

# 3

# Using the Internet: Making the Most of the Web's Resources

## Working and Playing on the Web

### The Internet and How It Works

#### OBJECTIVES

1. What is the origin of the Internet? (pp. 76–77)
2. How does data travel on the Internet? (pp. 77–78)



### Communicating and Collaborating on the Web

#### OBJECTIVES

3. How can I communicate and collaborate using Web 2.0 technologies? (pp. 79–84)
4. How can I communicate using e-mail and instant messaging? (pp. 79–81)

Sound Byte: Blogging



### Web Entertainment

#### OBJECTIVE

5. What multimedia files are found on the web, and what software is needed to access those files? (pp. 85–86)



Make This:

Explore an App Builder Skill on page 93

## Conducting Business over the Internet: E-Commerce

#### OBJECTIVE

6. What is e-commerce, and what online safeguards are available? (pp. 87–89)

Active Helpdesk: Doing Business Online



## Using the Web Effectively

### Accessing and Moving Around the Web

#### OBJECTIVES

7. What is a web browser, and what are a URL and its parts? (pp. 93–96)
8. How can I use hyperlinks and other tools to get around the web? (pp. 96–97)

Sound Byte: Welcome to the Web



### Searching the Web Effectively

#### OBJECTIVE

9. How do I search the Internet effectively, and how can I evaluate websites? (pp. 100–103)

Active Helpdesk: Getting Around the Web

Active Helpdesk: Evaluating Websites

Sound Byte: Finding Information on the Web



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For all media in this chapter go to [pearsonhighered.com/techinaction](http://pearsonhighered.com/techinaction) or [MyITLab](#).

## Solve This

### Technology Wish List

You are in need of a significant technology upgrade, and your parents have told you they will help you finance your purchases by loaning you the money. You will need to repay them with a modest 2.5% interest rate over two years. The only catch is that they want you to create a list of all the new devices that you need, note the cost, and provide a website for each device where they can find more information. Then, they want you to calculate how much you will need to give them each month to pay them back.

You will use the following skills as you complete this activity:

• Merge and Center	• Modify Column Widths
• Modify Workbook Themes	• Insert a Hyperlink
• Apply Number Formats	• Create a Formula
• Use the SUM, PMT, and COUNTA Functions	• Wrap Text

#### Instructions:

1. Open TIA\_Ch2\_Start and save the workbook as TIA\_Ch2\_LastName. Format the title *Technology Wish List* with the **Title Cell Style**, and format the column headers in cells A3:F3 with the **Heading3 Cell Style**.
  - a. Hint: To format cell styles, on the HOME tab, in the Styles group, click Cell Styles.
2. **Merge and Center** A1 across columns A through F, and **Center align** the column headers in Cells A3:F3.
  - a. Hint: To Merge and Center text, on the HOME tab, in the Alignment group, click Merge & Center
3. Modify column widths so that Column A is 25 and Column D is 45.
  - a. Hint: To modify column widths, on the HOME tab, in the Cells group click Format, and then select Column Width.
4. Starting in cell A4, fill in the table with the Brand and Model of the six devices that you would like to purchase. The device type is filled out for you. In the *Reason* column, write a brief note as to why this device will help you. (You'll format the text so it all displays later.) Enter the cost of the device in the Cost column. Don't include tax and/or shipping.
5. Change the Workbook Theme to **Integral**.
  - a. Hint: To apply the Theme, on the Page Layout tab, in the Theme group, click Themes.
6. In cells F4 through F9 create a Hyperlink to a webpage that features each respective product so your grandparents can have access to more information if they need it.
  - a. Hint: To insert a hyperlink, on the INSERT tab, in the Links group, click Hyperlink.
7. Wrap the text in cells C4:C9, D4:D9, and F4:F9 so all text displays.
  - a. Hint: To wrap text, on the HOME tab, in the Alignment group, click Wrap Text..
8. Format the values in cells E4:E7 with the Accounting Number format with two decimals.
  - a. Hint: To apply number and decimal formats, look on the HOME tab, in the Number group.
9. In cell A10, type Subtotal, then in cell E10 use a SUM function to calculate the total cost of all devices. Format the results in the Accounting Number format with two decimals.
10. In cell A11, type Estimated Tax, then in cell E11 create a formula that references the subtotal in cell E10 and multiplies it by a tax of 6%. Format the results in the Accounting Number format with two decimals.
  - a. Hint: The formula will be =E10\*0.06
11. In cell A12, type Estimated Shipping, then in cell E12 create a formula to calculate the shipping charge by using the COUNTA function to determine the number of devices being purchased and then multiplying that by a \$10 shipping charge. Format the results in Accounting Number Format with two decimals.
  - a. Hint: The formula will be =COUNTA(B4:B9)\*10.
12. In cell A13, type Total Cost, then in cell E13 use the SUM function to create a formula that adds up the *Subtotal*, *Estimated Tax*, and *Estimated Shipping costs*. Format the results in Accounting Number Format with two decimals. Format the cells A13:E13 with the **Total Cell Style**.
13. **Right align** cells A10:A13.
14. In Cell D14, type Estimated Monthly Payment, and then in cell E14, use the PMT function to calculate the monthly payment owed to your parents to pay back the total purchase amount in two years at a 2.5% annual interest rate.

Hint: The formula will need to adjust the annual interest rate to a monthly rate, and adjust the annual term of the loan to monthly payments.
15. **Save** the workbook and submit based on your instructor's directions.



## HOW COOL IS THIS?



Scan here for more info

Have you ever wanted to **share your computer screen** with someone but couldn't because you didn't know how or didn't have the right software? Now you can share your computer screen with anyone on **any device via the web** with one click, hassle-free, with **Screenleap** ([screenleap.com](http://screenleap.com)).

All you need to do is **click a link that generates a code**, then send the code to whomever you want to share your screen with; they will be able to view your screen immediately from their web browser on their smartphone, tablet, or PC. You can share your screen publicly, or privately to only a select few. There is also an extension to initiate sharing directly from your Gmail account. Using this technology may help you to **better communicate** with classmates or your professors when seeking or offering help. A **free account** will give you two hours of sharing time per day. So, share your screen with someone today with Screenleap! (By-studio/Fotolia)

# Working and Playing on the Web

You most likely know at least a little bit about how to use the web's resources to communicate and collaborate with others, how to work with multimedia files, and how business is conducted over the web. In this section, we'll explore these and other topics. But first, let's start with a brief lesson on the history of the Internet.



## the internet and how IT WORKS

It's hard to imagine life without the **Internet**, the largest computer network in the world. The Internet is actually a network of networks that connects billions of computer users globally, but its beginnings were much more modest.

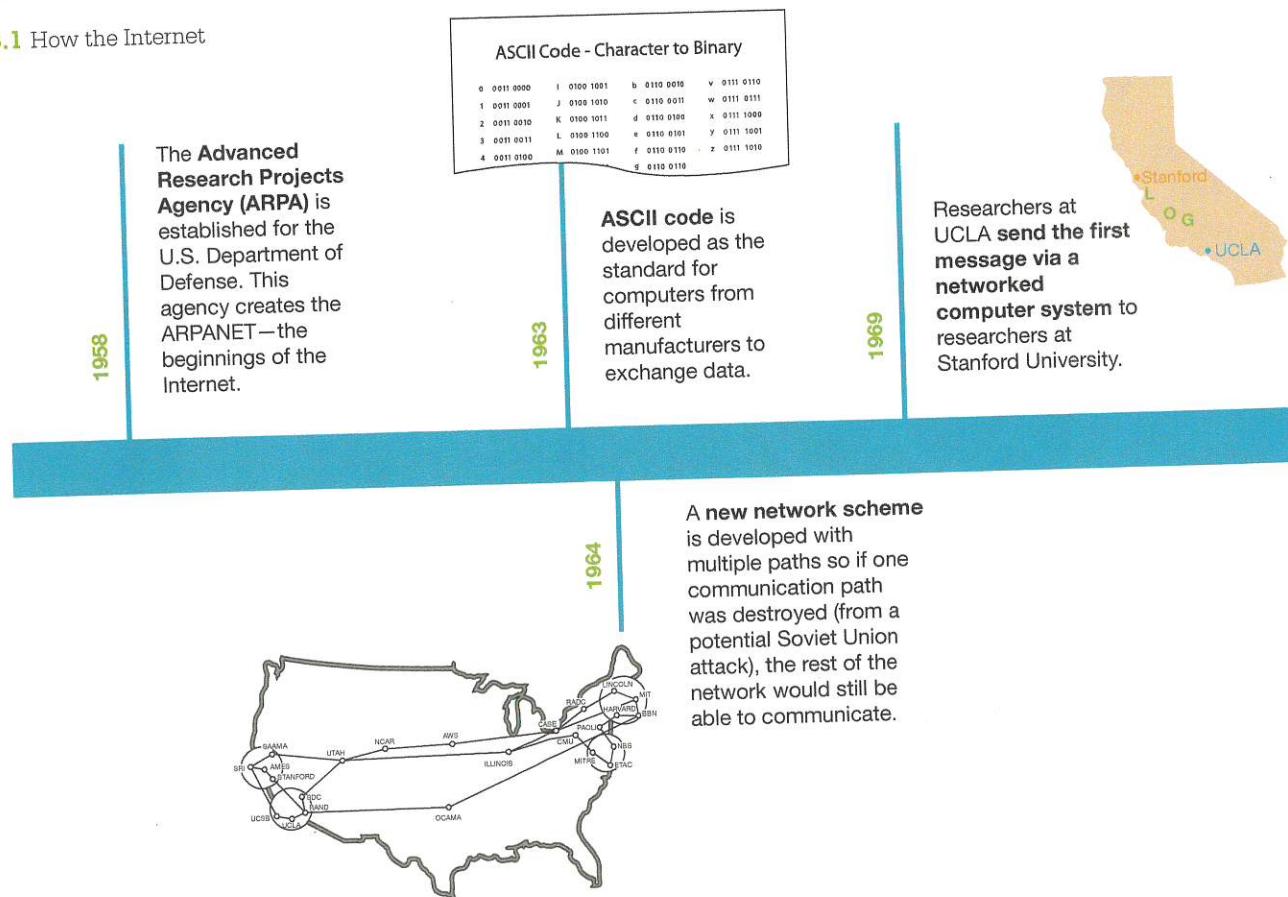
### The Origin of the Internet

**Why was the Internet created?** The concept of the Internet was developed in the late 1950s while the United

States was in the midst of the Cold War with the Soviet Union (see Figure 3.1). At that time, the U.S. Department of Defense needed a computer network that wouldn't be disrupted easily in the event of an attack.

At the same time, researchers for the Department of Defense were trying to get different computers to work with each other using a common communications method that all computers could use. The Internet was created to respond to these two concerns: establishing a secure form of

**FIGURE 3.1** How the Internet Began.



communications and creating a means by which *all* computers could communicate.

**Who invented the Internet?** The modern Internet evolved from an early U.S. government-funded “internetworking” project called the Advanced Research Projects Agency Network (ARPANET). ARPANET began as a four-node network involving UCLA, Stanford Research Institute, the University of California at Santa Barbara, and the University of Utah in Salt Lake City. The first real communication occurred in 1969 between the computer at Stanford and the computer at UCLA. Although the system crashed after the third letter of “Login” was transmitted, it was the beginning of a revolution. Many people participated in the creation of the ARPANET, but two men, Vinton Cerf and Robert Kahn, are generally acknowledged as the “fathers” of the Internet. These men earned this honor because in the 1970s they were primarily responsible for developing the communications protocols (standards) still in use on the Internet today.

### So are the web and the Internet the same thing?

Because the **World Wide Web (WWW or the web)** is what we use the most, we sometimes think of the Internet and the web as being interchangeable. However, the web is only a subset of the Internet, dedicated to broadcasting HTML pages; it is the means by which we access information over the Internet. The web is based on the Hypertext Transfer Protocol (HTTP), which is why you see an *http://* at the beginning

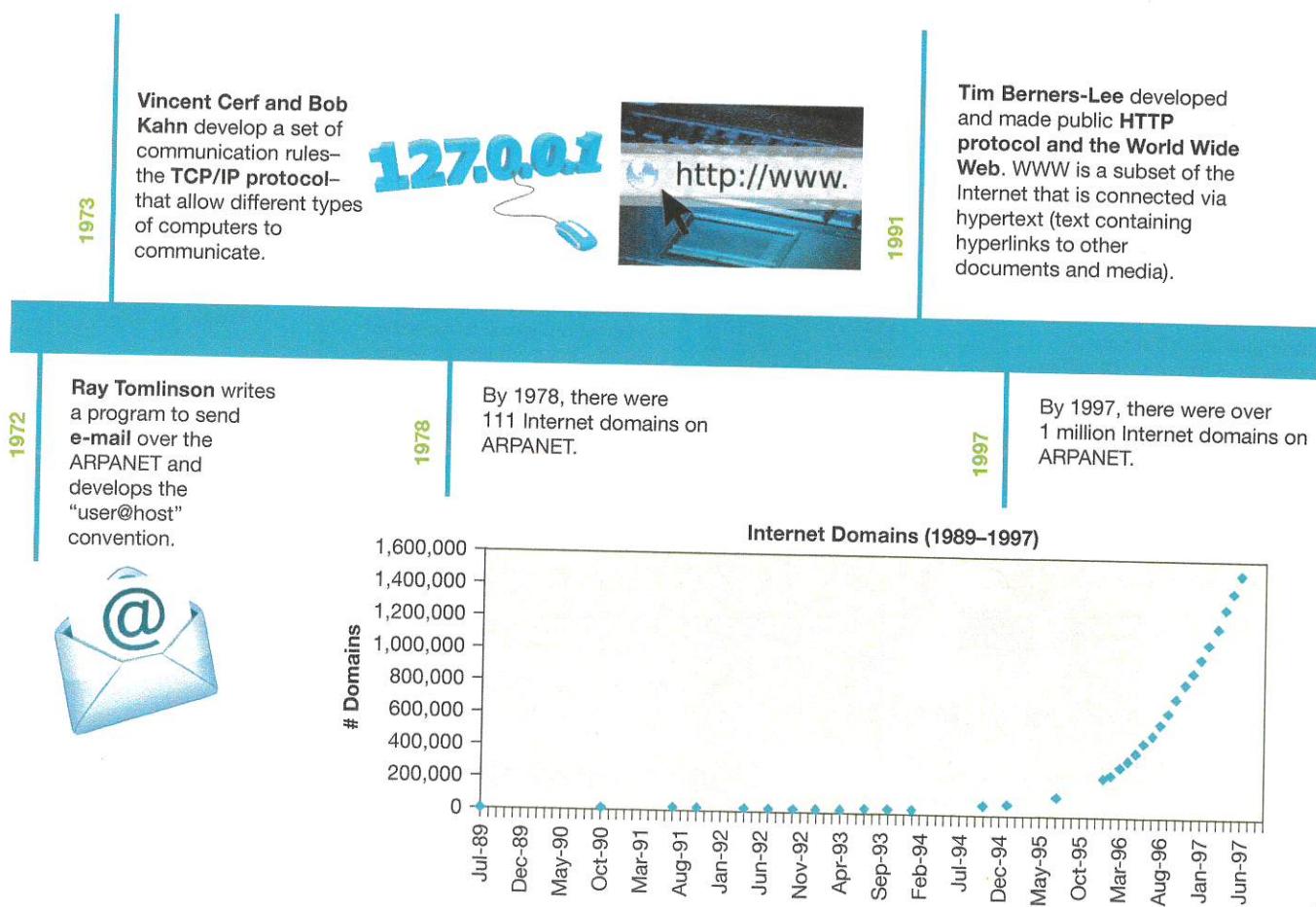
of web addresses. What distinguishes the web from the rest of the Internet is its use of the following:

- Common communications protocols that enable computers to talk to each other and display information in compatible formats
- Special links that enable users to navigate from one place to another on the web

**Who created the web?** The web began in 1991. It was based on a protocol developed by Tim Berners-Lee, a physicist at the European Organization for Nuclear Research (CERN), who wanted a method for linking his research documents so that other researchers could access them. In conjunction with Robert Cailliau, Berners-Lee developed the basic architecture of the web and created the first **web browser**, software that lets you display and interact with text and other media on the web. The original browser could handle only text. Then, in 1993, the Mosaic browser, which could display graphics as well as text, was released. The once-popular Netscape Navigator browser evolved from Mosaic and heralded the beginning of the web’s monumental growth.

## How the Internet Works

**How does the Internet work?** All computers and other devices such as tablets and smartphones that are connected to the Internet create a network of networks. These



(a. Bobjoy/Shutterstock; b. Matthias Pahl/Shutterstock; c. Alphaspirit/Shutterstock)

# BITS & BYTES

## Ever Heard of Internet2?

Although Internet2 may sound like a new and separate network meant to replace the Internet, this is not the case. Internet2 is actually a consortium of U.S. leaders in education, research, industry, and government that seeks to expand the possibilities of the existing Internet by developing new technologies and applications and then deploying them to the public. These experimental technologies require a faster and more efficient Internet, so the researchers use separate data lines that support extremely high-speed communications—up to 8.8 terabits per second (Tbps). In fact, many of the Internet's current technologies are possible because of the research done by the Internet2 consortium.

Internet-connected devices communicate with each other in turns, just as we do when we ask a question or reply with an answer. Thus, a computer (or other device) connected to the Internet acts in one of two ways: Either it's a **client**, a computer that asks for data, or it's a **server**, a computer that receives the request and returns the data to the client. Because the Internet uses clients and servers, it's referred to as a **client/server network**.

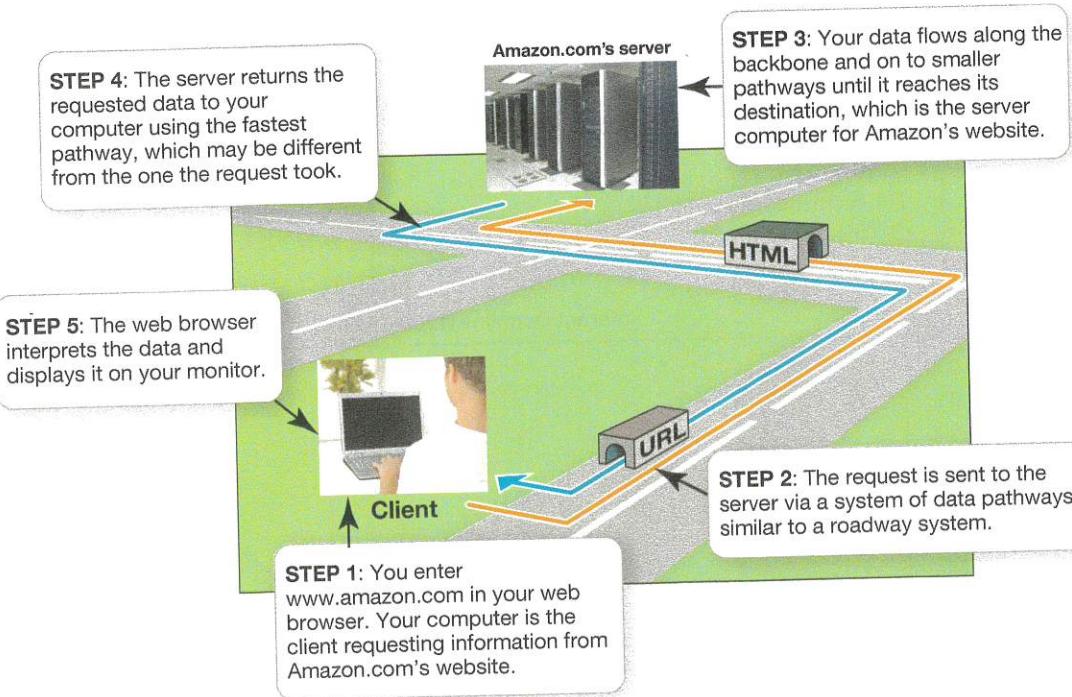
When a client computer puts out a request for information from the server computer, the request travels along transmission lines. These transmission lines are similar to our highway

system of roads, with some roads having different speed limits. The transmission lines with the fastest speeds are referred to as **Internet backbones**.

**How do computers talk to each other?** Suppose you want to order something from Amazon.com. Figure 3.2 illustrates what happens when you type **www.amazon.com** into your web browser and when Amazon's home page displays on your computer monitor. As you can see, the data request from your computer (the client computer) is sent via Internet communication pathways to a server computer. The server computer (in this case, Amazon's server) processes the request and returns the requested data to your client computer via Internet communication pathways. The data reply most likely takes a different route than did the data request. The web browser on your client computer interprets the data and displays it on its monitor.

### How does the data get sent to the correct computer?

Each time you connect to the Internet, your computer is assigned a unique identification number. This number, called an **Internet Protocol (IP) address**, is a set of four groups of numbers separated by periods, such as 123.45.245.91, and is commonly referred to as a *dotted quad* or *dotted decimal*. IP addresses are the means by which computers connected to the Internet identify each other. Similarly, each website is assigned a unique IP address. However, because the numbers that make up IP addresses are difficult for people to remember, websites are given text versions of their IP addresses. So, Amazon's website has an IP address of 72.21.211.176 and a name of **www.amazon.com**. When you type "www.amazon.com" into your browser, your computer (with its unique IP address) looks for Amazon's IP address (72.21.211.176). Data is exchanged between Amazon's server computer and your computer using these unique IP addresses. ■



**FIGURE 3.2** How the Internet's Client/Server Model Works.



# communicating and collaborating ON THE WEB

Over time, our use of the web has evolved from passively browsing web pages that were created for us to actively creating our own web content and sharing and collaborating on it with others. This new collaborative, user-created web content has been dubbed **Web 2.0**. Web 2.0 can be classified as the *social web*, in which the user is also a participant. Before Web 2.0 technologies were in place, we were unable to collaborate with others through web applications such as Google Drive, to rate and recommend products or services with Yelp, to tag a friend on social networks such as Facebook, or to share a video on YouTube or a favorite image on Pinterest. These new means of Web 2.0 communication are collectively called *social media* and include social networking, blogs, wikis, podcasts, and webcasts. Although **e-mail** (short for **electronic mail**) still remains the most widely used form of communication on the Internet, social media has truly changed how we communicate.

## Social Networking

**Who hasn't heard of Facebook or social networking?** As you probably know, **social networking** refers to using the web to communicate and share information among your friends and others. Social networking services such as Facebook and Twitter have become widely popular because they provide fun ways for users to communicate with their friends through wall posts, chats, tagged images, and tweets. Other social networking sites, such as YouTube, Instagram, and Pinterest, provide ways for users to show friends their favorite videos or images that they have taken themselves or have found on the web.

**How is social networking used in business?** In the business community, professionals often engage in in-person networking to locate and fill open job positions as well as to find clients. Today, networking also happens online. Professional, business-oriented online networks such as LinkedIn are helpful for members seeking potential clients, business opportunities, jobs, or job candidates. Like a true business network, these sites can help you meet other professionals through the people you already know. In addition, businesses use social networking for marketing and communicating directly with their customers. For example, companies may post special deals and offers on their Facebook page or solicit responses from followers that may help with product development or future marketing campaigns.

Figure 3.3 shows various sites that are considered Web 2.0 social networking sites. As you can see, there is more to social networking than just Facebook and Twitter.

**What are some dos and don'ts of social networking?** When social networking sites first became popular, there was concern over privacy issues, especially for

school-aged children who put personal information on their pages without considering the possibility of that information being misused by a stalker or identity thief. Although those concerns still exist, many of the most popular social networking sites have improved their privacy policies, thereby reducing, but not eliminating, such concerns. Still, users must be cautious about the type of content they post on these sites. Consider these precautions as you use social networking sites:

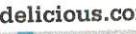
- Keep your personal information personal. The year you were born, your physical address, and the routines of your life (sports games, practices, work schedules) should not be broadcast to the general public.
- Know who your friends are, and know who can see the information you post. Review your privacy settings periodically, as sites change and update their privacy practices frequently.
- Do not post information such as your favorite teacher or your first pet's name because these are often used as security questions to verify your identity.
- Use caution when posting images, and know what images others are posting of you. Although privacy settings may offer some comfort, some images may be available for viewing through search engines and may not require site registration to be seen. Online images may become public property and subject to reproduction, and you might not want some—or any—of those images to be distributed.

Many employers and colleges use social networks as a means of gaining information about potential applicants before granting an interview or extending admission or a job offer. In fact, there have been instances of people being fired from their jobs and being expelled from school for using social media, such as Facebook, Twitter, and blogs, in a questionable way. Generally, questionable content on social media includes negative discussion about the poster's job, employer, or colleagues or inappropriate content about the poster. The responsibility for your content rests with you. Even though you may have strong privacy settings, you can't control what those who you allow to see your content do with it. Therefore, treat all information posted on the web as public, and avoid posting damaging words and pictures. Bottom line: Make sure your profile, images, and site content project an image that positively and accurately represents you.

## E-Mail

**Why do I need e-mail?** Despite the increasing popularity of social networking, e-mail is still the primary means of communication over the Internet. E-mail is a written message sent or received over the Internet. E-mail is the primary method of electronic communication worldwide because it's fast and convenient. And because it's *asynchronous*, users do not need to be communicating at the same time. They can send and

**FIGURE 3.3**

Types of Social Networking Sites		
	DESCRIPTION	SUGGESTED URLs
<b>Social Exchange Networks</b>	Allow users to connect with others, provide status updates	<a href="http://facebook.com">facebook.com</a>  <a href="http://twitter.com">twitter.com</a>  <a href="http://ning.com">ning.com</a> 
<b>Create Your Own Social Networks</b>	Allow users to create their own social network around a common topic; groups can be public or private	
<b>Business-Related Social Networks</b>	Allow users to seek potential clients, business opportunities, jobs, or job candidates	<a href="http://linkedin.com">linkedin.com</a> 
<b>Media Sharing Networks</b>	Allow users to share pictures and videos	<a href="http://youtube.com">youtube.com</a>  <a href="http://instagram.com">instagram.com</a>  <a href="http://pinterest.com">pinterest.com</a>  <a href="http://delicious.com">delicious.com</a>  <a href="http://wikipedia.org">wikipedia.org</a> 
<b>Information Sharing Networks</b>	Allow users to share information	
<b>Information Recom-mendations and Filtering (Book-marking) Networks</b>	Allow users to post their opinion of a product, service, news, or web item for others to see and use	<a href="http://slideshare.net">slideshare.net</a>  <a href="http://reddit.com">reddit.com</a>  <a href="http://digg.com">digg.com</a> 

(Kevin Britland/Alamy; M4OS Photos/Alamy; Anil Kumar/Alamy; Kristoffer Tripplaat/Alamy; NetPics/Alamy)  
Gili/CSShutterstock; M4OS Photos/Alamy; NetPics/Alamy)

respond to messages at their own convenience. E-mail is also convenient for exchanging and collaborating on documents via attachments.

**How private is e-mail?** Although e-mail is a more private exchange of information than public social networking sites, e-mails are not really private. Consider the following:

- Because e-mails can be printed or forwarded to others, you never know who may read your e-mail.
- Most e-mail content is not protected, so you should never use e-mail to send personal or sensitive information such as bank account or Social Security numbers. Doing so could lead to identity theft.
- Employers have access to e-mail sent from the workplace, so use caution when putting negative or controversial content in e-mail.
- Even after you've deleted a message, it doesn't really vanish. Many Internet service providers and companies archive e-mail, which can be accessed or subpoenaed in the event of a lawsuit or investigation.

**What are some tips on e-mail etiquette?** When you write a casual e-mail to friends, you obviously don't need to follow any specific e-mail guidelines (except to remember that your e-mail may be forwarded). But when you send e-mail for professional reasons, you should use proper e-mail etiquette. The following are a few guidelines (also see Figure 3.4):

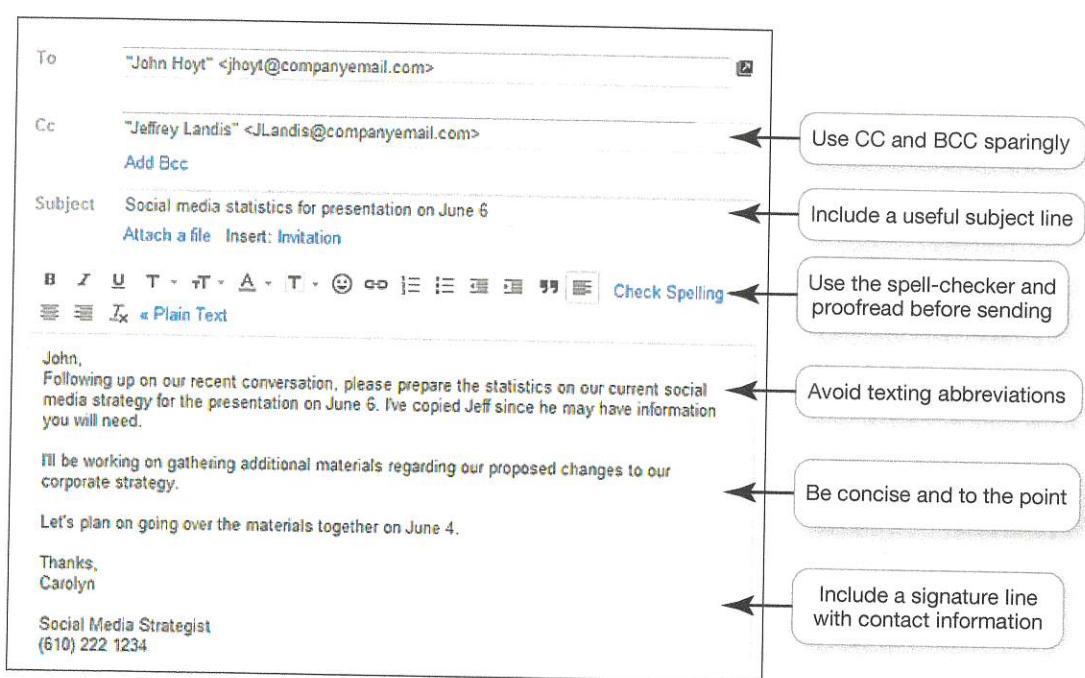
- Be concise and to the point.
- Use the spell-checker and proofread your e-mail before sending it.
- Avoid using abbreviations such as *u*, *r*, *LOL*, and *BTW*.
- Include a meaningful subject line to help recipients prioritize and organize e-mails.
- Add a signature line that includes your contact information.
- Include only those people on the e-mail who truly need to receive it.

Following such guidelines maintains professionalism, increases efficiency, and might even help protect a company from lawsuits.

**Are there different types of e-mail systems?** There are two different types of e-mail systems:

1. **Web-based e-mail**, such as Yahoo! mail or Gmail, is managed with your web browser and allows you to access your e-mail from the web.
2. An **e-mail client** requires a program, such as Microsoft Outlook, to be installed on your computer. When you open the program, your e-mail is downloaded to your computer.

The primary difference between the two is access. Web-based e-mail allows you to access e-mail from any Internet-connected device, but you can't use your e-mail when you're offline. With an e-mail client, you view your e-mail on the computer on which the e-mail client software has been installed, but you can then view and manage your e-mail while you're offline. Both systems can be used together for the "best of both worlds." You can have a Gmail account, for example, so that you can read your e-mail from any computer connected to the



**FIGURE 3.4** Using simple guidelines of e-mail etiquette can promote a professional image and make your message more effective.

Internet, and you can also have Outlook installed on your primary computer and set up the program to display your Gmail account (see Figure 3.5).

## Instant Messaging

**Is instant messaging just for friends?** You've most likely used **instant messaging (IM)** services—programs that let you communicate in real time over the Internet. Although IM is most often used for conversations between friends, many businesses use IM as a means of instant communication between co-workers. Some IM systems provide mechanisms to hold conversations with more than one person, either through simultaneous individual conversations or with group chats. And some programs even let you conduct video chats using a webcam.

AIM, Google Chat, Windows Messenger, and Yahoo! Messenger are proprietary IM services, meaning you can IM or chat only with those who share the same IM service and are on your contact or buddy list. Another option is to chat with those you've "friended" on Facebook through Facebook's chat option. There are also universal chat services such as Trillian and Digsby that you install on your computer and that allow you to chat with users of all popular IMs, regardless of the service they use.

## Wikis

**What are wikis?** You've no doubt heard of Wikipedia ([wikipedia.org](http://wikipedia.org)), the popular collaborative online encyclopedia. Wikipedia is one example of a **wiki**, a web application that allows users to add, remove, or edit its content. Wiki content

## BITS&BYTES

### Outlook.com

With the release of Office 2013, Microsoft introduced Outlook.com, a free web-based e-mail service that is linked to your desktop Outlook data and can pull additional contact information from Facebook, Twitter, and LinkedIn as well as your calendar. Outlook.com is a combination of Hotmail and Windows Live (which no longer exist). All you need in order to access the web-based e-mail is a Windows account—which you already may have if you have access to OneDrive, Xbox Live, or have a current Hotmail or Windows Live account. Outlook.com offers a clean, ad-free inbox, with additional features borrowed from the installed version of Outlook that can simplify using e-mail. If you already have another web-based e-mail account (such as Gmail) and you don't want to switch your e-mail address, you can still enjoy the features of Outlook.com; just plug in your Gmail e-mail address, and it syncs automatically.

such as that found on Wikipedia is created collaboratively by multiple users, resulting in an emergent "common" opinion rather than the opinion of an individual writer. Because of wiki technology, Wikipedia's content can be updated continually.

Outlook imports e-mail from web-based clients

Outlook has advanced e-mail management

Outlook and Gmail coordinate directly with calendar and tasks

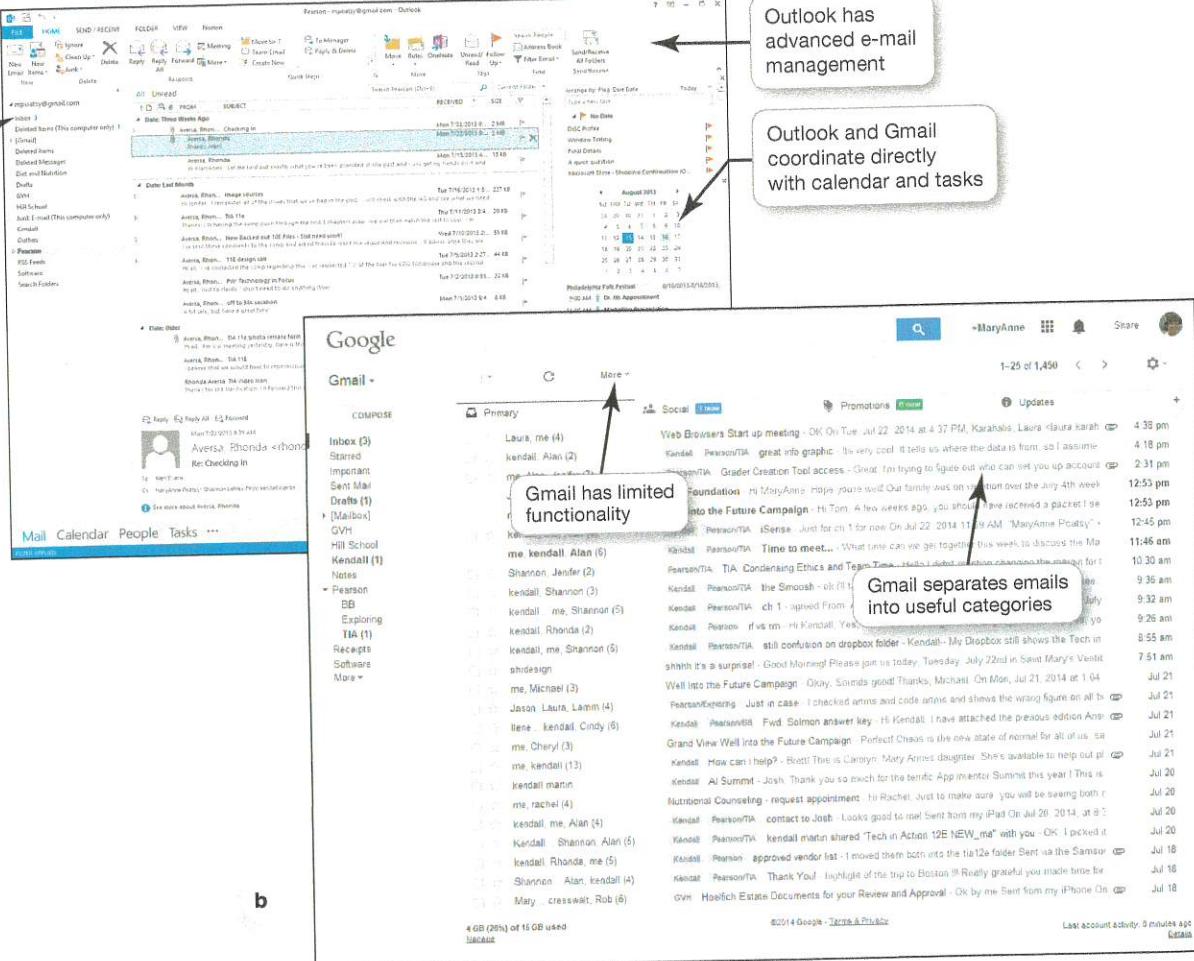


FIGURE 3.5 (a) Client-Based and (b) Web-Based E-mail Systems (Courtesy of Google, Inc.)

**What else are wikis used for?** Wikis are not just used to create Wikipedia; they're also useful tools for business collaboration. Rather than needing to pass documents back and forth via e-mail and possibly losing track of which version is the most recent, wikis allow all who have access to the wiki page to post their ideas and modify the content of the current version of a single document (see Figure 3.6). Wikis provide the extra benefit of users being able to access, review, and even revert back to past versions at any time.

Some web-based document products, such as Google Drive ([drive.google.com](http://drive.google.com)), have wiki-like features to promote similar online collaboration, and specific wiki software, such as Wikispaces ([wikispaces.com](http://wikispaces.com)) and MediaWiki ([mediawiki.org](http://mediawiki.org)), is available that you can download for free. The Wikimedia Foundation, which hosts Wikipedia, also hosts other collaborative projects, such as Wiki-books (textbooks), Wikiversity (learning tools),

The screenshot shows a PublicityLaw wiki page titled 'home'. The page content discusses the right of publicity, mentioning that it's a property right controlled by individual states. It notes that many celebrities and others profit from unauthorized use of their images. The page includes a redacted section and a green-highlighted section. At the bottom, a note says that many entertainment lawyers believe celebrity rights are intended solely for ads and merchandise, not for literary works. Navigation links at the top include 'Edit', 'Older Version', 'Newer Version', and '...'. A sidebar on the right shows user activity.

FIGURE 3.6 Different users can collaborate on a wiki page. A member of this wiki's group has modified the original text. Text that the person deleted appears in red, while inserted text appears in green. (Wikimedia Foundation)

and Wikisource (a document library). These wiki-type collaborative efforts apply to a variety of other useful applications. For example, wikiHow ([wikihow.org](http://wikihow.org)) is an online project that uses both wikis and the collaborative process to build a large, online how-to manual.

**Why isn't Wikipedia good to use as a source for a research paper?** The idea behind content that is managed and edited by many users, such as that found on Wikipedia and other large public wikis, is that the group will keep the content current and valid. However, because wikis are publicly editable, they can't be trusted completely. If a user adds erroneous content, the community of users can quickly catch and correct it, but if you used Wikipedia as a source, you may have referenced erroneous content before it was corrected. To help address these concerns, Wikipedia has implemented tighter access controls, requiring users who want editing privileges to register with the site, but the risks still remain. Citizenendum ([citizendum.org](http://citizendum.org)), another open wiki encyclopedia, requires contributors to provide real names and sign an ethics pledge, and all postings are monitored.

## Blogs

**Why do people write blogs?** A **blog** (short for **weblog**) is a personal log or journal posted on the web. Anyone can create a blog, and there are millions of blogs available to read, follow, and comment on. Blogs are generally written by a single author and are arranged as a listing of entries on a single page, with the most recent blog entry appearing at the top of the list. In addition, blogs are public. Blogs have searchable and organized content, making them user friendly. They're accessible from anywhere using a web browser.

Many people use blogs as a sort of personal scrapbook. Whenever the urge strikes, they report on their daily activities. Many other blogs focus on a particular topic. For example, the Movie Blog ([themovieblog.com](http://themovieblog.com)) contains reviews and opinions about movies, and engadget ([engadget.com](http://engadget.com)) is a blog devoted to discussing technogadgets. Many corporations, such as Walmart and Best Buy, have blogs written by employees. Blogcatalog ([blogcatalog.com](http://blogcatalog.com)) is a blog directory that can help you find blogs that fit your interests.

**Are all blogs text-based?** The traditional form of a blog is primarily text-based but may also include images and audio. A **video log (vlog or video blog)** is a blog that uses video as the primary content (although it can also contain text, images, and audio). Vlogs are quickly becoming a popular means of personal expression, and many can be found by searching YouTube ([youtube.com](http://youtube.com)) and Tout ([tout.com](http://tout.com)).

**How do I create a blog?** Many websites provide the tools you need to create your own blog. Two sites that offer free blog hosting are Blogger ([blogger.com](http://blogger.com)) and WordPress ([wordpress.com](http://wordpress.com)). Such tools also let you add features like pictures or subpages to your blog. You can also choose to host your blog yourself so that the URL reflects your name or the name of your business. If you choose this option, you'll need your own website and a URL so people can access it.

## SOUND BYTE Blogging

In this Sound Byte, you'll see why blogs are one of today's most popular publishing mediums. You'll also learn how to create and publish your own blog.

**Are there any problems with blogs?** The popularity of blogs has brought about a new problem: *spam blogs (splogs)*, which are artificially created blog sites filled with fake articles or stolen text (a tactic known as *blog scraping*). Splogs, which contain links to other sites associated with the splog's creator, have the intention of either increasing traffic to, or increasing search engine rankings for, these usually disreputable or useless websites. Although not really harmful, splogs are another unwanted form of content that continues to grow like weeds on the web.

## Podcasts and Webcasts

**What is a podcast?** A **podcast** is a form of digital media comprised of a series of audio or video files that are distributed over the Internet. There are podcasts for radio shows, audiobooks, magazines, and even educational programs, which you can download to any device that can play audio files. What makes podcasts different from other audio files found on the web is that podcasts deliver their content using **Really Simple Syndication (RSS)**. RSS is a format that sends the latest content of the podcast series automatically to an **aggregator** such as iTunes or Feedspot. An aggregator locates all the RSS series to which you've subscribed and automatically downloads only the new content to your computer or media player. If you have several favorite websites or podcasts, rather than checking each site for updated content, aggregators collect all the site updates in one place. These updates or changes to the content are then delivered automatically if you subscribe to the podcast, instead of you having to search for the latest content and download it manually.

**Where can I find podcasts?** Most online news and radio sites offer podcasts of their programs. Although many podcasts are news related, others offer entertaining and educational content. For example, you can access lessons on yoga, foreign language classes, or DIY tips. Many schools supply students with course content updates through podcasts, and instructors sometimes create podcasts of their lectures. Figure 3.7 lists some websites where you can find podcasts.

**Can I create my own podcast?** It's simple to create a podcast. To record the audio content all you need is a computer with a microphone, and if you want to make a video podcast, you also need a webcam or video camera. Although high-end equipment will produce more sophisticated output, you certainly can use whatever equipment you might own. You may also need additional software to edit the audio and video

**FIGURE 3.7**

## Podcast Directories and Aggregators

### iTunes (itunes.com)

- Software makes it easy to play, manage, and share your favorite podcasts

### Podfeed (podfeed.net)

- Broad collection of podcasts

### Stitcher (stitcher.com)

- Customize podcast playlists

### YouTube (youtube.com)

- Good source for video blogs (vlogs)

content, depending on how professional you wish the podcast to be. After you've recorded and edited the podcast content, you need to export it to MP3 format. The free program Audacity ([audacity.sourceforge.net](http://audacity.sourceforge.net)) lets you both edit audio files and export them to MP3 format. All that's left is for you to

create an RSS feed (tricky, but doable) and then upload the content to a site that hosts podcasts, such as iTunes, Podfeed, or Stitcher.

### What's a webcast?

A **webcast** is the (usually live) broadcast of audio or video content over the Internet. Unlike podcasts, which are prerecorded and made available for download, most webcasts are distributed in "real time," meaning that they're live or one-time events. Some webcasts are archived so they can be viewed at a later date. Webcasts are not updated automatically like podcasts, but some, such as Microsoft's On-Demand Webcasts, are RSS feeds.

Webcasts use continuous audio and video feeds, which let you view and download large audio and video files. Webcasts can include noninteractive content such as a simultaneous broadcast of a radio or television program, but more recent webcasts invite interactive responses from the viewing or listening audience. For example, ORLive ([orlive.com](http://orlive.com)) provides surgical webcasts that demonstrate the latest surgical innovations and techniques. Webcasts also are used in the corporate world to broadcast annual meetings and in the educational arena to transmit seminars.

Figure 3.8 lists the popular methods of online communication that we've discussed. ■

**FIGURE 3.8**

## Methods of Online Communication

### SOCIAL NETWORKING



- Web 2.0 technology
- Lets you build an online network of friends
- Lets you share media content

### E-MAIL



- Most common form of online communication
- Asynchronous (not having to be done at the same time)

### INSTANT MESSAGING



- Real-time exchange
- Can be used with multiple persons simultaneously
- Video/audio chats available

### WIKIS



- Great collaborative tool
- Content updated by many users
- Historical content kept, so you can revert to past versions

### BLOGS



- Written by a single author
- Chronologic entries
- Searchable content
- May include images, audio, and video

### PODCASTS



- Audio/video files delivered via RSS
- New RSS content collected with aggregator
- Can download and view content on portable media player

### WEBCASTS



- Most often live, streamed broadcasts



web

# ENTERTAINMENT

When you think of how you use the Internet for entertainment purposes, what comes to mind? Streaming audio and video, Internet radio, MP3s, interactive gaming, and smart TV are all favorite responses. What makes all these forms of web entertainment so popular is their multimedia content. **Multimedia** is anything that involves one or more forms of media in addition to text. It includes the following:

- *Graphics* such as drawings, charts, and photos (the most basic form of multimedia)
- *Audio files* such as the clips you hear when you visit websites, MP3 files you download, podcasts and webcasts, and live broadcasts you can listen to through Internet radio
- *Video files* ranging from simple, short video clips on sites such as YouTube ([youtube.com](http://youtube.com)) to movies and television shows on sites such as Hulu ([hulu.com](http://hulu.com))

## What is streaming media?

**Streaming media** is multimedia (audio and video) that is continuously fed to your browser so you avoid having to wait for the entire file to download completely before listening to or watching it. Without streaming media, you wouldn't be able to watch movies on Netflix or on demand from your cable provider, listen to live audio broadcasting, or even play some online games. Internet radio also uses streaming media to present a continuous stream of audio to its listeners. Pandora ([pandora.com](http://pandora.com)) enables you to personalize your audio stream by specifying a favorite artist, song, or composer that you want to hear. Then the service picks music with the same characteristics. In addition to Internet radio service, Spotify ([spotify.com](http://spotify.com)) lets you pick your own songs, build playlists, and share your playlists with others.

## Do I need anything besides a browser to view or hear multimedia on the web?

Most graphics on the web will appear in your browser without any additional software. However, to view and hear some multimedia files—for example, podcasts, YouTube videos, and audio files—you might need a **plug-in** (or **player**)—a special software component that adds a specific feature to an existing software program. Figure 3.9 lists the most popular plug-ins.

FIGURE 3.9

## Popular Plug-Ins and Players and Their Uses

PLUG-IN NAME	WHERE YOU GET IT	WHAT IT DOES
Adobe Reader	<a href="http://adobe.com">adobe.com</a>	Views and prints portable document format (PDF) files
Flash Player	<a href="http://adobe.com">adobe.com</a>	Plays animation and movies through web browsers
QuickTime Player	<a href="http://apple.com">apple.com</a>	Plays MP3, animation, music, musical instrument digital interface (MIDI), audio, and video files
Shockwave Player	<a href="http://adobe.com">adobe.com</a>	Plays interactive games, multimedia, graphics, and streaming audio and video on the web
Silverlight	<a href="http://microsoft.com">microsoft.com</a>	Similar to Flash; plays web-based animations and videos
Windows Media Player	<a href="http://microsoft.com">microsoft.com</a>	Plays MP3 and WAV music files, movies, and live audio and video on broadcasts on the web

# BITS & BYTES

## HTML5 Versus Flash

Adobe's Flash is a plug-in you're no doubt familiar with that is designed to run multimedia through web browsers. Flash has been the multimedia standard for decades and was at one time used with all browsers. However, in 2007, a controversy between Flash and HTML5 began when the Apple iPhone was introduced—and this controversy continued with the later introduction of the iPad. What was the problem? Both the iPhone and the iPad ran with an operating system that supported HTML5 rather than Flash. Flash-based YouTube videos, for example, would not play on an iPhone or an iPad.

Why would Apple choose HTML5 over Flash? HTML5—the fifth revision of the HTML standard—is open-source code, meaning the program code is available to the general public to use or modify, unlike Flash, which is owned by one company. The goal

of HTML5 is to ease the handling of multimedia and graphical content on the web, to reduce or eliminate the need for plug-ins, and to become device independent. Adobe discontinued development of Flash for mobile devices several years ago and has reoriented its efforts in helping to improve HTML5 so that it becomes as fully functional as Flash.

Because Flash had been dominant for so long, it's taken a while for the HTML5 standard to catch on. But even Flash stalwarts such as YouTube, which was solely Flash dependent, added capability to run HTML5 video in 2011. Similarly, most Flash-dependent websites have incorporated HTML5 players or extensions to run on mobile devices and browsers. While the Flash Player plugin is still installed and used in the majority of desktop browsers, HTML5 will undoubtedly become the standard for mobile devices and browsers.

**How do I get players and plug-ins?** If you purchased your computer within the past several years, most popular plug-ins probably came preinstalled on your computer. If a website requires a plug-in not installed on your computer, you are usually automatically directed to a site where you can download the plug-in free of charge. For example, to use streaming video, your browser might send you to the Adobe website, where you can download Flash Player.

**Is there any way to get multimedia web content to load faster?** When you're on the Internet, your browser keeps track of the sites you've visited so that it can load them faster the next time you visit them. This *cache* (temporary storage place) of the text pages, images, and video files from recently visited websites can make your web surfing more

efficient, but it can also slow down your hard drive. Additionally, if you don't have your cache settings configured to check for updates to the web page, your browser may not load the most recent content. To keep your system running efficiently, consider doing the following:

- Delete your temporary Internet cache every month or so, depending on your usage.
- To ensure the most recent website content is displayed, click Refresh or press the F5 key if you revisit a site in the same browsing session.
- Clear your Internet cache manually or adjust the setting in your web browser so that it clears the cache automatically every time you exit the browser. ■



# conducting business over the internet: E-COMMERCE

It's hard to believe that only a few years ago, many people were scared to buy things online. Today, there is little hesitation, and you can buy nearly anything on the web, including big-ticket items such as homes and cars. **E-commerce**—short for **electronic commerce**—is the process of conducting business online. Figure 3.10 shows the most common items purchased through e-commerce transactions.

**Are there different types of e-commerce?** There are three types of e-commerce business models:

- Business-to-consumer (B2C)** transactions take place between businesses and consumers. Such transactions include those between customers and completely online businesses (such as [Amazon.com](#)) and those between customers and stores that have both an online and a physical presence, such as Target ([target.com](#)). Such businesses are referred to as *click-and-brick* businesses. Some click-and-bricks allow online purchases and in-store pickups and returns.
- Business-to-business (B2B)** transactions occur when businesses buy and sell goods and services to other businesses. An example is Omaha Paper Company ([omahapaper.com](#)), which distributes paper products to other companies.
- Consumer-to-consumer (C2C)** transactions occur when consumers sell to each other through sites such as eBay ([ebay.com](#)), Craigslist ([craigslist.org](#)), and Etsy ([etsy.com](#)).

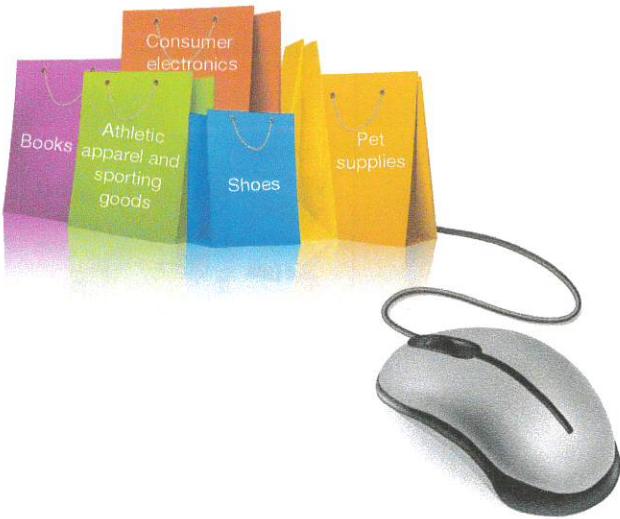


FIGURE 3.10 Top Five Online Consumer Purchases.

**Social commerce** is a subset of e-commerce that uses social networks to assist in marketing and purchasing products. If you're on Facebook, you've no doubt noticed the many businesses that have Facebook pages asking you to "Like" them. Consumers are voicing their opinions on Facebook and other sites about products and services by providing ratings and reviews, and studies show that such peer recommendations have a major influence on buying behavior. When you see your friend on Facebook recommend a product or service, you're more likely to click through to that retailer and check out the product.

For example, after implementing the Facebook "Like" button, American Eagle noticed that Facebook-referred visitors spent 57 percent more than other online shoppers. Other peer-influenced e-commerce trends include group-buying and individual customization. Groupon and LivingSocial are two popular deal-of-the-day group purchase websites that require a certain number of people to buy the discounted deal before the deal can go through. CafePress and Zazzle sell T-shirts and other items that are customized with your own graphic designs.

But e-commerce encompasses more than just shopping opportunities. Today, anything you can do inside your bank you can do online, and approximately 80 percent of U.S. households do some form of online banking. Many people use online services to check their account balances, pay bills online, and check stock and mutual fund performance. Credit card companies allow you to view, schedule, and pay your credit card bill; brokerage houses allow you to conduct investment activities online.

## E-Commerce Safeguards

**Just how safe are online transactions?** When you buy something online, you may use a credit card; therefore, money is exchanged directly between your credit card company and the online merchant's bank. Because online shopping eliminates a salesclerk or other human intermediary from the transaction, it can actually be safer than traditional retail shopping.

**What precautions should I take when shopping online?** In addition to using some basic common computing sense such as having a firewall and up-to-date antivirus



### ACTIVE HELPDESK Doing Business Online

In this Active Helpdesk, you'll play the role of a helpdesk staffer, fielding questions about e-commerce and e-commerce safeguards.

software on your computer, and using strong passwords for all your online accounts, there are several important guidelines to follow to ensure your online shopping experience is a safe one (see Figure 3.11):

- **Look for visual indicators that the website is secure.** Check that the beginning of the URL changes from "http://" to "https://"—with the s standing for secure, indicating that the **secure sockets layer** protocol has been applied to manage the security of the website. Also, look for a small icon of a closed padlock in the toolbar (in both Internet Explorer and Firefox) and a green-colored address bar, indications that the site may be secure. (However, note that even if a site has these indicators, it still might not be safe. Consider the validity of the site before making a purchase.)
- **Shop at well-known, reputable sites.** If you aren't familiar with a site, investigate it with the Better Business Bureau ([bbb.org](http://bbb.org)) or at [bizrate.com](http://bizrate.com). Make sure the company has a phone number and street address in addition to a website. You can also look for third-party verification such as that from TRUSTe or the Better Business Bureau. But let common sense prevail. Online deals that seem too good to be true are generally just that—and may be pirated software or illegal distributions.
- **Pay by credit card, not debit card.** Federal laws protect credit card users, but debit card users don't have the same level of protection. If possible, reserve one credit card for Internet purchases only; even better, use a pre-paid credit card that has a small credit limit. For an extra layer of security, find out if your credit card company has a service that confirms your identity with an extra password or code that only you know to use when making an online transaction or that offers a one-time-use credit card number. Also, consider using a third-party payment processor such as PayPal or Google Wallet. PayPal also offers a security key that provides additional security to your PayPal account.
- **When you place an order, check the return policy, save a copy of the order, and make sure you receive a confirmation number.** Make sure you read and understand the fine print on warranties, return policies, and the retailer's privacy statements. If the site disappears overnight, this information may help you in filing a dispute or reporting a problem to a site such as the Better Business Bureau.
- **Avoid making online transactions when using public computers.** Public computers may have spyware

FIGURE 3.11

### Online Shopping Precautions



When shopping at home, use a firewall and antivirus software for general computer protection.



Don't shop on public WiFi networks, as they may contain spyware.



Check for visual indicators such as https:// in the URL, a closed padlock icon, and a green address bar.



Look for third-party verification from TRUSTe or the Better Business Bureau symbol.



Use a credit card, not a debit card, to protect transactions, or use a third-party payer such as PayPal or Google Wallet.



Create a strong password for all online accounts (one that includes numbers and other symbols such as @).



Deals that are too good to be true are usually just that.



Read and understand the fine print on warranties, return policies, and the retailer's privacy statements.

installed, which are programs that track and log your keystrokes and can retrieve your private information. Similarly, unless you have specific protection on your own notebook computer, avoid making wireless transactions on public hotspots.

Whether you're doing business, playing games, or communicating with friends or colleagues, the Internet makes these activities more accessible. The Internet can potentially make these experiences and activities more enriched as

well, although you must take precautions for the safest of experiences. ■

#### Before moving on to Part 2:

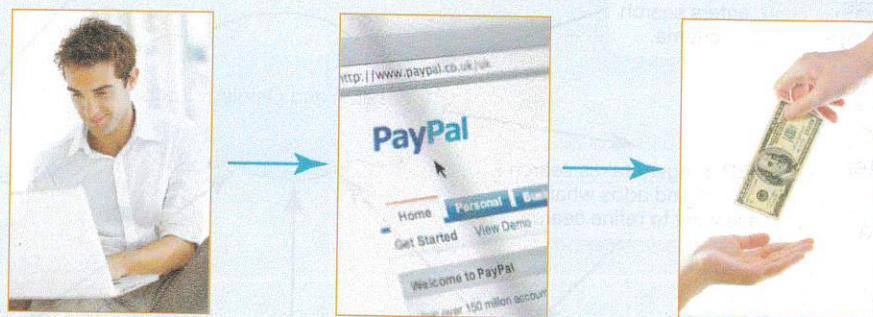
- **Watch Replay Video 3.1** ▶
- Then check your understanding of what you've learned so far.

## BITS & BYTES

### Making Safe Payments Using PayPal and Apple Pay

When people first began making online purchases, many were not comfortable buying from sites like eBay because the sites required them to give personal financial information such as credit card numbers to strangers. PayPal ([paypal.com](http://paypal.com)) resolved that issue by serving as a payment intermediary that allows anyone to pay with credit cards and bank accounts without sharing their financial information. PayPal is now a standard means of payment for many online merchants and offers buyer protection and dispute resolution services. Figure 3.12 shows how PayPal works.

Apple Pay is aiming to change customers' payment habits by having them pay merely by using their iPhone or iWatch. Apple Pay uses security features that shield your credit card information from merchants (and Apple!), making it a safer payment method than handing over a credit card to be swiped. So forget fumbling for your credit card—just wave your phone!



You provide your financial information to PayPal, which stores it on PayPal servers.

You provide only your PayPal e-mail address to the merchant.

The merchant receives payment from PayPal without seeing your financial information.

**FIGURE 3.12** How PayPal Works. (Yuri Arcurs/Shutterstock; AKP Photos/Alamy; Happydancing/Shutterstock)

# DIG DEEPER

## Discovering the Semantic Web

Think about all the types of data on the web that you access manually, such as appointment times, transportation and entertainment schedules, and store locations and hours. It would seem that computers would be helpful in plugging through all this web data, but oddly, that is not the case. Web pages are designed for people to read, not for computers to manipulate. As yet, no reliable way exists for computers to process the meaning of data on a web page so that it can be used to see relationships or make decisions.

The **semantic web** (or **Web 3.0**) is an evolving extension of the web in which data is defined in such a way to make it more easily processed by computers. Right now, search engines function by recognizing keywords such as *office hours* and *dentist*, but they can't determine, for example, in which office and on what days Dr. Smith works and what his available appointment times are. By using a so-called "agent," the semantic web would enable computers to find that type of information, coordinate it with your other schedules and preferences, and then make the appointment for you.

The semantic web would also assist you in comparing products, prices, and shipping options by finding the best product option based on specified criteria and then placing the order for you. Additionally, the agent would record the financial transaction into your personal bookkeeping software and arrange for a technician to help install the software, if needed.

For the semantic web to work, businesses, services, and software would all use the same categorization structures so that similar information would share the same attributes, ensuring consistency of metadata throughout the web. The semantic web would build on this type of

capability so that each website would have text and pictures (for people to read) and metadata (for computers to read) describing the information on the web (see Figure 3.13).

Although some of the semantic web's functionalities are beginning to emerge in technologies such as Siri in the current iPhone operating system, the majority of its functionality and implementation are still in development. The greatest challenge is re-coding all the information currently available on the web into the type of metadata that computers can recognize. The very grandeur of that task means that we will not see a fully functional semantic web until sometime in the distant future. In the meantime, we can continue to benefit from each small step toward that goal.

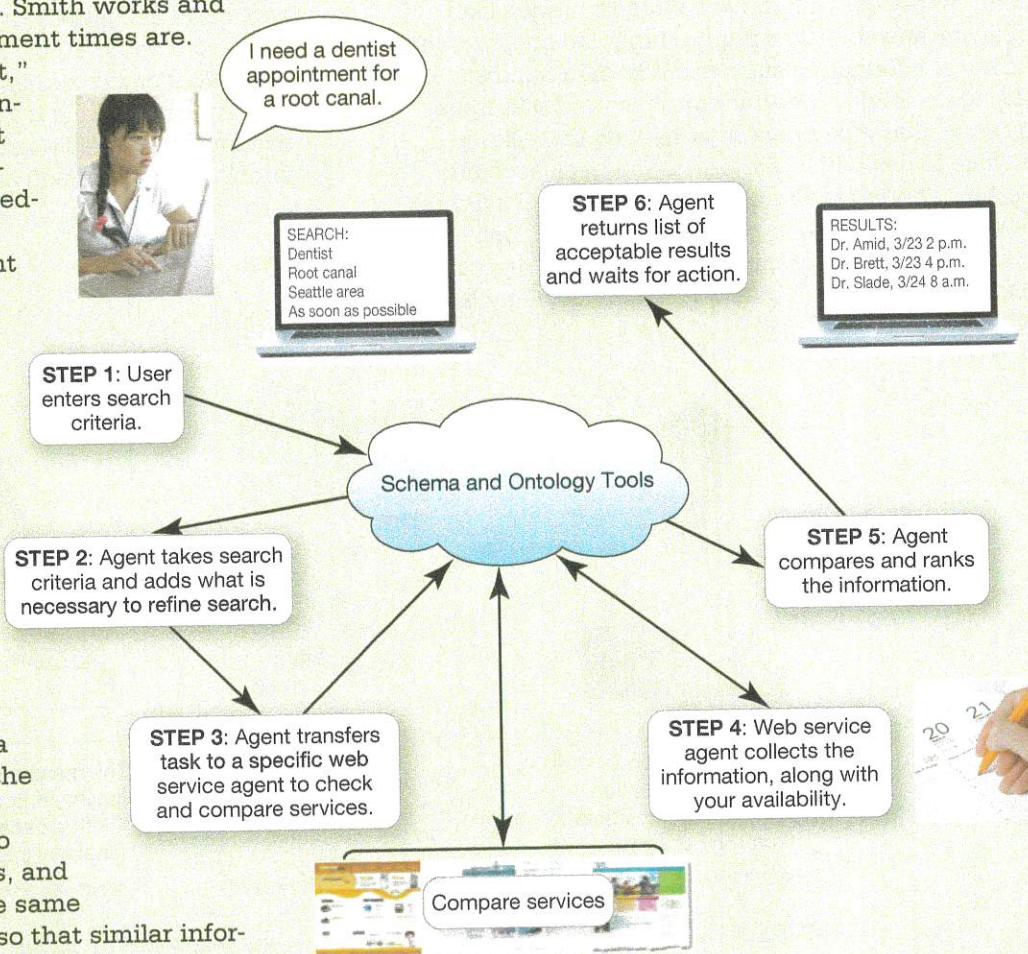


FIGURE 3.13 The Semantic Web.

## check your understanding // review & practice

For a quick review to see what you've learned so far, answer the following questions. Visit [pearsonhighered.com/technaction](http://pearsonhighered.com/technaction) to check your answers.

### multiple choice

1. Which is NOT an event associated with the beginning of the Internet?
  - a. The U.S. Department of Defense creates ARPA.
  - b. TCP/IP protocol was developed that allowed different computers to communicate with each other.
  - c. Amazon.com was one of the first websites on the Internet.
  - d. The first e-mail program was written by Ray Tomlinson.
2. What do you need if you want to read, send, and organize e-mail from *any* computer connected to the Internet?
  - a. an e-mail client program
  - b. an e-mail server
  - c. an e-mail aggregator
  - d. a web-based e-mail account
3. Which is NOT an example of Web 2.0 technology?
  - a. e-mail
  - b. social networking
  - c. blogging
  - d. wiki
4. Which of the following is NOT a characteristic of a blog?
  - a. Blogs are used to express opinions.
  - b. Blogs are generally written by a single author.
  - c. Blogs are private and require password access.
  - d. Blogs are arranged as a listing of entries.
5. Which of the following would be the correct classification for Etsy.com?
  - a. B2B
  - b. C2C
  - c. B2C
  - d. Click-and-brick business

To take an autograded version of this review, please go to the companion website at [pearsonhighered.com/technaction](http://pearsonhighered.com/technaction), or go your MyITLab course.

Continue 

# TRY THIS



## Create a OneDrive Account to Store and Share Your Files in the Cloud

You probably have your favorite ways of moving your files around. Perhaps you have a USB drive or you e-mail files to yourself, or maybe you have a portable external hard drive. With any of these solutions, there can be confusion as to which is the most current version of the file if you have worked on it on multiple devices at different times. You also run the risk of losing your USB drive or deleting the e-mail attachment by mistake. These methods also make exchanging files difficult if you want to share your files or collaborate with a group.

A simpler solution is to use a web-based or cloud storage and sharing service such as OneDrive or Dropbox. OneDrive is part of Microsoft's Office Online. With 15 GB of free storage space for new users, you can store thousands of files and get to them anytime you're online.

### Step 1 Sign in

**to OneDrive:** Go to [onedrive.com](http://onedrive.com). Sign in to your Microsoft account. If you don't have a Microsoft account, creating one is easy. A Microsoft account will give you access to services such as OneDrive, Xbox LIVE, and [Outlook.com](http://outlook.com).

The screenshot shows the Microsoft sign-in page with the heading "Sign in with your Microsoft account". It features a large image of three children playing soccer on a screen, with the text "Now with 15 GB free" overlaid. On the right, the OneDrive logo is displayed above a form with fields for "Microsoft account" (containing "someone@example.com"), "Password", and "Keep me signed in". A "Sign in" button is below the form, followed by links for "Can't access your account?" and "Sign in with a single-use code". At the bottom, there is a link to "Don't have a Microsoft account? Sign up now".

### Step 2 Create a Folder and Add Files:

Once you're in OneDrive, you can create a folder and then begin to add files.

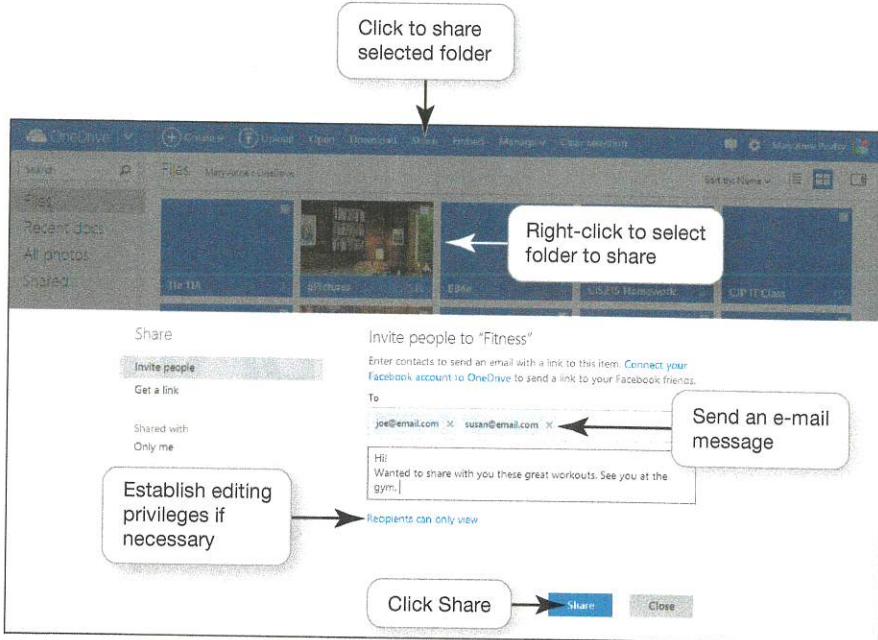
- To create a folder: Click **Create** at the top of the page, click **Folder**, and then give your new folder a name. Click the new folder to open it.
- To add a file: Click **Upload** at the top of the page, then locate the file and click **Open**. To upload more than one file, hold the **Ctrl key** while you select each file.

The screenshot shows the OneDrive web interface. At the top, there are buttons for "Create" (with "Folder" selected), "Upload individual files", and "Work with Office Online". The main area displays a grid of files and folders. Callouts point to specific features: "Create a folder" points to the "Create" button; "Upload individual files" points to the "Upload" button; "Individual files on OneDrive" points to a file named "Research Project Notes"; and "Folders on OneDrive" points to a folder named "Family". The interface includes navigation menus for "Groups", "Treat Party", "My PCs", "MAP:HP", and "POATSV:PC".

### Step 3 Share a File or Folder:

To share a file or folder, do the following:

- Right-click the file or folder that you want to share, and click **Share**.
- Fill in the e-mail form.
- Establish editing privileges by clicking the **Recipients can only view** link. Then change to **Recipients can edit**, if desired, then click **Share**.
- To see what files that have been shared with you, click **Shared** in the left menu.



## Make This



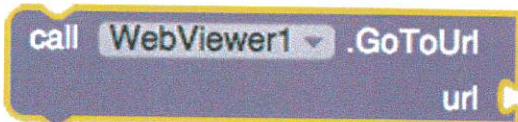
TOOL: App Inventor 2

### MAKE: A Web-Capable App

Want your app to be able to display a web page?

In this exercise, you'll continue your mobile app development by adding a new power to your apps: web browsing.

It's as easy as using the WebViewer component in **App Inventor**. Drag a WebViewer component onto your Designer screen, then control it with the Blocks for WebViewer. These allow you to go back, forward, to the home page, or to any specific URL.



The WebViewer component allows you to control a live browser inside your mobile app.

For the instructions for this exercise, please go to [pearsonhighered.com/technaction](http://pearsonhighered.com/technaction) or [MyITLab](#).

# Using the Web Effectively

You no doubt know how to use the web—to buy products, send e-mail, visit Facebook, and use Google—but do you know how to use it effectively? In this section, we'll look at ways to make your online experience more enjoyable, more productive, and even more efficient.



## accessing and moving AROUND THE WEB

None of the activities for which we use the web could happen without an important software application: a web browser. Recall that a browser is software that lets you locate, view, and navigate the web. Most browsers today are *graphical* browsers, meaning they can display pictures (graphics) in addition to text and other forms of multimedia such as sound and video. The most common browsers are displayed in Figure 3.14.

### Web Browsers

**What features do browsers offer?** Most popular browsers share similar features that make the user experience more efficient (as shown in Figure 3.15). For example, most browsers include a built-in search box in which you can designate your preferred default search engine and tools for printing,

page formatting, and security settings. Other features include the following:

- **Tabbed browsing:** Web pages are loaded in “tabs” within the same browser window. Rather than having to switch among web pages in several open windows, you can flip between the tabs in one window. You may also save a group of tabs as a Favorites group if there are several tabs you often open at the same time.
- **Pinned tabs:** You can “dock” tabs to the taskbar (in Internet Explorer) or minimize and save them permanently (Google Chrome and Firefox) for easier navigation of your favorite sites.
- **Tear-off tabs:** An opened tab can be dragged away from its current window so it's then opened in a new window.
- **Thumbnail previews:** Another convenient navigation tool that most browsers share is providing thumbnail previews of all open web pages in open tabs.
- **Tab isolation:** With this feature, tabs are independent of each other, so if one crashes, it does not affect the other tabs.
- **Combined search and address bar:** With this feature, you can both type a website URL or search the web from the address bar.
- **SmartScreen filter:** Most browsers offer built-in protection against phishing, malware, and other web-based threats.
- **Privacy browsing:** Privacy features (such as InPrivate Browsing in Internet Explorer) let you browse the web without retaining a history trail, temporary Internet files, cookies, or usernames and passwords. These features are especially helpful when you use public computers at college or the public library, for example.
- **Add-ons:** Add-ons are small programs that customize and increase the functionality of the browser. Examples include Video DownloadHelper, which converts web videos, like those found on YouTube, to files you can save, as well as a Facebook toolbar that integrates Facebook functionality into your browser.
- **Session Restore:** Brings back all your active web pages if the browser or system shuts down unexpectedly.

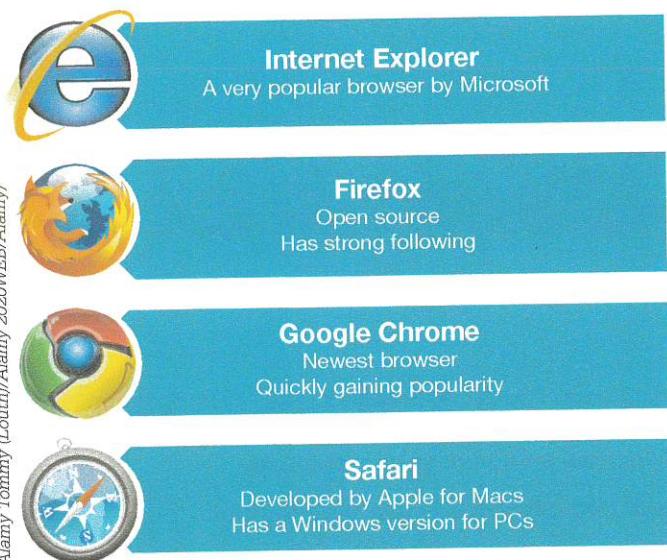
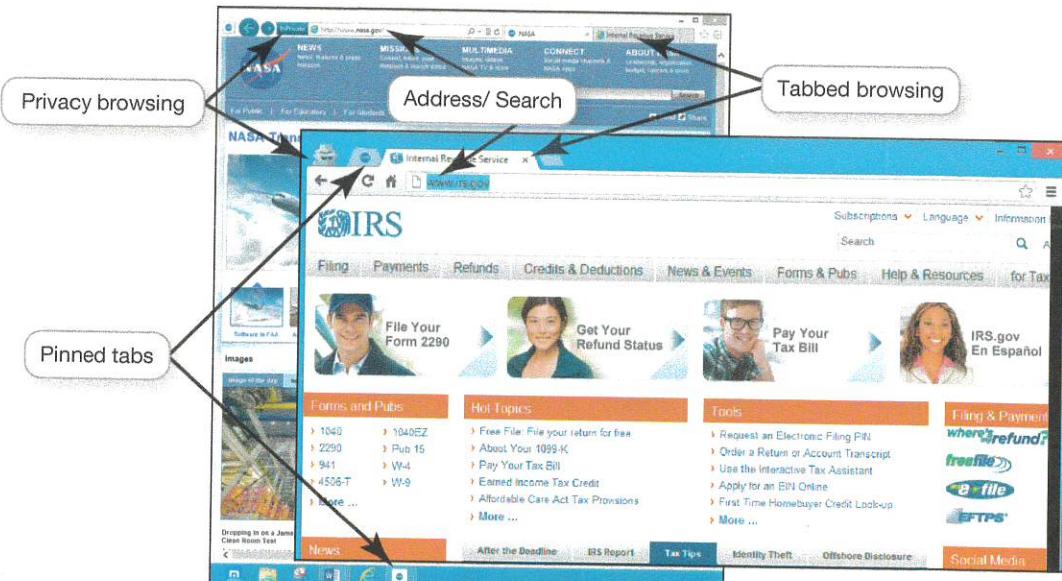


FIGURE 3.14 Common Web Browsers



**FIGURE 3.15** Like most of the popular web browsers, Internet Explorer and Google Chrome include tabbed and privacy browsing and an address bar that doubles as a search bar. Pinned tabs make accessing your favorite sites even easier. (*Internal Revenue Service; NASA*)

## BITS & BYTES

### Maxthon: A Great Alternative Browser

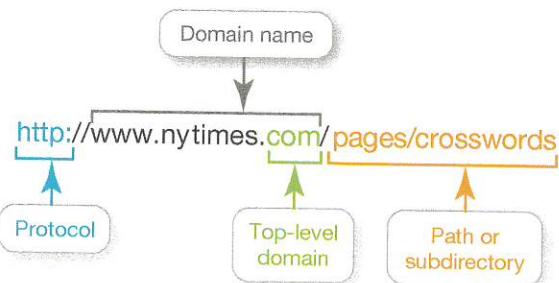
Not well known in the United States but quite popular elsewhere globally, Maxthon is a web browser that rivals our U.S. favorites. Maxthon has the convenient features of tabbed browsing, bookmarking capabilities, thumbnails of previously viewed sites, and privacy viewing, so you'll feel quite at home rather quickly. Since Maxthon is a cloud-based browser, when you access the browser on any device, all your settings are synced. Maxthon does have some unique features, such as Maxthon's dock—a sidebar that resides in the desktop, with customizable shortcut icons to your favorite websites. In addition, Maxthon enables you to use mouse gestures so that you can match a specific mouse movement with a specific command. In addition, super drag and drop enables you to drag and drop a link, image, or highlighted text into the search box rather than typing the content; night mode adjusts the brightness of the screen; "snap" enables you to take screen grabs; and SkyNote lets you save and access notes. If you haven't already, you may enjoy taking Maxthon for a test drive.

### URLs, Protocols, and Domain Names

**What do all the parts of a URL mean?** You gain initial access to a particular **website** by typing its unique address, or **Uniform Resource Locator (URL)**, pronounced “you-are-ell”), in your browser. A website is comprised of many different web pages, each of which is a separate document with its own unique URL. Like a regular street address, a URL is comprised of several parts that help identify the web document it stands for (see Figure 3.16):

- the **protocol** (set of rules) used to retrieve the document;
- the **domain name**; and
- the **path** or subdirectory

Although every part of a URL is important information that ensures the web page you requested actually displays in your



**FIGURE 3.16** The Parts of a URL

**FIGURE 3.17**

### Common Top-Level Domains and Their Authorized Users

DOMAIN NAME	WHO CAN USE IT
.biz	Businesses
.com	Originally for commercial sites, but now can be used by anyone
.edu	Degree-granting institutions
.gov	Local, state, and federal U.S. governments
.info	Information service providers
.mil	U.S. military
.net	Originally for networking organizations, but no longer restricted
.org	Organizations (often not-for-profits)

browser, you don't have to type in every part in the location or address bar of the browser. Most current browsers no longer require you to enter the `http://` protocol or the "www," and most don't even require the domain if it's a `.com`—the browser will enter those automatically.

**What's the protocol?** You're probably most familiar with URLs that begin with `http`, which is short for **Hypertext Transfer Protocol (HTTP)**. HTTP is the protocol that allows files to be transferred from a **web server**—a computer that hosts the website you're requesting—so that you can see it on your computer. The HTTP protocol is what the web is based on.

**Is HTTP the only protocol I need to use?** HTTP is the most common protocol, but it's not the only one. HTTP is part of the Internet protocol suite, a group of protocols that govern how information is exchanged on a network. Another protocol in that group is the **File Transfer Protocol (FTP)**. As its name implies, FTP was originally designed, before the HTTP protocol was developed, to transfer files from your computer to a web server. Today, FTP is often used when you have large files to upload or download. To connect to most FTP servers, you need a user ID and password. To upload and download files from FTP sites, you can use a browser or file transfer software such as WS\_FTP, Fetch, or FileZilla.

BitTorrent, like FTP, is a protocol used to transfer files, though it's not part of the Internet protocol suite. To use BitTorrent, you install a software client program. It uses a *peer-to-peer networking system*, so that sharing occurs between connected computers that also have the BitTorrent client installed. BitTorrent was developed in 2001 and has been gaining popularity, especially among users who want to share music, movies, and games. Use caution, however, when accessing BitTorrent content. Because it is a peer-to-peer system, it's possible for copyrighted material to be shared illegally.

**What's in a domain name?** The domain name identifies the site's **host**, the location that maintains the computers that store the website files. For example, `www.berkeley.edu` is the domain name for the University of California at Berkeley website. The suffix in the domain name after the dot (such as "com" or "edu") is called the **top-level domain**. This suffix indicates the kind of organization to which the host belongs. Figure 3.17 lists the most frequently used top-level domains.

Each country has its own top-level domain. These are two-letter designations such as `.za` for South Africa and `.us` for the United States. A sampling of country codes is shown in Figure 3.18. Within a country-specific domain, further subdivisions can be made for regions or states. For instance, the `.us` domain contains subdomains for each state, using the two-letter abbreviation of the state. For example, the URL for Pennsylvania's website is `www.state.pa.us`.

**What's the information after the domain name that I sometimes see?** When the URL is the domain name, such as `www.nytimes.com`, you're requesting a site's home page. However, sometimes a forward slash and additional text follow the domain name, such as in `www.nytimes.com/pages/crosswords`. The information after each slash indicates a particular file or **path** (or **subcategory**)

**FIGURE 3.18**

### Examples of Country Codes

COUNTRY CODE	COUNTRY
.au	Australia
.ca	Canada
.jp	Japan
.uk	United Kingdom

Note: For a full listing of country codes, refer to [iana.org/domains/root/db/](http://iana.org/domains/root/db/).