chapter 21):

1. **Open separate Finder windows for:**

   - The external drive

   - The internal drive

   Because you're using macOS, you can also open a Finder tab within a single Finder window to accomplish the same task — from the keyboard, press ⌘+T.

2. **Select the desired files that you want to back up from your internal drive.**

3. **Drag the selected files to the external drive window.**

TIP

"Mark, can I back up individual files to cloud-based storage like iCloud Drive, Dropbox, Google Drive, and OneDrive?" Of course! These services are fine for your most important files (much like backing up a handful of critical files to DVD or flash drive), but these cloud drives aren't suitable for backing up the entire contents of your iMac's internal drive. (You should always use Time Machine with an external drive for that important chore.) Also, don't forget that you need an Internet connection to save or retrieve files from cloud storage.

Backing up to CD and DVD

You can burn backups of your most important files to a recordable CD or DVD, if you have an external optical drive. Saving your data is more labor-intensive this way, but the end result is a truly bulletproof backup that doesn't rely on an external drive or flash drive, and the backup can be read in any CD or DVD drive for decades to come.

Burning backups from the Finder

To use the Finder's Burn feature to create a backup CD or DVD, follow these steps:

1. **Load a blank disc into your iMac's optical drive.**

If you're using the default settings in the CDs & DVDs pane in System Preferences, a dialog appears, asking you to choose an action.

2. **From the Action pop-up menu, choose Open Finder and then click OK.**

An icon named Untitled DVD appears on your Desktop. Double-click the icon to open a Finder window.

3. **Drag the files and folders that you want to back up into the disc's Finder window.**

They can be organized any way you like. Don't forget that the total amount of data shouldn't exceed 4GB or so (on a standard recordable DVD) or 8GB (on a dual-layer recordable DVD). You can see how much free space remains on the disc at the bottom of the disc's Finder window.

4. **When you're ready to record, click File and then choose Burn Disc from the Finder menu.**

You can also click the Action button that appears at the top of the disc's Finder window and choose Burn Disc from the pop-up menu.

5. **Choose the fastest recording speed possible.**

6. **Click Burn.**

Burning backups from other recording applications

If you've invested in Toast Titanium from Roxio (`www.roxio.com`) or another CD/DVD recording application, you can create a new disc layout to burn your backup disc. (Think of a *layout* as a road map indicating which files and folders Toast should store on the backup.)

TIP If you do decide to back up to CD/DVD or to an external backup drive without using Time Machine, it's a good idea to store that backup media somewhere safe, away from calamities. On the other hand, if you back up with Time Machine — as I'm about to demonstrate — you should instead leave your external drive plugged in to your iMac.

Putting Things Right with Time Machine

If you enable backups via the macOS Time Machine feature, you can literally move backward through the contents of your iMac's internal drive, selecting and restoring all sorts of data. Files and folders are ridiculously easy to restore — and I mean easier than *any* restore you've ever performed, no matter what the operating system or backup program. Time Machine can even handle some deleted items, like Contacts cards! To sum it up, Time Machine should be an important and integral part of every Mac owner's existence.

TIP Apple's Time Capsule device (which has been discontinued) is designed as a wireless storage drive for your Time Machine backup files. If you're interested in a single Time Machine backup location for multiple Macs across your wireless network, a Time Capsule is a great addition to your home or office.

REMEMBER Before you can use Time Machine, you must have it enabled within the Time Machine pane in System Preferences. I cover the Time Machine configuration settings (and how to turn the feature on) in more detail in Chapter 5. You'll also need an external drive that provides considerably more storage capacity than the drive you're backing up. I recommend that your external Time Machine backup drive be at least twice the capacity of the drive you're backing up. (To check on the size of a drive displayed on your desktop, right-click the drive and choose Get Info from the contextual menu.)

Here's how you can turn back time, step by step, to restore a file that you deleted or replaced in a folder:

1. **Open a Finder window and navigate to the folder that contained the file you want to restore.**

2. **Click the Time Machine icon on the Finder menu bar (which bears a clock with a counterclockwise arrow) and then click Enter Time Machine.**

   The oh-so-ultra-cool Time Machine background appears behind your folder, complete with its own set of buttons at the bottom of the screen (as shown in Figure 22-4). On the right, you see a timeline that corresponds to the different days and months included in the backups that macOS has made.
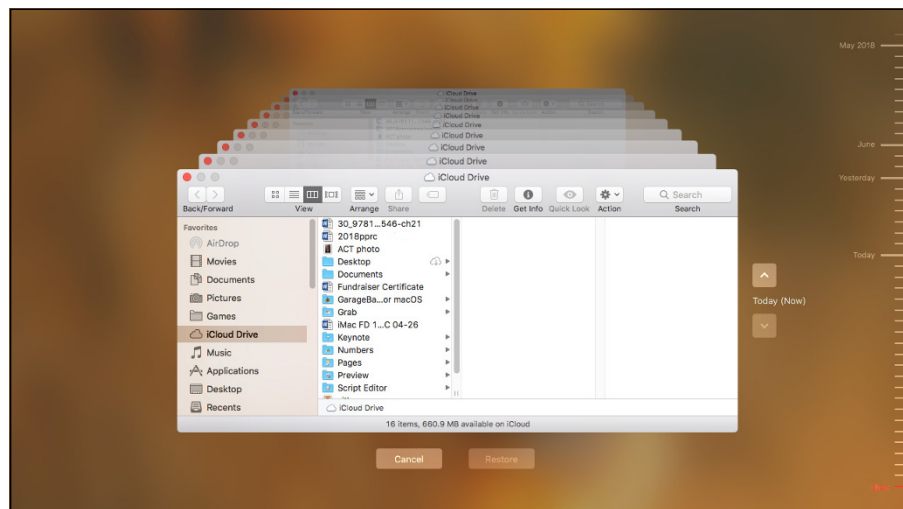
FIGURE 22-4:
Yes, Time Machine really *does* look like this!

3. **Click within the timeline to jump directly to a date (displaying the folder's contents on that date).**

   Alternatively, use the Forward and Back arrows at the right to move through the folder's contents through time. (You should see the faces of Windows users when you riffle through your folders to locate something you deleted several weeks ago!)

   The backup date of the items you're viewing appears in the button bar at the bottom of the screen.

4. **After you locate the file you want to restore, click it to select it.**

5. Click the Restore button at the right side of the Time Machine button bar.

If you want to restore all the contents of the current folder, click the Restore All button instead.

Time Machine returns you to the Finder, with the newly restored file now appearing in the folder. Out*standing!*

To restore specific data from your Contacts database, launch the Contacts application first and then launch Time Machine. Instead of riffling through a Finder window, you can move through time within the application window.

You can easily restore the *entire* contents of your iMac's internal drive from your Time Machine backup, too. Reboot your iMac and hold down the ⌘+R startup key sequence to boot using the macOS Recovery HD volume, then use the Restore function.

For robust backup and restore protection, Time Machine is all that a typical Mac owner at home is likely to ever need. Therefore, a very easy Mark's Maxim to predict:

Get an external drive, connect it, and turn on Time Machine. Do it now. Don't make a humongous mistake.

Maintaining Drive Health

Shifty-eyed, sneaky, irritating little problems can bother your internal drive: *permissions errors.* Incorrect disk and file permissions can:

» Make your iMac lock up

» Make applications act screwy (or refuse to run at all)

» Cause weird behavior within a Finder window or System Preferences

And that's not all: Problems with your drive's catalog file can also result in corrupted data and files that won't open.

To keep macOS Mojave running at its best, I recommend that you fix permissions and catalog errors at least once per week. Follow these steps:

1. **Click the Launchpad icon on the Dock and then click the Search box at the top of the window.**

2. **Type the word disk.**

3. **Double-click the Disk Utility icon.**

4. **Click the volume at the left that you want to check.**

   Volume is just computer-speak for a named partition, like Macintosh HD, which appears under your physical hard drive.

5. **Click the First Aid button and then click Run.**

   Disk Utility does the rest and then displays a message about whatever it has to fix, if anything. (When will someone invent a *car* with a Repair Me button?)

Automating Those Mundane Chores

The macOS Automator application is a big hit among iMac power users. You use Automator (shown in Figure 22-5) to create customized tools that automate repetitive tasks. Of course, writing an application might sound daunting — akin to singlehandedly building your own nuclear submarine over a long weekend — but Automator is actually easy to use. Heck, you might find it downright *fun!*
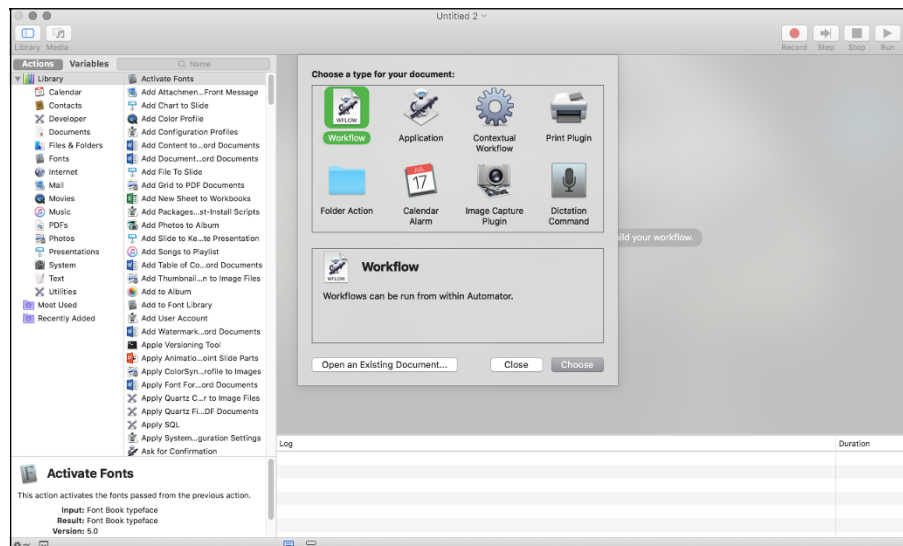
FIGURE 22-5:
Automator is a dream come true for those who hate repetitive tasks.

You can also create *workflows,* which are sequential (and repeatable) operations that are performed on the same files or data, and then your Automator application can automatically launch whatever applications are necessary to get the job done.

Here's a great example: You work with a service bureau that sends you a huge `.zip` file every week with new product shots for your company's marketing department. Unfortunately, these images are flat-out *huge* — taken with a 24-megapixel camera — and they're always in the wrong orientation. Before you move them to the Marketing folder on your server, you have to use Preview to laboriously resize each image and rotate it, and then save the smaller version.

With help from Automator, you can build a custom application that automatically reads each image in the folder, resizes it, rotates it, generates a thumbnail image, prints the image, and then moves the massaged images to the proper folder — and all with a single double-click! Of course, you can run Automator from Launchpad, or from your Applications folder in a Finder window. Currently, Automator can handle specific tasks within more than 150 applications (including the Finder), but both Apple and third-party developers are busy adding new Automator task support to all sorts of new and existing applications.

Creating an application in Automator

To create a simple application with Automator, launch the application and follow these steps:

1. **Click the New Document icon.**

2. **Select Application and click the Choose button.**

3. **Click the desired application in the Library list.**

   Automator displays the actions available for that application.

4. **Drag the desired action from the Library window to the workflow window on the right.**

5. **Modify any specific settings provided for the action you chose.**

6. **Repeat Steps 3–5 until you complete the workflow.**

7. **Click the Run button (at the upper right) to test your script.**

   Use sample files while you're fine-tuning your application lest you accidentally do something deleterious to an original (and irreplaceable) file!

8. **When the application is working as you like, press ⌘+S to save it.**

9. **In the Save dialog that appears, type a name for your new application.**

10. **Click the Where pop-up menu and specify a location where the file should be saved.**

11. **Click the File Format pop-up menu and choose Application.**

12. **Click Save.**

Your new Automator application icon includes the Automator robot standing on a document. Most normal human beings would call you a *programmer,* so make sure you're inscrutable from now on! If you plan to use your new Automator application often, don't forget that you can make it more convenient to use by dragging the application icon to the Dock or to the desktop.

> **TIP**
>
> To find all the actions of a certain type in the Library list, click in the Search box at the top of the Library list and type a keyword, such as *save* or *burn.* You don't even need to press Return!

Creating an Automator login item

If you want your Automator application to run every time you log in (to track your time on a project, for example), follow these steps to set up the Automator application as a login item:

1. **Open System Preferences.**

2. **Display the Users & Groups pane.**

3. **Click the Login Items button.**

4. **Click the plus button at the bottom of the list.**

5. **Navigate to the location of your new Automator application.**

6. **Click Add.**

Now your Automator application is *really* automatic. Watch your significant other gape in amazement as your iMac begins to work without your touching the keyboard! (If you've added the application icon to your Dock, you can also simply right-click the icon and choose Options ⇨ Open at Login from the menu that appears. Either way, your iMac gets the message.)

Updating macOS Automatically

I prefer my iMac to take care of cleaning up after itself, so updating macOS should be automatic as well. In macOS Mojave, operating system updates are performed by the Software Update pane within System Preferences.

TIP

Software Update uses the Internet, so you need an Internet connection to shake hands with the Apple server and download any updates.

Updates are available in two convenient spots:

» **The Apple menu:** Click the Apple menu () and then choose About This Mac. Click the Software Update button, which alerts you to anything new that's available.

» **System Preferences:** Click the Software Update icon in the System Preferences window.

To set Software Update to check for critical system updates and install them automatically, simply select the Automatically Keep My Mac Up To Date check box to enable it.

TIP

If you're using the same Apple ID on more than one Mac, the applications you've purchased through the App Store on your other Macs can be automatically down-loaded to this computer as well. Click the Advanced button on the Software Update pane, then select the Install App Updates From the App Store check box to enable it; then sit back and watch convenience happen.

7

The Part of Tens

IN THIS PART . . .

Improve your iMac's performance.

Avoid costly mistakes.

Chapter **23**

Ten Ways to Speed Up Your iMac

E ven an iMac Pro with an 18-core Intel Xeon W processor can always go just a bit faster . . . or *can* it? There's actually a pretty short list of tweaks that you can apply to your iMac's hardware to speed it up, and these suggestions are covered in this chapter.

You can also work considerably faster within Mojave by customizing your Desktop and your Finder windows, which makes it easier to spot and use your files, folders, and applications. That's in this Part of Tens chapter, too.

Finally, you can enhance your efficiency and make yourself a power user by tweaking yourself. (Sounds a bit tawdry or even painful, but bear with me, and you'll understand.)

Nothing Works Like a Shot of Memory

Okay, maybe *shot* is the wrong word, but adding additional memory to your iMac (by either replacing or adding a memory module) is the single surefire way to speed up the performance of your entire system. That includes every application as well as macOS itself.

With more memory, your iMac can hold more of your documents and data at once, and thus has to store less data temporarily on your internal drive. It takes your iMac much less time to store, retrieve, and work with data when that data is in RAM (short for *random access memory)* rather than on your hard drive. That's why your system runs faster when you can fit an entire image in Adobe Photoshop in your iMac's system memory.

At this writing, you can cram up to 128GB of memory in an iMac Pro, up to 64GB in a 27″ iMac model, and 21.5″ models can be configured with up to 32GB of memory as well when you order from the Apple online store.

REMEMBER

Only 27″ iMacs can be upgraded with additional memory by the owner *after* purchase – the iMac Pro and iMac 21.5″ models must be upgraded by an Apple Authorized Service Provider (and usually at quite a cost).

Hold a Conversation with Your iMac

Many Mac owners will attest that you *can* significantly increase your own efficiency by using the Dictation feature, which allows you to dictate text by speaking within many applications. Your voice is indeed faster than your fingers!

To enable Dictation, choose System Preferences ⇨ Keyboard, click the Dictation tab and click the On radio button next to Dictation. Remember that by default, Dictation is active only when you press the Fn (Function) key twice. (You can change the Dictation shortcut from the Dictation tab).

Vamoose, Unwanted Fragments!

Apple would probably prefer that I not mention disk fragmentation because macOS doesn't come with a built-in defragmenting application. (Go figure.) A disk-defragmenting application reads all the files on your magnetic drive and rewrites them as continuous, contiguous files, which your machine can read significantly faster.

To keep your hard drive running as speedily as possible, I recommend defragmenting at least once monthly. You can use third-party applications like Prosoft Engineering's Drive Genius (`www.prosofteng.com`) to defragment your drive.

WARNING

You should never defragment your iMac internal drive if it's a SSD (solid-state) or Fusion drive (the memory in a solid-state drive has a limited number of write/delete cycles during its lifespan, and the defragment process continuously writes and deletes data from the drive). Only traditional magnetic hard drives benefit from defragmenting. To determine which type of internal drive you're using, launch Disk Utility, click the internal drive entry in the list on the left, and check for the acronym SSD in the drive description. If you see it, your iMac has an SSD or Fusion drive installed.

Keep Your Desktop Background Simple

It's funny that I still include this tip in a chapter dedicated to improving performance. After all, I recommended using a solid-color background in my first books on Mac OS 8 and Windows 98! Just goes to show you that some things never change.

If you're interested in running your Retina 5K iMac Pro system as fast as it will go, choose a solid-color background from the Desktop & Screen Saver pane in System Preferences. (In fact, there's even a separate category that you can pick called Solid Colors. Someone at Apple has *the right idea.*)

Column Mode Is for Power Users

One of my favorite features of macOS is the ability to display files and folders in column view mode. Just click the Column button on the standard Finder window toolbar, and the contents of the window automatically align in well-ordered columns.

Other file-display options require you to drill through several layers of folders to get to a specific location on your hard drive — such as `Users/mark/Music/iTunes/iTunes Music`, which I visit on a regular basis. In column mode, however, a single click drills a level deeper, and often you won't even have to use the Finder window's scroll bars to see what you're looking for. Files and folders appear in a logical order. Also, it's much easier to move a file (by dragging it from one location on your hard drive to another) in column mode.

Make the Dock Do Your Bidding

Just about every Mac owner considers the macOS Dock a good friend. But when's the last time you customized it — or have you ever made a change to it at all?

You can drag files and folders to the Dock, as well as web URLs, applications, and network servers. You can also remove applications and web URLs just as easily by dragging the icon from the Dock and releasing it on your Desktop.

I find that I make a significant change to my Dock icons at least once every week. I find nothing more convenient than placing a folder for each of my current projects on the Dock or adding applications to the Dock that I might be researching for a book or demonstrating in a chapter.

REMEMBER

You can position the Dock at either side of the Desktop or even hide the Dock to give yourself an extra strip of space on your Desktop for application windows. Click the Apple menu at the left side of the Finder menu bar and then hover your pointer over the Dock item to display these commands.

It All Started with Keyboard Shortcuts

Heck, keyboard shortcuts have been around since the days of WordStar and Visi-Calc, back when a mouse was still just a living rodent. If you add up all those seconds of mouse-handling that you save by using keyboard shortcuts, you'll see that you can literally save hours of productive time every year.

You're likely already using some keyboard shortcuts, such as the common editing shortcuts ⌘+C (Copy) and ⌘+V (Paste). When I'm learning a new application, I often search the application's online help to find a keyboard shortcut table and then print that table as a quick reference. Naturally, you can also view keyboard shortcuts by clicking each of the major menu groups within an application. Shortcuts are usually displayed alongside the corresponding menu items.

Hey, You Tweaked Your Finder!

Here's another speed enhancer along the same lines as my earlier tip about customizing your Dock: You can reconfigure your Finder windows to present just the tools and locations that you actually use (rather than what Apple *figures* you'll use).

You can right-click the toolbar in any Finder window and choose Customize Toolbar, for example. By default, the macOS Finder toolbar includes only the default icon set that you see at the bottom of the sheet, but you can drag and drop all sorts of useful command icons onto the toolbar. You can save space by displaying small icons, too.

With Finder tabs, you can even open multiple tabs within a Finder window (making it just about as efficient as it can possibly be for operations such as moving files, quickly navigating between locations, and comparing items in different locations).

TIP

The Finder sidebar — which hangs out at the left side of the Finder window — is a healthy, no-nonsense repository for those locations that you constantly visit throughout a computing session. I have both a Games folder and a Book Chapters folder that I use countless times every day (it's important to balance work with pleasure, you know), and I've dragged both of those folders to the sidebar.

Keep in Touch with Your Recent Past

Click that Apple menu and use that Recent Items menu! I know that sounds a little *too* simple, but I meet many new Apple computer owners every year who either don't know that the Recent Items menu exists or forget to use it. You can access both applications and documents that you've used within the past few days. Consider the Dock and Finder sidebar to be permanent or semi permanent solutions and the Recent Items menu to be more of a temporary solution to finding the stuff that you're working on Right Now.

Go Where the Going Is Good

To round out this Part of Tens chapter, I recommend another little-known (and underappreciated) Finder menu feature (at least among Macintosh novices): the Go menu, which is located on the Finder menu bar.

The Go menu is really a catch-all, combining the most important locations on your system (such as your Home folder) with folders that you've used recently. Also, the Go menu is the place where you can connect to servers or shared folders across your local network or across the Internet.

Pull down the Go menu today — and don't forget to try out those spiffy keyboard shortcuts you see listed next to the command names. (Press ⌘+Shift+H to go immediately to your Home folder, for example.) And if a Finder window isn't open at the moment, a new window opens automatically. Such convenience is hard to resist!

Hold down the Option key when you click the Go menu, and you'll be able to choose your personal Library folder (which is normally hidden) from the menu. This comes in handy when you have to troubleshoot problems with applications that save files or store configuration data in your Library folder.

IN THIS CHAPTER

» **Overheating is the enemy**

» **Phishing (without a pole)**

» **Using a single password**

» **Liquid Mac meltdowns**

» **Antique utility software**

» **Illegal software**

» **That nasty root account**

» **Cheap surge protectors**

» **Refurbished stuff**

» **Just plain dirt**

Chapter **24**

Ten Things to Avoid Like the Plague

I f you've read other books that I've written in the *For Dummies* series, you might recognize the title of this chapter: It's a favorite Part of Tens subject of mine that appears often in my work. I don't like to see any computer owner fall prey to pitfalls. Some of these pitfalls are minor, like being less than diligent about keeping your iMac clean. Others are downright catastrophic, like providing valuable information over the Internet to persons unknown.

All these potential mistakes, however, have one thing in common: They're *easily prevented* with a little common sense as long as you're aware of them. That's my job. In this chapter, I fill in what you need to know. Consider these pages as experience gained easily (for you, that is!).

Keep Things Cool

I've met several iMac owners over the years who've parked their supercomputers next to a heat source, shoehorned an iMac under a shelf, or draped something over the top of the screen. (That last one happens more often than you think, just because such a cover helps prevent dust from accumulating on the top of any computer.)

What, dear reader, do these three mistakes have in common? In a word, *heat,* which is something you must avoid. Don't forget that your iMac has the same heat-generating CPU, video card, and internal devices that any other computer has these days but only a single pathway for air to flow. Trust me: Your motherboard and internal devices will suffer if you don't allow your iMac's internal fan to perform its job!

As I discuss in Chapter 1, the location of the fan exhaust on your iMac varies with the model: On older iMacs, the exhaust is the slot at the top back of the case, while recent iMacs and the iMac Pro have vents at the center back of the case. No matter where your fan exhaust is located, *don't ever cover it* with anything, and locate your iMac in a spot where there's plenty of ventilation directly above and behind the computer. Also, avoid major heat sources anywhere around your iMac that could significantly raise its temperature.

Phishing Is No Phun

Phishing refers to an attempt by criminals to illegally obtain your personal information. If that sounds like an invitation to identity theft, it is — and thousands of sites have defrauded individuals like you and me (along with banks and credit card companies) out of billions of dollars.

A phishing scam works like this: You get an email purporting to be from a major company or business (think eBay), government agency, social networking site, or major credit card company. The message warns you that you have to "update" your login or financial information to keep it current, or that you have to "validate" your information every so often — and the message ever-so-conveniently even provides you a link to an official-looking web page (although sometimes full of spelling errors and always with a bogus address). After you enter information on that bogus page, it's piped directly to the bad guys, and they're off to the races.

Here's a Mark's Maxim that every Internet user should take to heart:

MARK'S MAXIM

No *legitimate* company or agency will ever solicit your personal information through an email message!

WARNING

Never respond to these messages. Don't use the link provided in the phishing email! If you smell something phishy, open your web browser and visit the company's site (the *real* one) by typing the address directly; then contact the company's customer support department to report the scam.

In fact, sending any valuable financial information through unencrypted email — even to those whom you know and trust — is a bad idea. Email messages can be intercepted or can be read from any email server that stores your message.

Don't Rely on a Single Password

Okay, confess: Are you using a single password for *everything* you do on your iMac? Is your Apple ID password the same as your user account password — and also the same as your password on every website you visit? Even your online banking? (Oh, my!)

If so, you're taking a big risk with both your personal data and your online reputation. All it takes is a single moment of weakness (perhaps when your friend or co-worker asks to use your iMac, or you use that "oh-so-convenient" universal password on a phishing website). No matter how your password gets out, you and your iMac are suddenly wide open to malicious attacks.

I recommend the same security measure that I recommend to my clients, family, and friends: Use a different password for each of the important websites you visit often, and keep a separate password reserved for your user account. I know it's a hassle to remember multiple passwords, but the alternative is no security at all.

Do You Really Want a Submerged Keyboard?

Your answer should be an unequivocal "No!" — and that's why everyone should make it a rule to park all beverages well out of range of keyboards, speakers, mice, backup drives, and any other piece of external hardware. Especially when kids or cats are in close proximity to your iMac.

Cleaning up a hazardous soda spill is hard enough in the clear, but if that liquid comes in contact with your hardware, you're likely to be visited with intermittent keyboard problems (or, in the worst-case scenario, a short in an external peripheral or your iMac's motherboard).

Suffice it to say that 12 inches of open space can make the difference between a simple cleanup and an expensive replacement!

Don't Use Antiquated Utility Software

If you're using macOS Mojave, you should upgrade your older utility programs. These older disk utility applications can actually do more damage than good to a hard drive under Mojave. Things always change when Apple makes the leap to a new version of macOS, including subtle changes to disk formats and memory management within applications. With an out-of-date utility, you could find yourself with corrupted data. (Note that some out-of-date utilities actually refuse to run on newer versions of macOS that they don't recognize, but other antique utilities attempt to soldier on, sometimes with nasty results.)

Make sure that you diagnose and repair disk and file errors by using only a utility application that's specifically designed to run in Mojave, such as Drive Genius from Prosoft Engineering (`www.prosofteng.com`). Your iMac's hard drive will definitely thank you.

(Oh, and while you're at it, don't forget to check the manufacturer's website for any updates to drivers or application software for your third-party external hardware! 'Nuff said.)

Don't Endorse Software Piracy

This one's a real no-brainer. Bear in mind that Apple's overall market share among worldwide computer users currently weighs in at little more than 12 percent. Software developers know this, and they have to expect (and *receive)* a return on their investment or they're going to find something more lucrative to do with their time. As a shareware author, I can attest to this fact firsthand.

An iMac is a great machine, and Mojave is a great operating system, but even the best hardware and the sexiest desktop won't make up for an absence of good applications. Pay for what you use, and everyone benefits.

Call It the Forbidden Account

You might never have encountered the *root*, or *System Administrator*, account within macOS — and that's always A Good Thing. Note that I'm not talking about a standard administrator (or admin) account here. Every iMac needs at least one admin account (in fact, it might be the only visible account on your computer), and any standard user account can be toggled between standard and admin status with no trouble at all (by another admin account).

The root account, though, is a different beast altogether, and that's why it's disabled by default. All Unix systems have a root account; because Mojave is based on a Unix foundation, it has one, too. Anyone logging in with the root account can do *anything* on your system, including deleting or modifying files in the System folder (which no other account can access). Believe me: Deliberately formatting your hard drive is about the only thing worse than screwing up the files in your System folder.

Luckily, no one can accidentally access the root/System Administrator account. In fact, you can't assign the root account with System Preferences; you must use the Terminal application in Utilities (within your Applications folder). Unless an Apple support technician tells you to enable and use it, you should promptly forget that the root account even exists.

Don't Settle for a Surge Suppressor

Technically, nothing is wrong with using a surge suppressor to feed power to your iMac and all your external peripherals, but it doesn't do the *entire* job. Your system is still wide open to problems caused by momentary brownouts, not to mention the occasional full-fledged blackout. Losing power in the middle of a computing session will likely lead to lost documents and might even result in disk or file errors later. With an uninterruptible power supply (UPS), you can rest more easily, knowing that your iMac will have a few minutes more of iLife. (Incredibly sad pun unfortunately intended.)

Most Mac owners know about the backup battery power that a UPS provides, but they don't know about the extra work performed by most UPS units — namely, filtering your AC current. A filtering UPS prevents electronic noise (think about a vacuum being used next to a TV set) and momentary current spikes. These days, you'll find good UPS models for less than $100.

Refurbished Hardware Is No Deal at All

Boy, howdy, do I hate refurbished stuff. To quote someone famous, "If the deal sounds too good to be true, it probably is."

Examine what you get when you buy a refurbished (often called *recertified*) hard drive. It's likely that the drive was returned as defective, of course, and then sent back to the factory. There, the manufacturer probably performed the most cursory of repairs, perhaps tested the unit for a few seconds, and packed it up again. (I should, however, note that Apple sells refurbished Macs and generally has a good reputation for value on these computers.)

REMEMBER Before you spend a dime on a bargain that's *remanufactured* — I can't get over that term — make sure that you find out how long a warranty you'll receive, if any.

If at all possible, I recommend spending the extra cash on trouble-free, brand-new hardware that has a full warranty.

iMacs Appreciate iCleanliness

Clean your machine, including your keyboard, mouse, and trackpad. Your iMac case needs only a thorough wiping job with a soft cloth to stay spotless, but don't be surprised at the primordial nastiness that can build up on your keyboard and the underside of your mouse over time!

Your screen should be cleaned at least once every two or three days. Never spray anything — cleaners, water, **anything!** — directly on your screen or your iMac's case. I highly recommend using premoistened LCD cleaning wipes to clean your iMac monitor safely.

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About the Author

Mark L. Chambers has been a technology author, computer consultant, BBS sysop, programmer, and hardware technician for more than 30 years — pushing computers and their uses far beyond "normal" performance limits for decades now. His first love affair with a computer peripheral blossomed in 1984 when he bought his lightning-fast 300 BPS modem for his Atari 400. Now he spends entirely too much time on the Internet and drinks far too much caffeine-laden soda.

With a degree in journalism and creative writing from Louisiana State University, Mark took the logical career choice: programming computers. However, after five years as a COBOL programmer for a hospital system, he decided there must be a better way to earn a living, and he became the Documentation Manager for Datastorm Technologies, a well-known communications software developer. Somewhere in between writing software manuals, Mark began writing computer how-to books. His first book, *Running a Perfect BBS,* was published in 1994 — and after a short twenty-five years of fun (disguised as hard work), Mark is one of the most productive and best-selling technology authors on the planet.

His favorite pastimes include collecting gargoyles, watching St. Louis Cardinals baseball, playing his three pinball machines and the latest computer games, supercharging computers, and rendering 3D flights of fancy — and during all that, he listens to just about every type of music imaginable. Mark's worldwide Internet radio station, *MLC Radio* (at www.mlcbooks.com), plays only CD-quality classics from 1970 to 1979, including everything from Rush to Billy Joel to the *Rocky Horror Picture Show.*

Mark's rapidly expanding list of books includes *MacBook All-in-One For Dummies,* 2nd Edition; *MacBook For Dummies,* 7th Edition; *OS X Yosemite All-in-One For Dummies; Macs for Seniors For Dummies,* 3rd Edition; *Build Your Own PC Do-It-Yourself For Dummies*; *Building a PC For Dummies,* 5th Edition; *Scanners For Dummies,* 2nd Edition; *CD & DVD Recording For Dummies,* 2nd Edition; *PCs All-in-One Desk Reference For Dummies,* 6th Edition; *Mac OS X Tiger: Top 100 Simplified Tips & Tricks; Microsoft Office v. X Power User's Guide; BURN IT! Creating Your Own Great DVDs and CDs; The Hewlett-Packard Official Printer Handbook; The Hewlett-Packard Official Recordable CD Handbook; The Hewlett-Packard Official Digital Photography Handbook; Computer Gamer's Bible; Recordable CD Bible; Teach Yourself the iMac Visually; Running a Perfect BBS; Official Netscape Guide to Web Animation;* and *Windows 98 Troubleshooting and Optimizing Little Black Book.*

His books have been translated into 15 different languages so far — his favorites are German, Polish, Dutch, and French. Although he can't read them, he enjoys the pictures a great deal.

Mark welcomes all comments about his books. You can reach him at mark@ mlcbooks.com, or visit MLC Books Online, his website, at `www.mlcbooks.com`.

Dedication

This book is dedicated to my youngest daughter, Rose Chambers — she of the Boris Beast and Major Tom — with all the love and happiness I can give her.

Author's Acknowledgments

A guide to Apple's iMac should be as elegantly designed and straightforward as the computer itself . . . and luckily, I had just the right mix of folks to make sure that it turned out that way!

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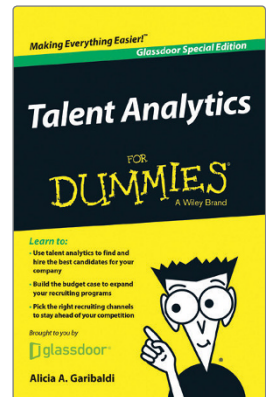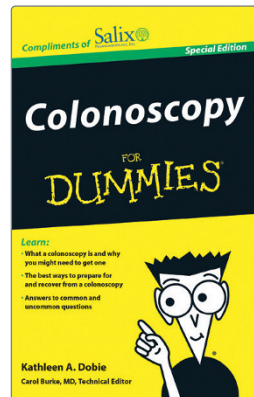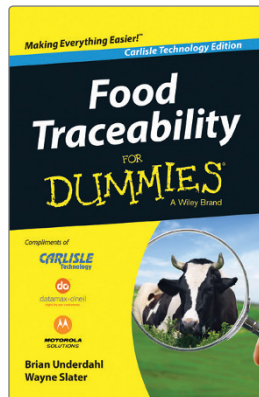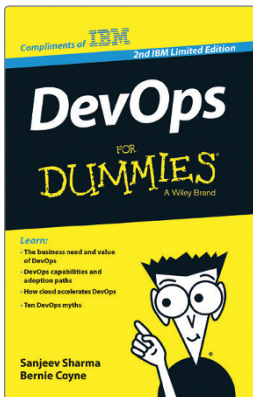
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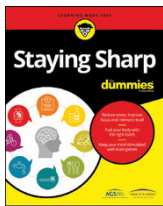
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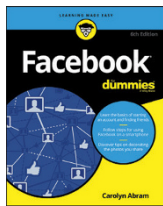
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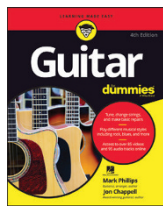
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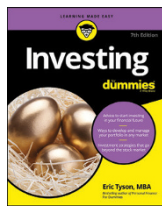
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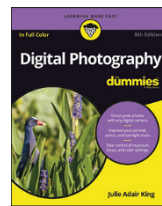
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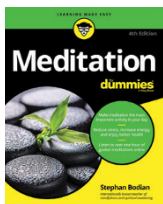
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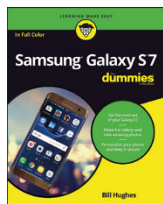
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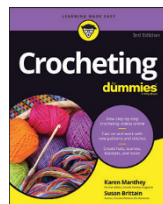
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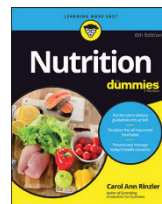
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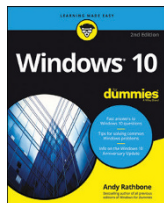
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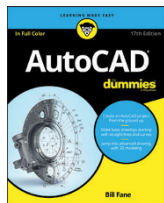
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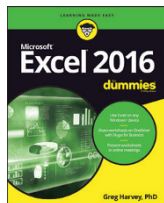
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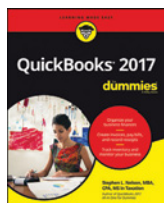
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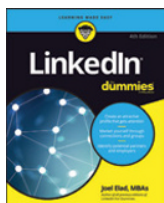
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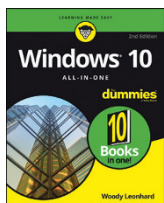
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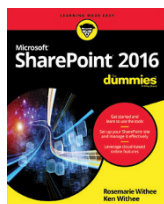
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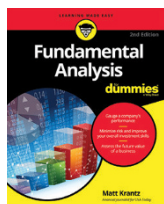
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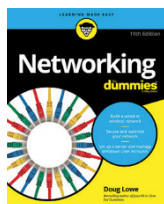
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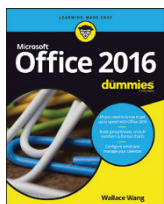
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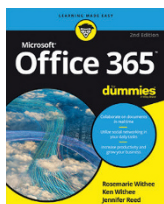
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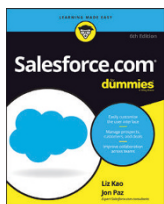
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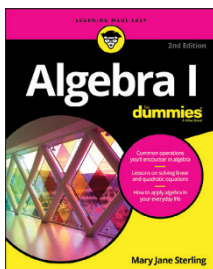
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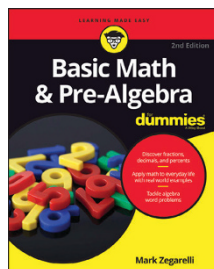
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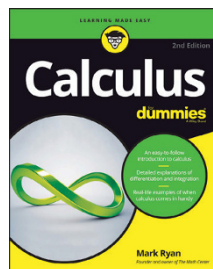
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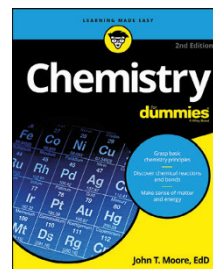
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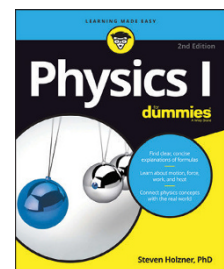
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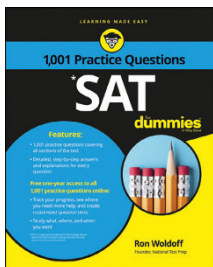
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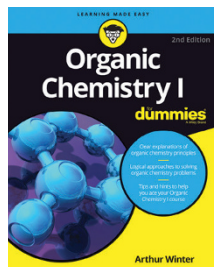
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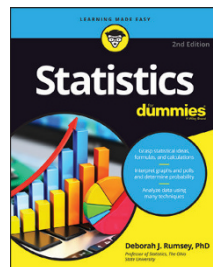
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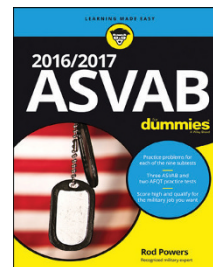
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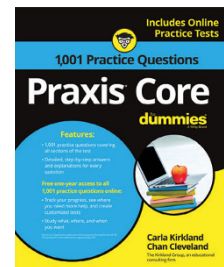
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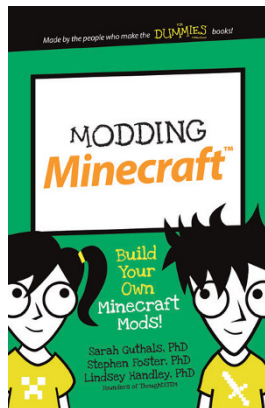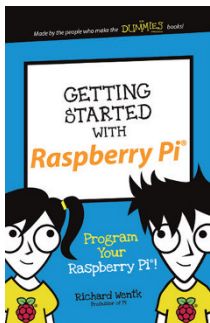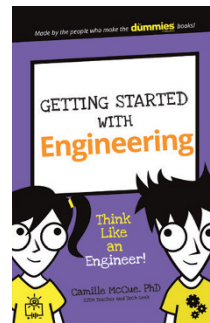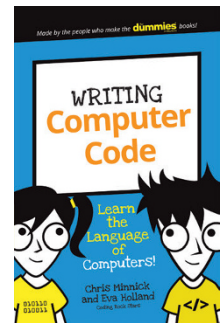
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