

Discovering Computers 2010

Living in a Digital World

Complete



Gary B. Shelly
Misty E. Vermaat

Contributing Authors

Jeffrey J. Quasney
Susan L. Sebok
Steven M. Freund

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Discovering Computers 2010: Living in a Digital World, Complete

Gary B. Shelly
Misty E. Vermaat

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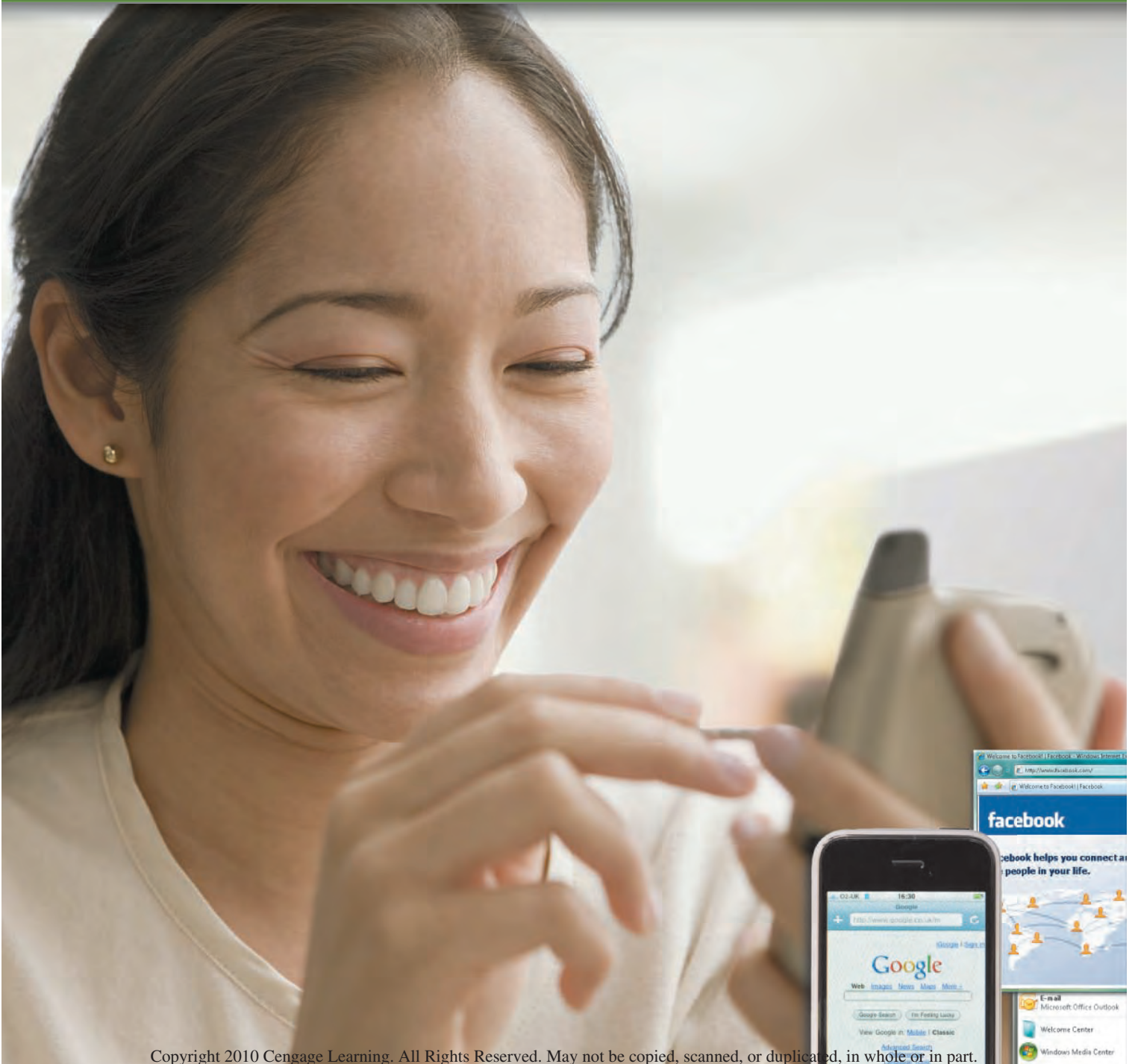
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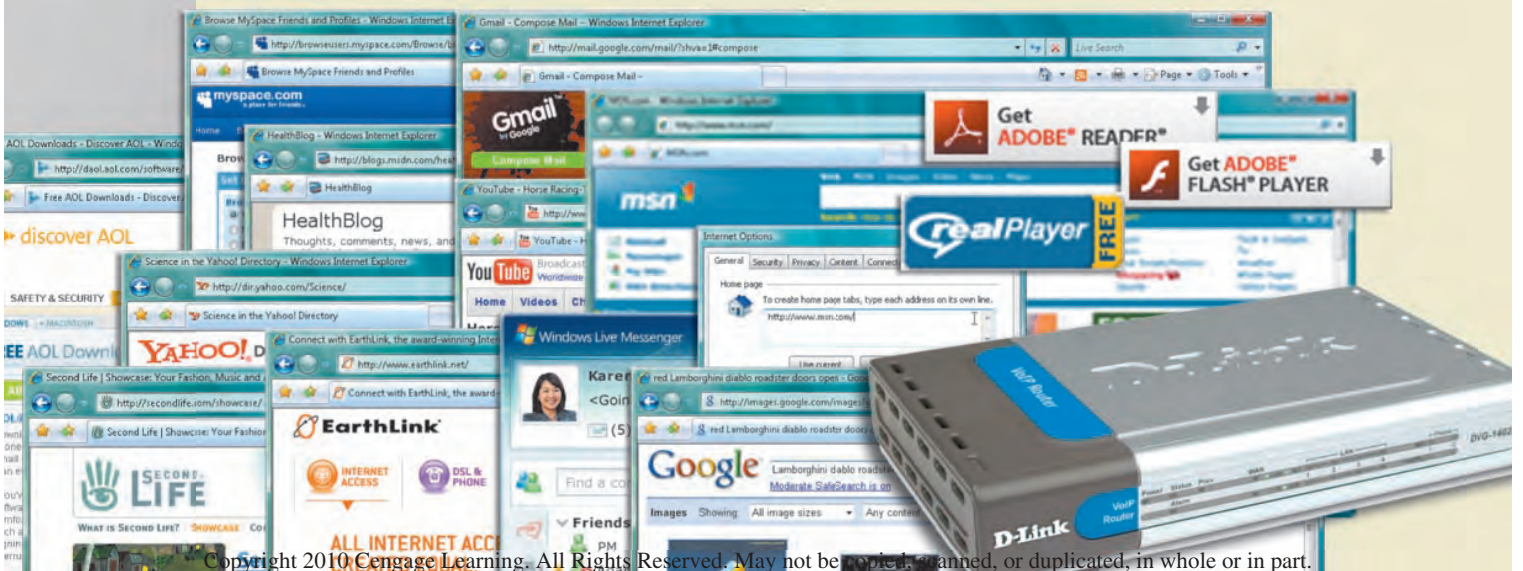
The Internet and World Wide Web



Objectives

After completing this chapter, you will be able to:

- 1 Discuss the evolution of the Internet
- 2 Identify and briefly describe various broadband Internet connections and state differences between broadband Internet connections and dial-up connections
- 3 Describe the types of Internet access providers: Internet service providers, online service providers, wireless Internet service providers
- 4 Describe the purpose of an IP address and its relationship to a domain name
- 5 Explain the purpose of a Web browser and identify the components of a Web address
- 6 Describe how to use a search engine to search for information on the Web and differentiate between a search engine and a subject directory
- 7 Describe the types of Web sites: portal, news, informational, business/marketing, blog, wiki, online social network, educational, entertainment, advocacy, Web application, content aggregator, and personal
- 8 Explain how Web pages use graphics, animation, audio, video, virtual reality, and plug-ins
- 9 Identify and briefly describe the steps required for Web publishing
- 10 Describe the types of e-commerce: business-to-consumer, consumer-to-consumer, and business-to-business
- 11 Explain how e-mail, mailing lists, instant messaging, chat rooms, VoIP, newsgroups and message boards, and FTP work
- 12 Identify the rules of netiquette



The Internet

One of the major reasons business, home, and other users purchase computers is for Internet access. The Internet is a widely used research tool, providing society with access to global information and instant communications. Further, access to the Internet can occur anytime from a computer anywhere: at home, at work, at school, in a restaurant, on an airplane, and at a park.

The **Internet**, also called the *Net*, is a worldwide collection of networks that links millions of businesses, government agencies, educational institutions, and individuals. Each of the networks

on the Internet provides resources that add to the abundance of goods, services, and information accessible via the Internet.

Today, more than one billion home and business users around the world access a variety of services on the Internet, some of which are shown in Figure 2-1. The World Wide Web, or simply the Web, and e-mail are two of the more widely used Internet services. Other services include chat rooms, instant messaging, and VoIP (Voice over Internet Protocol). To enhance your understanding of these Internet services, the chapter begins by discussing the history of the Internet and how the Internet works and then explains each of these services.



Figure 2-1 People around the world use a variety of Internet services in daily activities. Internet services allow home and business users to access the Web for activities such as conducting research, reading blogs, or sharing videos; to send e-mail messages; or to converse with others using chat rooms, instant messaging, or VoIP.

Evolution of the Internet

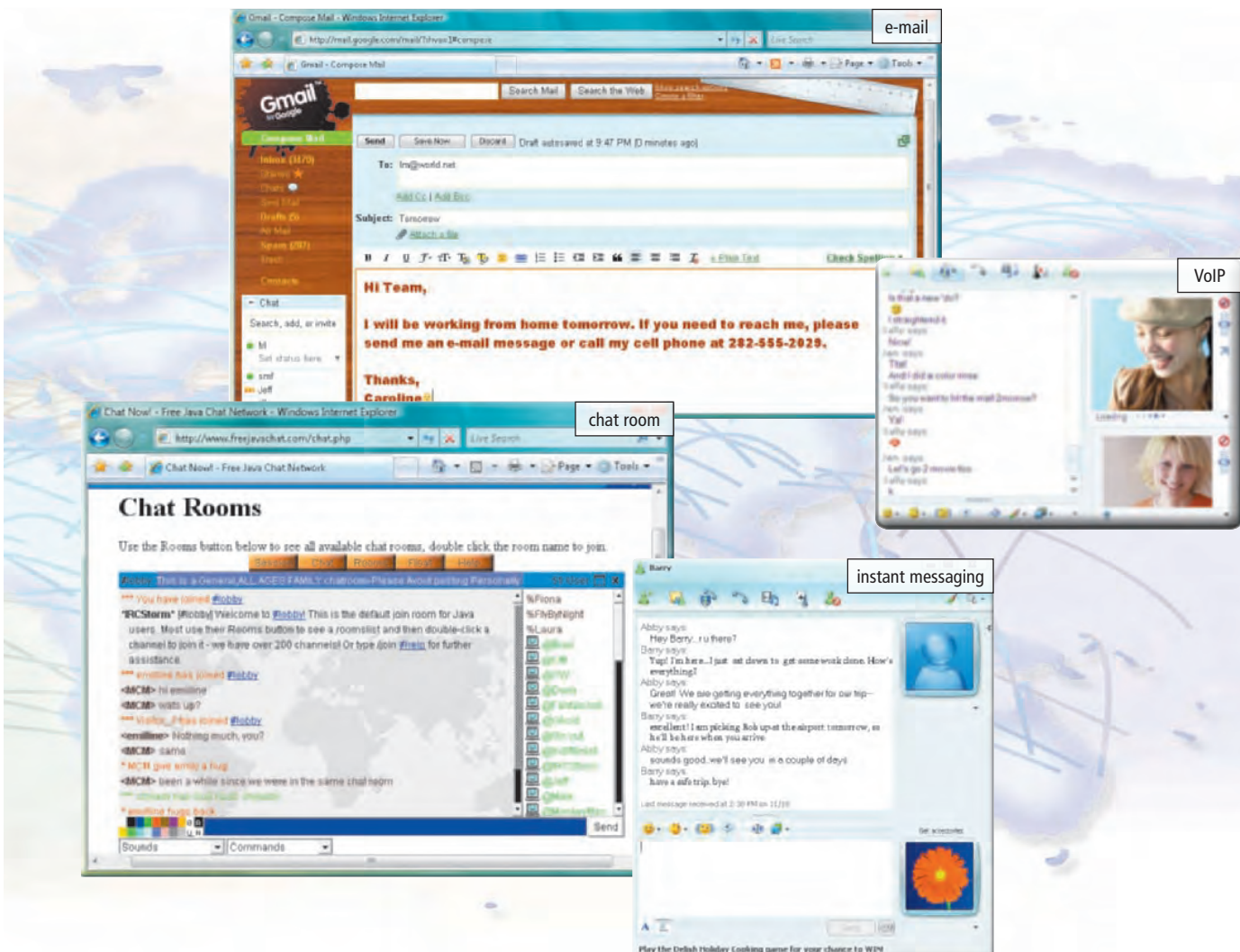
The Internet has its roots in a networking project started by the Pentagon's Advanced Research Projects Agency (ARPA), an agency of the U.S. Department of Defense. ARPA's goal was to build a network that (1) allowed scientists at different physical locations to share information and work together on military and scientific projects and (2) could function even if part of the network were disabled or destroyed by a disaster such as a nuclear attack. That network, called *ARPANET*, became functional in September 1969, linking scientific and academic researchers across the United States.

The original ARPANET consisted of four main computers, one each located at the University of California at Los Angeles, the University of California at Santa Barbara, the Stanford Research Institute, and the University of Utah. Each of these

computers served as a host on the network. A *host*, more commonly known today as a server, is any computer that provides services and connections to other computers on a network. Hosts often use high-speed communications to transfer data and messages over a network.

As researchers and others realized the great benefit of using ARPANET to share data and information, ARPANET underwent phenomenal growth. By 1984, ARPANET had more than 1,000 individual computers linked as hosts. Today, more than 550 million hosts connect to the Internet.

Some organizations connected entire networks to ARPANET to take advantage of its high-speed communications. In 1986, the National Science Foundation (NSF) connected its huge network of five supercomputer centers, called *NSFnet*, to ARPANET. This configuration of complex networks and hosts became known as the Internet.



Until 1995, NSFnet handled the bulk of the communications activity, or **traffic**, on the Internet. In 1995, NSFnet terminated its network on the Internet and resumed its status as a research network.

Today, the Internet consists of many local, regional, national, and international networks. Numerous corporations, commercial firms, and other companies such as IBM provide networks to handle Internet traffic. Both public and private organizations own networks on the Internet. These networks, along with telephone companies such as Verizon and AT&T, cable and satellite companies, and the government, all contribute toward the internal structure of the Internet.

Each organization on the Internet is responsible only for maintaining its own network. No single person, company, institution, or government agency controls or owns the Internet. The World Wide Web Consortium (*W3C*), however, oversees research and sets standards and guidelines for many areas of the Internet. The mission of the W3C is to contribute to the growth of the Web. More than 400 organizations from around the world are members of the W3C, advising, defining standards, and addressing other issues.



W3C

For more information, visit scsite.com/dc2010/ch2/weblink and then click W3C.

Internet2

Internet2 is a not-for-profit research and development project that connects more than 200 universities and 115 companies via a high-speed private network. Founded in 1996, the goal of Internet2 is to develop and test advanced network technologies that will benefit Internet users in the short-term future. These technologies require an extremely high-speed network that exceeds the capabilities of today's Internet and networks. Examples of previous Internet2 projects that are now mainstream include telemedicine, digital libraries (online books, magazines, music, movies, speeches, etc.), and faster Internet services. Current Internet2 projects include interactive high-definition video and enhanced detection and resolution of network problems.

Connecting to the Internet

Many home and small business users connect to the Internet via high-speed *broadband* Internet service. With broadband Internet service, your computer or mobile device usually is connected to the Internet the entire time it is powered on. Examples of broadband Internet service include cable, DSL, fiber, radio signals, and satellite.

- *Cable Internet service* provides high-speed Internet access through the cable television network via a cable modem.

- *DSL* (digital subscriber line) provides high-speed Internet connections using regular copper telephone lines.
- *Fiber to the Premises (FTTP)* uses fiber-optic cable to provide high-speed Internet access to home and business users.
- *Fixed wireless* provides high-speed Internet connections using a dish-shaped antenna on your house or business to communicate with a tower location via radio signals.
- A *cellular radio network* offers high-speed Internet connections to devices with built-in compatible technology or computers with wireless modems.
- A **Wi-Fi** (wireless fidelity) network uses radio signals to provide high-speed Internet connections to compatible or properly equipped wireless computers and devices.
- *Satellite Internet service* provides high-speed Internet connections via satellite to a satellite dish that communicates with a satellite modem.

Employees and students typically connect their computers to the Internet through a business or school network. The business or school network connects to a high-speed broadband Internet service.

Many home users set up a Wi-Fi network, which sends signals to a communications device that is connected to a high-speed Internet service such as cable or DSL. Instead of using broadband Internet service, however, some home users connect to the Internet via dial-up access, which is a slower-speed technology. *Dial-up access* takes place when the modem in your computer connects to the Internet via a standard telephone line that transmits data and information using an analog (continuous wave pattern) signal. Users may opt for dial-up access because of its lower price or because broadband access is not available in their area.

Mobile users access the Internet using a variety of Internet services. Most hotels and airports provide wired or wireless Internet connections as a service to travelers. Wireless Internet services, such as Wi-Fi networks, allow mobile users to connect easily to the Internet with notebook computers, smart phones, and other mobile devices while away from a telephone, cable, or other wired connection. Many public locations, such as airports, hotels, schools, shopping malls, and coffee shops, are *hot spots* that provide Wi-Fi Internet connections to users with mobile computers or devices. At public locations, you may be required to agree to terms of service, obtain a password (for example, from the hotel's front desk), or perform some other action in order to connect to the Internet. Some cities provide free Wi-Fi Internet connections to all residents.

FAQ 2-1

How popular is broadband?

According to a study performed by Pew Internet & American Life Project, 55 percent of American adults have broadband Internet connections at home. Adoption of broadband connections increases during good economic times, while some may hesitate to make the switch during an economic downturn. It is believed that once the price of a broadband connection decreases, and broadband is available in more rural areas, its popularity will increase further.

For more information, visit scs.site.com/dc2010/ch2/faq and then click Broadband.

Wi-Fi networks provide free access while others charge a per use fee. Other access providers often charge a fixed amount for an Internet connection, offering faster speeds or more services for higher rates. Typical monthly rates range from about \$5 to \$24 per month for dial-up, \$13 to \$70 for DSL, \$20 to \$75 for cable, \$40 to \$150 for FTTP, \$30 to \$80 for fixed wireless, \$60 to \$80 for cellular networks, and \$50 to \$120 for satellite. Many Internet access providers offer services such as news, weather, financial data, games, travel guides, e-mail, photo communities, and online storage to hold digital photos and other files. (A *file* is a named unit of storage.)

Access Providers

An **access provider** is a business that provides individuals and organizations access to the Internet free or for a fee. For example, some

Access providers are categorized as regional or national ISPs, online service providers, and wireless Internet service providers (Figure 2-2).

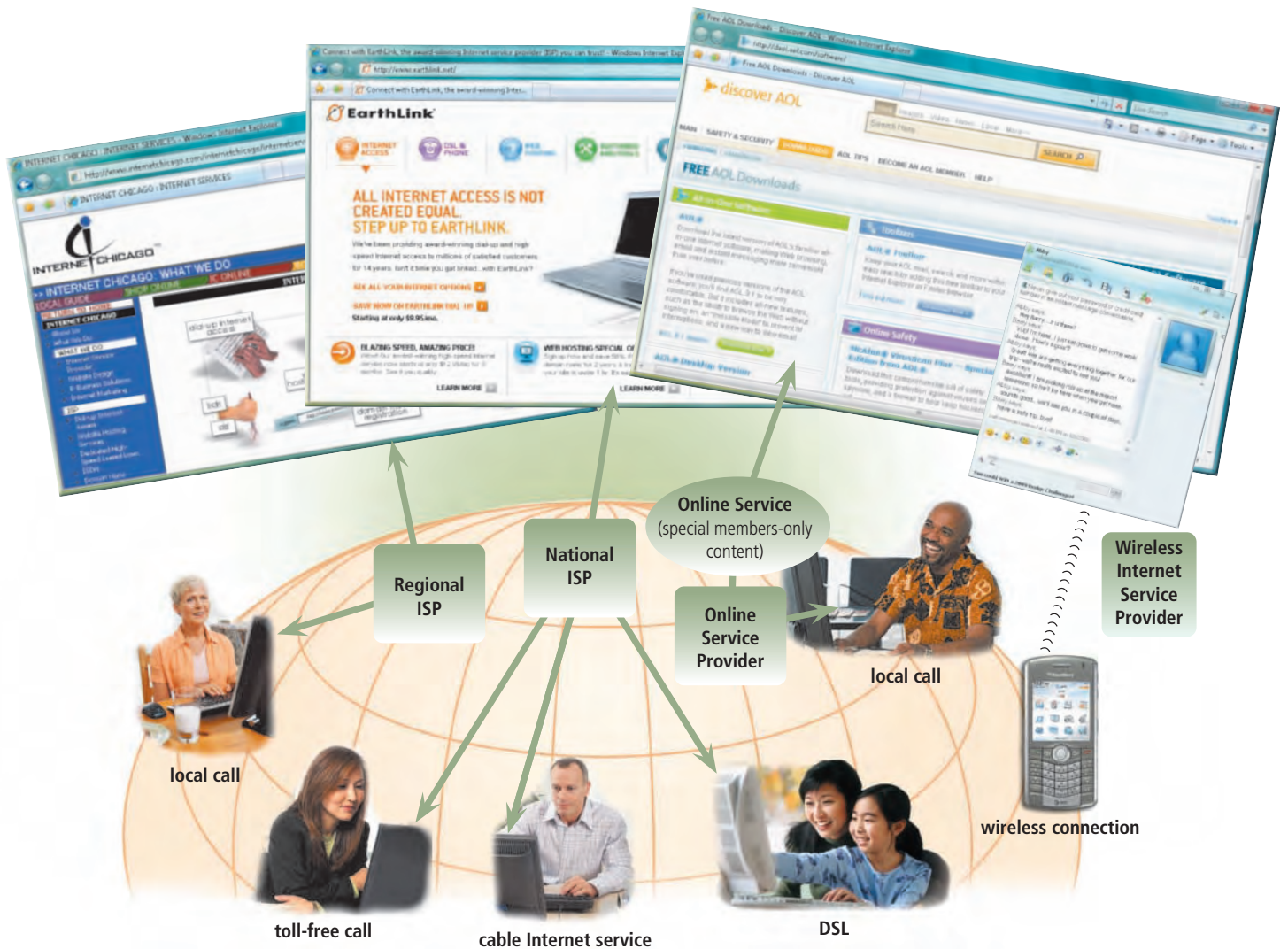


Figure 2-2 Common ways to access the Internet are through a regional or national Internet service provider, an online service provider, or a wireless Internet service provider.

An **ISP (Internet service provider)** is a regional or national access provider. A *regional ISP* usually provides Internet access to a specific geographic area. A *national ISP* is a business that provides Internet access in cities and towns nationwide. For dial-up access, some national ISPs provide both local and toll-free telephone numbers. Due to their larger size, national ISPs usually offer more services and have a larger technical support staff than regional ISPs. Examples of national ISPs are AT&T and EarthLink.

In addition to providing Internet access, an **online service provider (OSP)** also has many members-only features such as instant messaging or their own customized version of a Web browser. The two more popular OSPs are AOL (America Online) and MSN (Microsoft Network). AOL differs from many OSPs in that it provides gateway functionality to the Internet, meaning it regulates the Internet services to which members have access. AOL also provides free access to its services to any user with a broadband Internet connection.

When selecting an ISP or OSP for dial-up access, ensure it provides at least one local telephone number. Otherwise, long-distance telephone charges will apply for the time you connect to the Internet.

A **wireless Internet service provider (WISP)** is a company that provides wireless Internet access to desktop and notebook computers and mobile devices, such as smart phones and portable media players, with built-in wireless capability (such as Wi-Fi) or to computers using wireless modems or wireless access devices. Wireless modems, which usually are in the form of a USB flash drive or a card that inserts in a slot in a computer or mobile device, generally dial a telephone number to establish a connection with the wireless Internet service provider. An antenna on or built into the computer or device, wireless modem, or wireless access device typically sends signals through the airwaves to communicate with a wireless Internet service provider. Some examples of wireless Internet service providers include AT&T, Boingo Wireless, Sprint Broadband Direct, T-Mobile, and Verizon Wireless.

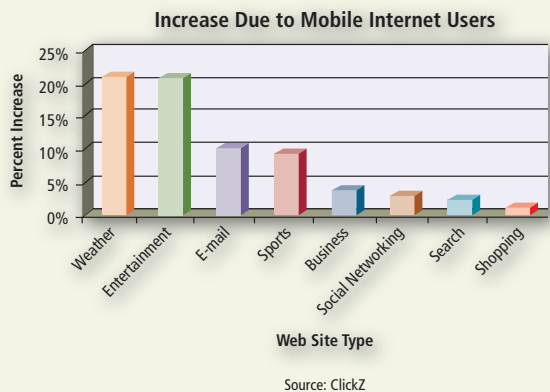
Wireless Modems


For more information, visit scsite.com/dc2010/ch2/weblink and then click Wireless Modems.

? FAQ 2-2

What types of Web sites do mobile Internet users visit?

More than 87 million individuals subscribe to a wireless Internet service provider. Mobile Internet users most frequently visit weather, entertainment, and e-mail Web sites. The chart below illustrates various types of Web sites and their associated increase in traffic resulting from mobile Internet users.



 For more information, visit scsite.com/dc2010/ch2/faq and then click Mobile Internet.

How Data and Information Travel the Internet

Computers connected to the Internet work together to transfer data and information around the world using servers and clients and various wired and wireless transmission media. On the Internet, your computer is a client that can access data, information, and services on a variety of servers.

The inner structure of the Internet works much like a transportation system. Just as interstate highways connect major cities and carry the bulk of the automotive traffic across the country, several main transmission media carry the heaviest amount of traffic on the Internet. These major carriers of network traffic are known collectively as the *Internet backbone*.

In the United States, the transmission media that make up the Internet backbone exchange data and information at several different major cities across the country. That is, they transfer data and information from one network to another until reaching the final destination (Figure 2-3).

How a Home User's Data and Information Might Travel the Internet Using a Cable Modem Connection

Step 1

You initiate an action to request data or information from the Internet. For example, you request to display a Web page on your computer screen.



Step 2

A cable modem transfers the computer's digital signals to the cable television line in your house.

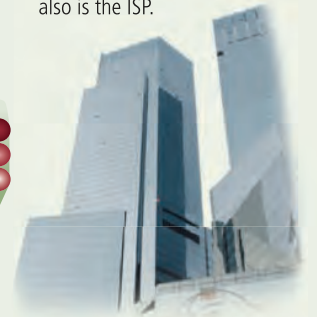
Step 3

Your request (digital signals) travels through cable television lines to a central cable system, which is shared by up to 500 homes in a neighborhood.



Step 4

The central cable system sends your request over high-speed fiber-optic lines to the cable operator, who often also is the ISP.



Step 6

The server retrieves the requested Web page and sends it back through the Internet backbone to your computer.



Step 5

The ISP routes your request through the Internet backbone to the destination server (in this example, the server that contains the requested Web site).

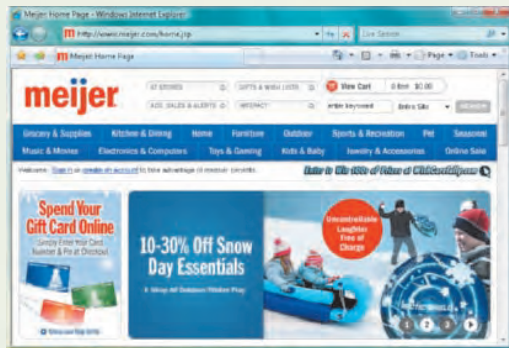


Figure 2-3 This figure shows how a home user's data and information might travel the Internet using a cable modem connection.

Internet Addresses

The Internet relies on an addressing system much like the postal service to send data and information to a computer at a specific destination. An **IP address**, short for Internet Protocol address, is a number that uniquely identifies each computer or device connected to the Internet. The IP address usually consists of four groups of numbers, each separated by a period. The number in each group is between 0 and 255. For example, the numbers 72.14.207.99 are an IP address. In general, the first portion of each IP address identifies the network and the last portion identifies the specific computer.

These all-numeric IP addresses are difficult to remember and use. Thus, the Internet supports

the use of a text name that represents one or more IP addresses. A **domain name** is the text version of an IP address. Figure 2-4 shows an IP address and its associated domain name. As with an IP address, the components of a domain name are separated by periods.

The text in the domain name up to the first period identifies the type of Internet server. In Figure 2-4, for example, the `www` indicates a Web server.



Figure 2-4 The IP address and domain name for the Google Web site.

Every domain name contains a *top-level domain (TLD)*, which is the last section of the domain name. A generic TLD (*gTLD*), such as the com in Figure 2-4 on the previous page, identifies the type of organization associated with the domain. The Internet server and gTLD portions of a domain name often are not required.

The organization that assigns and controls top-level domains is the Internet Corporation for Assigned Names and Numbers (*ICANN* pronounced EYE-can). Figure 2-5 lists some gTLDs. For TLDs such as biz, com, info, name, net, and org, you register for a domain name from a *registrar*, which is an organization that sells and manages domain names.

For international Web sites outside the United States, the domain name also includes a country code TLD (*ccTLD*), which is a two-letter country code, such as au for Australia. For example, www.philips.com.au is the domain name for Philips Australia. Some smaller countries have granted use of their ccTLDs for commercial purposes, such as tv (Tuvalu) for the television/entertainment industry.

The *domain name system (DNS)* is the method that the Internet uses to store domain names and their corresponding IP addresses. When you specify a


domain name, a **DNS server** translates the domain name to its associated IP address so that data and information can be routed to the correct computer. A DNS server is an Internet server that usually is associated with an Internet access provider. For a more technical discussion about DNS servers, read the High-Tech Talk article on page 382.

The growth of the Internet has led to a shortage of IP addresses. Thus, a new IP addressing scheme, called *IPv6*, may increase the number of available IP addresses. For a more technical discussion about Internet addresses and IPv6, read the High-Tech Talk article on page 110.

✓ QUIZ YOURSELF 2-1

Instructions: Find the true statement below. Then, rewrite the remaining false statements so that they are true.

1. An access provider is a business that provides individuals and organizations access to the Internet free or for a fee.
2. A WISP is a number that uniquely identifies each computer or device connected to the Internet.
3. An IP address, such as www.google.com, is the text version of a domain name.
4. Satellite Internet service provides high-speed Internet access through the cable television network via a cable modem.
5. The World Wide Web Consortium (W3C) oversees research and owns the Internet.

 **Quiz Yourself Online:** To further check your knowledge of pages 74 through 80, visit scsite.com/dc2010/ch2/quiz and then click Objectives 1 – 4.

Examples of Generic Top-Level Domains

Generic TLD	Intended Purpose
aero	Aviation community members
biz	Businesses of all sizes
cat	Catalan cultural community
com	Commercial organizations, businesses, and companies
coop	Business cooperatives such as credit unions and rural electric co-ops
edu	Educational institutions
gov	Government agencies
info	Business organizations or individuals providing general information
jobs	Employment or human resource businesses
mil	Military organizations
mobi	Delivery and management of mobile Internet services
museum	Accredited museums
name	Individuals or families
net	Network providers or commercial companies
org	Nonprofit organizations
pro	Certified professionals such as doctors, lawyers, and accountants
tel	Internet communications
travel	Travel industry

Figure 2-5 In addition to the generic TLDs listed above, ICANN continually evaluates proposals for new TLDs.

The World Wide Web

Although many people use the terms World Wide Web and Internet interchangeably, the World Wide Web actually is a service of the Internet. While the Internet was developed in the late 1960s, the World Wide Web emerged in the early 1990s. Since then, it has grown phenomenally to become one of the more widely used Internet services.

The **World Wide Web (WWW)**, or **Web**, consists of a worldwide collection of electronic documents. Each electronic document on the Web is called a **Web page**, which can contain text, graphics, animation, audio, and video. Additionally, Web pages usually have built-in connections to other documents.

Some Web pages are static (fixed); others are dynamic (changing). Visitors to a *static Web page* all see the same content. With a *dynamic Web page*, by contrast, visitors can customize some or all of the viewed content such as desired stock quotes, weather for a region, or ticket availability for flights.

A **Web site** is a collection of related Web pages and associated items, such as documents and pictures, stored on a Web server. A **Web server** is a computer that delivers requested Web pages to your computer. The same Web server can store multiple Web sites. Some industry experts use the term **Web 2.0** to refer to Web sites that provide a means for users to share personal information (such as social networking Web sites), allow users to modify Web site content (such as wikis, which are discussed later in this chapter), and have application software built into the site for visitors to use (such as e-mail and word processing programs). Read Looking Ahead 2-1 for a look at Web 3.0.

Browsing the Web

A **Web browser**, or **browser**, is application software that allows users to access and view Web pages or access Web 2.0 programs. To

LOOKING AHEAD 2-1

Web 3.0 to Reinvent the Virtual World

The Web has evolved through versions 1.0 and 2.0, and work is underway to develop *Web 3.0*, also known as the *Semantic Web*. Some researchers predict that this next generation of the Web will perform practically any task imaginable. For example, your computer will be able to scan a Web page much as you do to look for specific useful information. If you need the location of the nearest eye doctor and the time when your brother's flight from Chicago actually will land, Web 3.0 first will provide those facts and then search your calendar, checking to see if your schedule allows time for the doctor's appointment before picking up your brother at the airport. In essence, the Web will become one huge searchable database, and automated agents of every type will retrieve the data we need to live productive lives.



For more information, visit scs.site.com/dc2010/ch2/looking and then click Web 3.0.

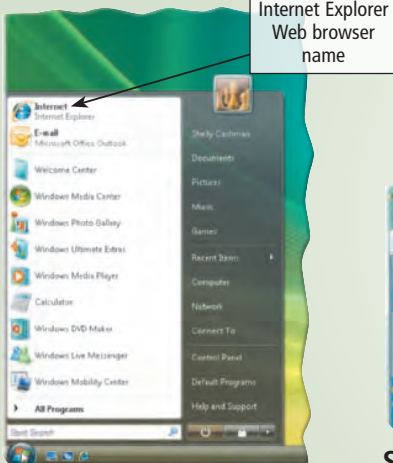
browse the Web, you need a computer or mobile device that is connected to the Internet and has a Web browser. The more widely used Web browsers for personal computers are Internet Explorer, Firefox, Opera, Safari, and Google Chrome.

With an Internet connection established, you start a Web browser. The browser retrieves and displays a starting Web page, sometimes called the browser's home page (Figure 2-6). The initial home

How a Web Browser Displays a Home Page

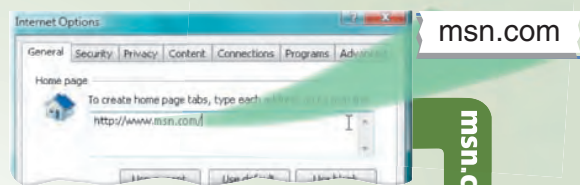
Step 1

Click the Web browser program name to start the Web browser software.



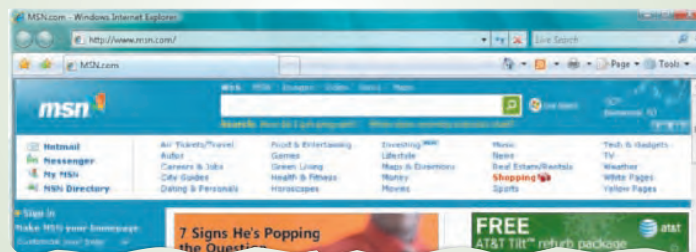
Step 2

Behind the scenes, the Web browser looks up its home page setting. For illustration purposes only, the screen on the right shows the home page setting is msn.com.



Step 3

The Web browser communicates with a server maintained by your Internet access provider. The server translates the domain name of the home page to an IP address and then sends the IP address to your computer.



Step 4

The Web browser uses the IP address to contact the Web server associated with the home page and then requests the home page from the server. The Web server sends the home page to the Web browser, which formats the page for display on your screen.

Figure 2-6 This figure shows how a Web browser displays a home page.

page that is displayed is one selected by your Web browser. You can change your browser's home page at anytime.

Another use of the term, **home page**, refers to the first page that a Web site displays. Similar to a book cover or a table of contents for a Web site, the home page provides information about the Web site's purpose and content. Many Web sites, such as iGoogle, allow you to personalize the home page so that it contains areas of interest to you. The home page usually contains links to other documents, Web pages, or Web sites. A **link**, short for *hyperlink*, is a built-in connection to another related Web page or part of a Web page.

Internet-enabled mobile devices such as smart phones use a special type of browser, called a *microbrowser*, which is designed for their small screens and limited computing power. Many Web sites design Web pages specifically for display on a microbrowser (Figure 2-7).

For a computer or mobile device to display a Web page, the page must be downloaded.

Downloading is the process of a computer or device receiving information, such as a Web page, from a server on the Internet. While a browser downloads a Web page, it typically displays an animated logo or icon in the browser window. The animation stops when the download is complete. The time required to download a Web page varies depending on the speed of your Internet connection and the amount of graphics involved.



iPhone

For more information, visit scsite.com/dc2010/ch2/weblink and then click iPhone.

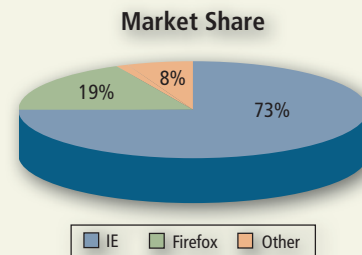


Figure 2-7 Sample microbrowser screen shown on this iPhone.

FAQ 2-3

Which Web browser currently has the highest market share?

Windows Internet Explorer (IE) currently is the most popular browser, with approximately 73 percent of the market share. The chart below illustrates the market share of the more popular Web browsers.



Source: Market Share by Net Applications

For more information, visit scsite.com/dc2010/ch2/faq and then click Browser Market Share.

Web Addresses

A Web page has a unique address, called a **URL** (*Uniform Resource Locator*) or **Web address**. For example, the home page for the United States National Park Service Web site has <http://www.nps.gov> as its Web address. A Web browser retrieves a Web page using its Web address.

If you know the Web address of a Web page, you can type it in the Address bar at the top of the browser window. For example, if you type the Web address <http://www.nps.gov/grsm/planyourvisit/wildlifeviewing.htm> in the Address bar and then press the ENTER key, the browser downloads and displays the Web page shown in Figure 2-8.

A Web address consists of a protocol, domain name, and sometimes the path to a specific Web page or location on a Web page. Many Web page addresses begin with *http://*. The *http*, which stands for *Hypertext Transfer Protocol*, is a set of rules that defines how pages transfer on the Internet.

To help minimize errors, many browsers and Web sites do not require you enter the *http://* and *www* portions of the Web address in the Address bar. If you enter an incorrect Web address, the browser may display a list of similar addresses or related Web sites from which you can select.

When you enter the Web address, `http://www.nps.gov/grsm/planyourvisit/wildlifeviewing.htm` in the Web browser, it sends a request to the Web server that contains the `nps.gov` Web site. The server then retrieves the Web page named `wildlifeviewing.htm` that is located in the `grsm/planyourvisit` path and delivers it to your browser, which then displays the Web page on the screen.

To save time, many users create bookmarks for their frequently visited Web pages. A *bookmark*, or *favorite*, is a saved Web address that you access by clicking its name in a list. That is, instead of entering a Web address to display a Web page, you can click a previously saved bookmark.

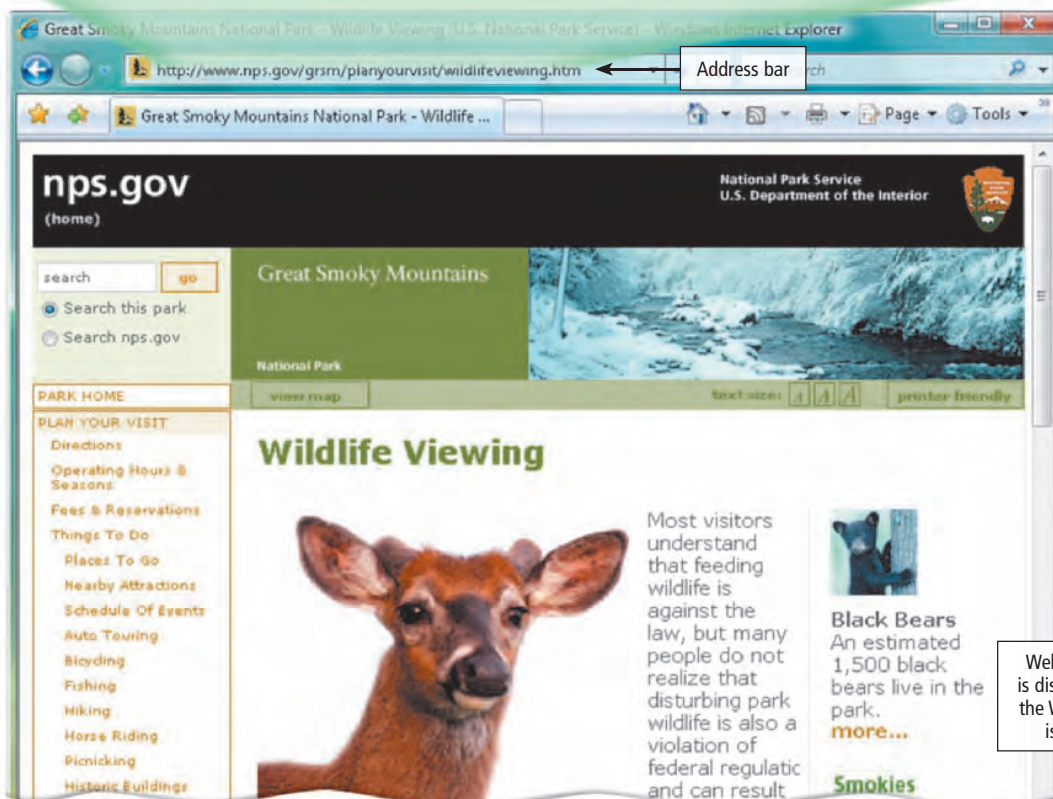
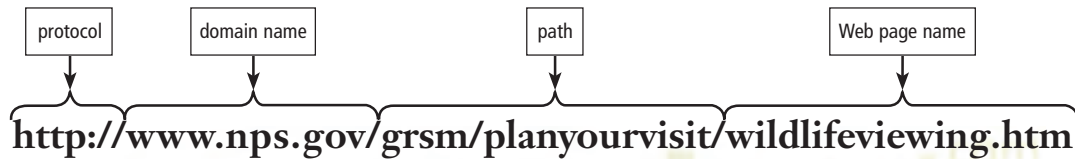
When you enter a Web address in a browser, you request, or *pull*, information from a Web server. Some Web servers also can *push* content to your computer at regular intervals or whenever updates are made to the site. For example,

some Web servers provide the capability of displaying current sporting event scores or weather reports on your computer screen.

For information about useful Web sites and their associated Web addresses, read the Making Use of the Web feature that follows this chapter.

Navigating Web Pages

Most Web pages contain hypertext or hypermedia links. *Hypertext* refers to links in text-based documents, whereas *hypermedia* combines text-based links with graphic, audio, and video links. Links allow you to obtain information in a nonlinear way. That is, instead of accessing topics in a specified order, you move directly to a topic of interest. Branching from one related topic to another in a nonlinear fashion is what makes links so powerful. Some people use the phrase, **surfing the Web**, to refer to the activity of using links to explore the Web.



Web page that is displayed after the Web address is entered

Figure 2-8 After entering `http://www.nps.gov/grsm/planyourvisit/wildlifeviewing.htm` as the Web address in the Address bar, this Web page at the United States National Park Service Web site is displayed.

A link can be text or an image. Text links may be underlined and/or displayed in a color different from other text on the Web page. Pointing to, or positioning the pointer on, a link on the screen typically changes the shape of the pointer to a small hand with a pointing index finger. Pointing to a link also sometimes causes the link to change in appearance or play a sound. For example, an underline may disappear, the text may change color, the image may change, etc. The Web page shown in Figure 2-9 contains a variety of link types, with the pointer on one of the links.

Each link on a Web page corresponds to a Web address or a document. To activate a link, you *click* it, that is, point to the link and then press the left mouse button. Clicking a link causes the Web page or document associated with the link to be displayed on the screen. The linked object might be on the same Web page, a different Web page at the same Web site, or a separate Web page at a different Web site in

another city or country. To remind you visually that you have clicked a link, a text link often changes color after you click it.

Most current Web browsers support **tabbed browsing**, where the top of the browser displays a tab (similar to a file folder tab) for each Web page you open (shown in Figure 2-9). To move from one open Web page to another, you click the tab in the Web browser. Tabbed browsing allows users to have multiple home pages that automatically open when the browser starts. You also can organize tabs in a group, called a tab group, and save the group as a favorite, so that at any time you can display all tabs at once.

Because some Web sites attempt to track your browsing habits or gather personal information, some current Web browsers include a feature that allows you to disable and/or more tightly control the dissemination of your browsing habits and personal information. Read Ethics & Issues 2-1 for a related discussion.

Tabbed Browsing

For more information, visit scs.site.com/dc2010/ch2/weblink and then click Tabbed Browsing.



Figure 2-9 This browser window has several open tabs. The current tab shows a Web page that has various types of links: text that is underlined, text in a different color, and images.

ETHICS & ISSUES 2-1

Should the Government Allow You to Sign Up for a Do-Not-Track List?

When you visit a Web site that includes an advertisement, someone probably is recording the fact that you visited that Web site and viewed the advertisement with your browser. Over time, companies that specialize in tracking who views which online advertisements can amass an enormous amount of information about your online Web surfing habits. Through tracking the Web sites a user visits, the products they buy, and the articles they read, a company

may attempt to profile the visitor's beliefs, associations, and habits. Although a user may think he or she is anonymous while navigating the Web, the company can attempt through various means to link the user's true identity with the user's online profile. The company can sell online profiles, with or without the user's true identity, to other advertisers or organizations. Some privacy groups have called for the government to allow consumers to sign up for a

do-not-track list modeled after the popular do-not-call list.

Should organizations be allowed to track your Web surfing habits? Why or why not? Should organizations be allowed to associate your real identity with your online identity and profit from the information? Should the government force companies to give you the option of not being tracked? Why or why not? What are the benefits and dangers of online tracking?

Searching the Web

The Web is a worldwide resource of information. A primary reason that people use the Web is to search for specific information, including text, pictures, music, and video.

The first step in successful searching is to identify the main idea or concept in the topic about which you are seeking information. Determine any synonyms, alternate spellings, or variant word forms for the topic. Then, use a search tool to locate the information.

Two types of search tools are search engines and subject directories. A **search engine** is a program that finds Web sites, Web pages, images, videos, news, maps, and other information related to a specific topic. A **subject directory** classifies Web pages in an organized set of categories, such as sports or shopping, and related subcategories.

Some Web sites offer the functionality of both a search engine and a subject directory. The table in Figure 2-10 lists the Web addresses of several popular general-purpose search engines and subject directories.

Widely Used Search Tools			
Search Tool	Web Address	Search Engine	Subject Directory
A9	a9.com	X	
AlltheWeb	alltheweb.com	X	
AltaVista	altavista.com	X	
AOL Search	search.aol.com	X	
Ask	ask.com	X	
Cuil (pronounced cool)	cuil.com	X	
Dogpile	dogpile.com	X	
Excite	excite.com	X	X
Gigablast	gigablast.com	X	X
Google	google.com	X	X
Live Search	live.com	X	
Lycos	lycos.com	X	
MSN	msn.com	X	X
Open Directory Project	dmoz.org	X	X
WebCrawler	webcrawler.com	X	
Yahoo!	yahoo.com	X	X

Figure 2-10 Popular search engines and subject directories.

Search Engines A search engine is helpful in locating information for which you do not know an exact Web address or are not seeking a particular Web site. Thousands of search engines are available. Some search through Web pages for all types of information. Other search engines can restrict their searches to a specific type of information, such as the following items:

- Images — pictures, diagrams, and drawings.
- Videos — home videos, music videos, television programs, and movie clips.
- Audio — music, songs, recordings, and sounds.
- News — headlines of news articles.
- Maps — maps of a business or address, or driving directions to a destination.
- People or Businesses — addresses and telephone numbers.
- Blogs — specific opinions and ideas of others.

Search engines require that you enter a word or phrase, called **search text** or *search query*,

that describes the item you want to find. Each word in the search text is known as a *keyword*. Your search text can be broad, such as spring break destinations, or more specific, such as Walt Disney World. Search engines often respond with thousands of results, whose content varies depending on the type of information you are seeking. Some results are links to Web pages or articles; other results are media, such as images or videos. You may find that many items that appear in the search results have little or no bearing on the item you are seeking. You can eliminate the superfluous items in your search results by carefully crafting search text that limits the search.

If you misspell search text, many search engines identify alternative search text. Some also provide suggested keywords, links, and/or images as you begin typing your search text.

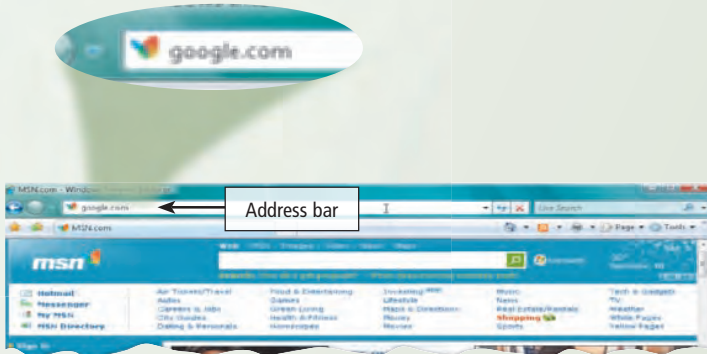
Figure 2-11 shows one way to use the Google search engine to search for the text, Aspen Colorado ski resorts. The results of the search, called *hits*, shown in Step 3 include more than 150,000 links to Web pages that reference Aspen Colorado ski resorts. Each hit in the list has a link that, when clicked, displays an

associated Web site or Web page. Most search engines sequence the hits based on how close the words in the search text are to one another in the titles and descriptions of the hits. Thus, the first few links probably contain more relevant information. Read Ethics & Issues 2-2 for a related discussion.

How to Use a Search Engine

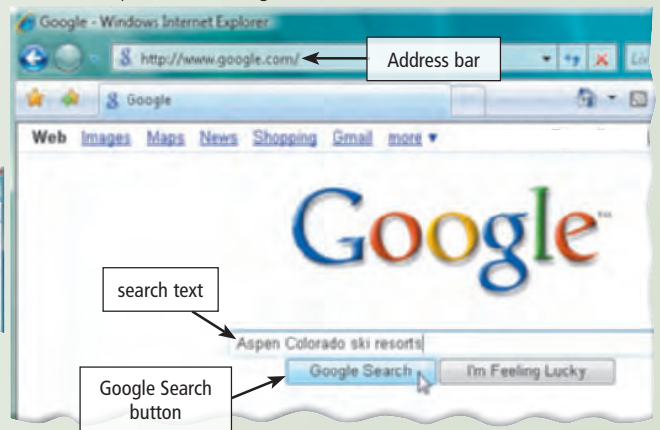
Step 1

Type the search engine's Web address (in this case, google.com) in the Address bar in the Web browser.



Step 2

Press the ENTER key. When the Google home page is displayed, type Aspen Colorado ski resorts as the search text and then point to the Google Search button.



Step 4

Click the Aspen Snowmass link to display a Web page with a description and links to skiing in Aspen.



Step 3

Click the Google Search button. When the results of the search are displayed, scroll through the links and read the descriptions. Point to the Aspen Snowmass link.

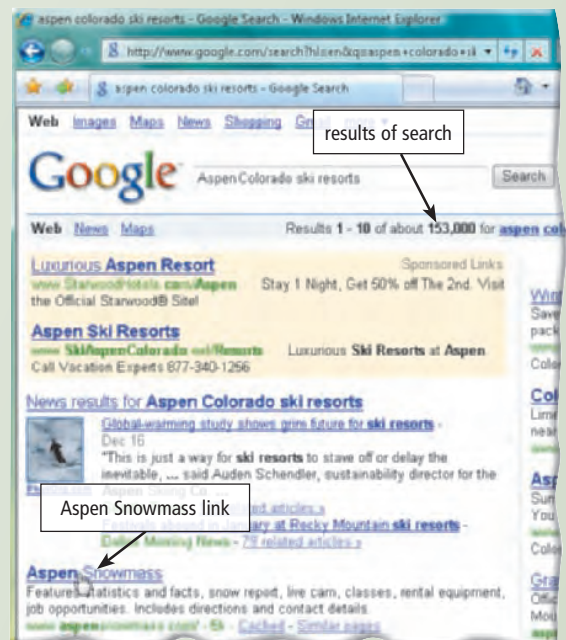


Figure 2-11 This figure shows how to use a search engine.

Some Web browsers contain an Instant Search box that, when filled in, uses a predefined or default search engine to perform searches (Figure 2-12). Using the Instant Search box eliminates the steps of displaying the search engine's Web page prior to entering the search text.

If you enter a phrase with spaces between the words in the search text, most search engines display results (hits) that include all of the words, except for common words (e.g., to, the, and). The table in Figure 2-13 lists some operators you can include in your search text to refine your search. Instead of using operators to refine your search text, many search engines have an Advanced Search feature that displays a form that assists with refining your search.

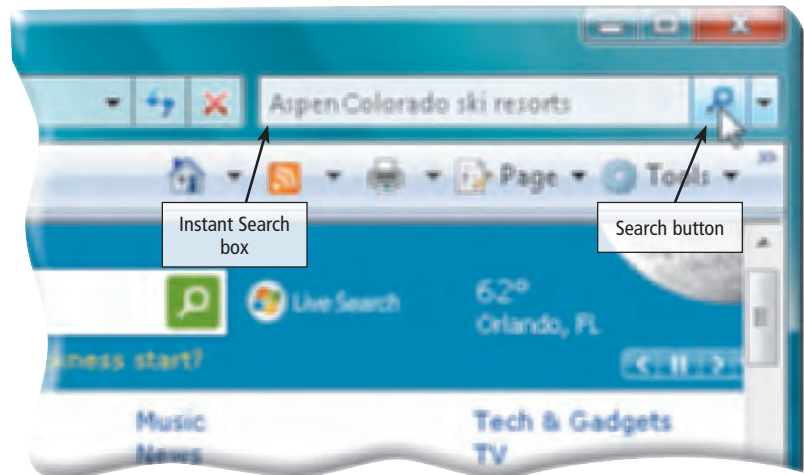


Figure 2-12 Using the Instant Search box combines Steps 1 and 2 in Figure 2-11.

ETHICS & ISSUES 2-2

Is It Ethical to Manipulate Search Engine Results?

Search engines attempt to present the most relevant and popular results to users when they perform searches. Search engines use special software to create indexes of topics from as many Web sites as possible. One key piece of information used by search engines to determine the relevance and popularity of a Web site is to examine how many other Web pages link to the Web site. Some individuals and groups take advantage of that fact and attempt to skew search results by creating hundreds or thousands of Web sites that link to a Web site that is the target

of the effort. The practice of attempting to skew search engine results is known as *Google bombing*. One example of this is political activists Google bombing their opponents. When a person searches for a particular word or phrase with a negative connotation, the search results become skewed to return results about a political opponent of the Google bomber. A Google bomb can promote a product or service, or disparage a competing product or service. Google bombing often is used in a humorous manner. Comedians and television personalities sometimes request that their

audience engage in some particular Google bomb. Opponents of Google bombing state that the practice lessens the public's trust in search engines and causes the search engines to be less accurate.

Is Google bombing ethical? Why or why not? How should Google bombers be handled? Why? Can Google bombing be stopped? Why or why not? Is there an ethical difference between Google bombs that attack a rival and those that are self-promoting? Why?

Search Engine Operators

Operator	Description	Examples	Explanation
Space or +	Display hits that include specific words.	art + music art music	Results have both words art and music — in any order.
OR	Display hits that include only one word from a list.	dog OR puppy dog OR puppy OR canine	Results have either the word dog or puppy. Results have the word dog or puppy or canine.
()	Combine hits that include specific words with those that include only one word from a list.	Kalamazoo Michigan (pizza OR subs)	Results have both words Kalamazoo Michigan and either the word, pizza, or the word, subs.
-	Exclude a word from the search results.	automobile -convertible	Results include automobile but do not include convertible.
" "	Search for an exact phrase in a certain order.	"19th century literature"	Results have the exact phrase, 19th century literature.
*	Substitute characters in place of the asterisk.	writer*	Results include any word that begins with writer (e.g., writer, writers, writer's).

Figure 2-13 Use search engine operators to help refine a search.

Other techniques you can use to improve your searches include the following:

- Use specific nouns.
- Put the most important terms first in the search text.
- List all possible spellings, for example, email, e-mail.
- Before using a search engine, read its Help information.
- If the search is unsuccessful with one search engine, try another.

Some search engines that work with navigation devices are location based, meaning they display results related to the device's current geographical position. For example, your mobile device can display all gas stations within a certain distance of your current location.

Many search engines use a program called a *spider* to build and maintain lists of words found on Web sites. When you enter search text, the search engine scans this prebuilt list for hits. The more sophisticated the search engine combined with precise search criteria, the more rapid the response and effective the search.

To learn more about searching for information, complete the Learn How To 2 activity on pages 120 and 121.

Subject Directories A subject directory provides categorized lists of links arranged by subject (Figure 2-14). Using this search tool, you locate a particular topic by clicking links through different levels, moving from the general to the specific. Each time you click a category link, the subject directory displays a list of subcategory links, from which you again choose. You continue in this fashion until the search tool displays a list of Web pages about the desired topic.

The major disadvantage with a subject directory is that users have difficulty deciding which categories to choose as they work through the menus of links presented.

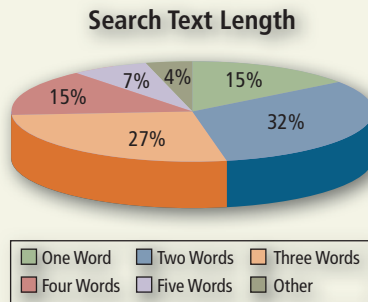
Types of Web Sites

Thirteen types of Web sites are portal, news, informational, business/marketing, blog, wiki, online social network, educational, entertainment, advocacy, Web application, content aggregator, and personal (Figure 2-15). Many Web sites fall in more than one of these categories.

FAQ 2-4

How many words do people typically use in search text?

According to research performed by OneStat, Internet users most often use only two words in their search text. The chart to the right illustrates the percentage of searches performed with search text of various lengths.



Source: OneStat

For more information, visit scs.site.com/dc2010/ch2/faq and then click Search Text.

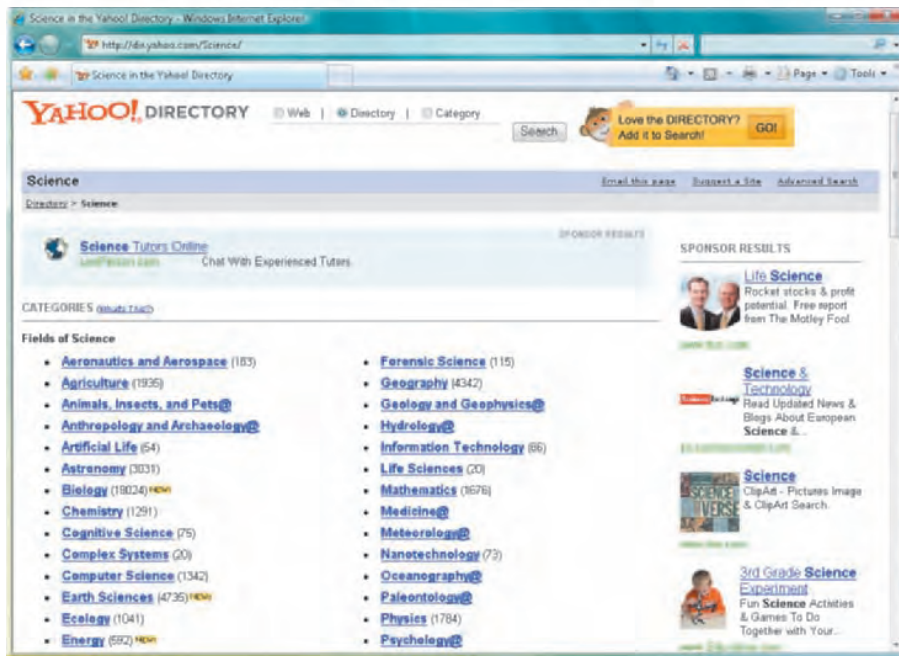


Figure 2-14 A subject directory provides categorized lists of links.

Portal A portal is a Web site that offers a variety of Internet services from a single, convenient location (Figure 2-15a). Most portals offer these free services: search engine; news; sports and weather; Web publishing; reference tools such as yellow pages, stock quotes, and maps; shopping; and e-mail and other communications services.

Many portals have online communities. An **online community** is a Web site that joins a specific group of people with similar interests or relationships. These communities may offer online photo albums, chat rooms, and other services to facilitate communications among members.

Popular portals include AltaVista, AOL, Excite, GO.com, iGoogle, Lycos, MSN, and Yahoo!. A *wireless portal* is a portal designed for Internet-enabled mobile devices.



Figure 2-15a (portal)



Figure 2-15b (news)

News A news Web site contains newsworthy material including stories and articles relating to current events, life, money, sports, and the weather (Figure 2-15b). Many magazines and newspapers sponsor Web sites that provide summaries of printed articles, as well as articles not included in the printed versions. Newspapers and television and radio stations are some of the media that maintain news Web sites.

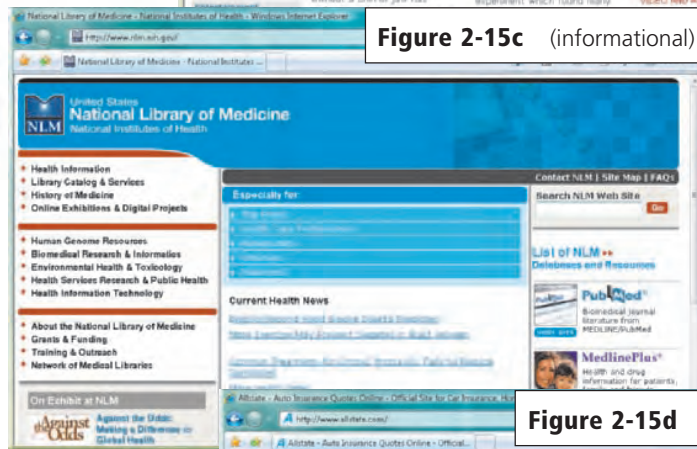


Figure 2-15c (informational)

Informational An informational Web site contains factual information (Figure 2-15c). Many United States government agencies have informational Web sites providing information such as census data, tax codes, and the congressional budget. Other organizations provide information such as public transportation schedules and published research findings.



Figure 2-15d (business/marketing)

Business/Marketing A business/marketing Web site contains content that promotes or sells products or services (Figure 2-15d). Nearly every enterprise has a business/marketing Web site. Allstate Insurance Company, Dell Inc., General Motors Corporation, Kraft Foods Inc., and Walt Disney Company all have business/marketing Web sites. Many of these enterprises also allow you to purchase their products or services online.

Figure 2-15 Types of Web sites. (continued on next page)



Figure 2-15 Types of Web sites. (continued)

Blog A **blog**, short for *Weblog*, is an informal Web site consisting of time-stamped articles, or posts, in a diary or journal format, usually listed in reverse chronological order (Figure 2-15e). A blog that contains video clips is called a **video blog**, or *vlog*. The term *blogosphere* refers to the worldwide collection of blogs, and the *vlogosphere* refers to all vlogs worldwide.

Blogs reflect the interests, opinions, and personalities of the author, called the *blogger* or *vlogger* (for vlog author), and sometimes site visitors.

Blogs have become an important means of worldwide communications. Businesses create blogs to communicate with employees, customers, and vendors. Teachers create blogs to collaborate with other teachers and students. Home users create blogs to share aspects of their personal life with family, friends, and others.

Wiki A **wiki** is a collaborative Web site that allows users to create, add to, modify, or delete the Web site content via their Web browser. Many wikis are open to modification by the general public. Wikis usually collect recent edits on a Web page so that someone can review them for accuracy. The difference between a wiki and a blog is that users cannot modify original posts made by the blogger. A popular wiki is Wikipedia, a free Web encyclopedia (Figure 2-15f). Read Ethics & Issues 2-3 for a related discussion.

Online Social Network An **online social network site**, also called a **social networking Web site**, is a Web site that encourages members in its online community to share their interests, ideas, stories, photos, music, and videos with other registered users (Figure 2-15g). Most include chat rooms, newsgroups, and other communications services. Popular social networking Web sites include

ETHICS & ISSUES 2-3

Should You Trust a Wiki for Academic Research?

As wikis have grown in number, size, and popularity, some educators and librarians have shunned the sites as valid sources of research. While many wikis are tightly controlled with a limited number of contributors and expert editors, these usually focus on narrowly-defined, specialized topics. Most large online wikis, such as Wikipedia, often involve thousands of editors, many of whom remain anonymous. Recently, television station reporters purposefully vandalized entries on Wikipedia for John Lennon and Elvis

Presley in an attempt either to discredit Wikipedia or to test how quickly corrections are made. Editors quickly corrected the information. In other situations, rival political factions falsified or embellished wiki entries in an attempt to give their candidate an advantage. Some wiki supporters argue that most wikis provide adequate controls to correct false or misleading content quickly and to punish those who submit it. Some propose that wikis should be used as a starting point for researching a fact, but that the

fact should be verified using traditional sources.

Should wikis be allowed as valid sources for academic research? Why or why not? Would you submit a paper to your instructor that cites a wiki as a source? An encyclopedia? Why or why not? What policies could wikis enforce that could garner more confidence from the public? If a wiki provided verification of the credentials of the author, would you trust the wiki more? Why or why not?

Facebook and MySpace, which alone has more than 17 million visitors each day. In some social networking Web sites, such as Second Life, users assume an imaginary identity and interact with other users in a role-playing type of environment.

A **media sharing Web site** is a specific type of online social network that enables members to share media such as photos, music, and videos. Flickr, Fotki, and Webshots are popular photo sharing communities; Eyespot and YouTube are popular video sharing communities.

Educational An educational Web site offers exciting, challenging avenues for formal and informal teaching and learning (Figure 2-15h). On the Web, you can learn how airplanes fly or how to cook a meal. For a more structured learning experience, companies provide online training to employees; and colleges offer online classes and degrees. Instructors often use the Web to enhance classroom teaching by publishing course materials, grades, and other pertinent class information.

Entertainment An entertainment Web site offers an interactive and engaging environment (Figure 2-15i). Popular entertainment Web sites offer music, videos, sports, games, ongoing Web episodes, sweepstakes, chat rooms, and more. Sophisticated entertainment Web sites often partner with other technologies. For example, you can cast your vote about a topic on a television show.

Advocacy An advocacy Web site contains content that describes a cause, opinion, or idea (Figure 2-15j). These Web sites usually present views of a particular group or association. Sponsors of advocacy Web sites include the Democratic National Committee, the Republican National Committee, the Society for the Prevention of Cruelty to Animals, and the Society to Protect Human Rights.

Web Application A **Web application**, or *Web app*, is a Web site that allows users to access and interact with software through a Web browser on any computer or device that is connected to the Internet. Some Web applications provide free access to their software (Figure 2-15k). Others offer part of their software free and charge for access to more comprehensive features or when a particular action is requested. Examples of Web applications include Google Docs (word processing, spreadsheets, presentations), TurboTax Online (tax preparation), and Windows Live Hotmail (e-mail).



Figure 2-15h (educational)

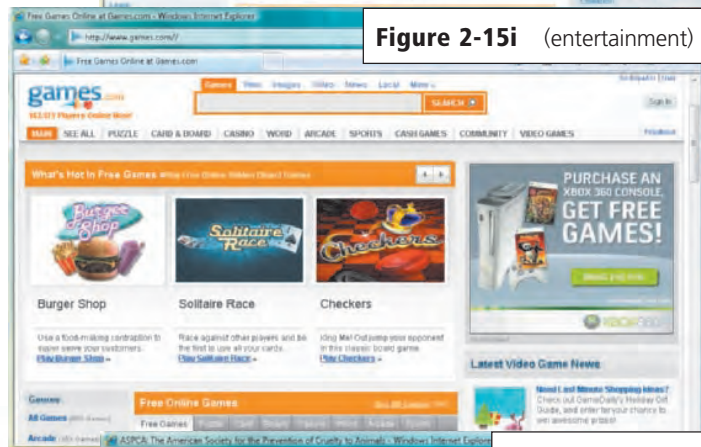


Figure 2-15i (entertainment)



Figure 2-15j (advocacy)



Figure 2-15k (Web application)

Figure 2-15 Types of Web sites. (continued on next page)

Content Aggregator A *content aggregator* is a business that gathers and organizes Web content and then distributes, or feeds, the content to subscribers for free or a fee (Figure 2-15). Examples of distributed content include news, music, video, and pictures. Subscribers select content in which they are interested. Whenever the selected content changes, it is downloaded automatically (pushed) to the subscriber's computer or mobile device.

RSS 2.0, which stands for *Really Simple Syndication*, is a specification that some content aggregators use to distribute content to subscribers. *Atom* is another specification sometimes used by content aggregators to distribute content. Some current browsers include a feature, such as Internet Explorer's *WebSlices*, that enables content aggregators to mark sections of their Web pages as feeds to which users can subscribe.

Personal A private individual or family not usually associated with any organization may maintain a personal Web site or just a single Web page (Figure 2-15m). People publish personal Web pages for a variety of reasons. Some are job hunting. Others simply want to share life experiences with the world.

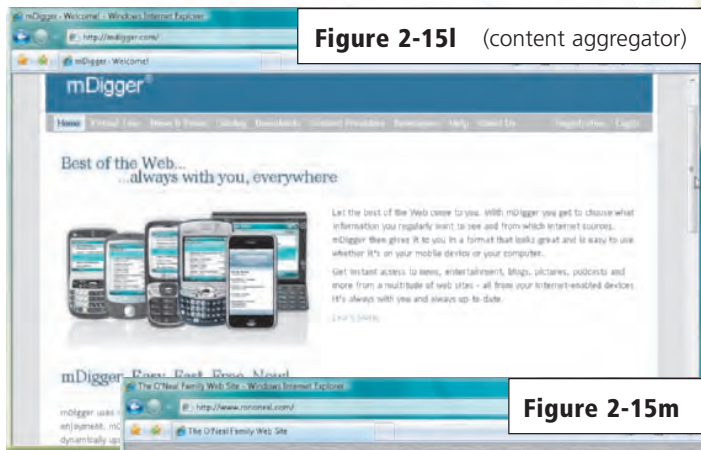


Figure 2-15l (content aggregator)



Figure 2-15m (personal)

Figure 2-15 Types of Web sites. (continued)

Evaluating a Web Site

Do not assume that information presented on the Web is correct or accurate. Any person, company, or organization can publish a Web page on the Internet. No one oversees the content of these Web pages. Figure 2-16 lists guidelines for assessing the value of a Web site or Web page before relying on its content.

Guidelines for Evaluating the Value of a Web Site

Evaluation Criteria	Reliable Web Sites
Affiliation	A reputable institution should support the Web site without bias in the information.
Audience	The Web site should be written at an appropriate level.
Authority	The Web site should list the author and the appropriate credentials.
Content	The Web site should be well organized and the links should work.
Currency	The information on the Web page should be current.
Design	The pages at the Web site should download quickly and be visually pleasing and easy to navigate.
Objectivity	The Web site should contain little advertising and be free of preconceptions.

Figure 2-16 Criteria for evaluating a Web site's content.

Multimedia on the Web

Most Web pages include more than just formatted text and links. The more exciting Web pages use multimedia. **Multimedia** refers to any application that combines text with graphics, animation, audio, video, and/or virtual reality. Multimedia brings a Web page to life, increases the types of information available on the Web, expands the Web's potential uses, and makes the Internet a more entertaining place to explore. Multimedia Web pages often require specific hardware and software and take more time to download because they contain large graphics files and video or audio clips. Many Web sites have an option that allows visitors to disable multimedia, for example, if they have a slower-speed Internet connection.

The sections that follow discuss how the Web uses graphics, animation, audio, video, and virtual reality.

Graphics A **graphic**, or *graphical image*, is a digital representation of nontext information such as a drawing, chart, or photo. Today, many Web pages use colorful graphical designs and images to convey messages (Figure 2-17).

The Web contains countless images about a variety of subjects. You can download many of these images at no cost and use them for noncommercial purposes. Recall that downloading is the process of transferring an object from the Web to your computer. For example, you can insert images into greeting cards, announcements, and other documents. Read Innovative Computing 2-1 to find out how astronomers share graphics of the universe.

Of the graphics formats that exist on the Web (Figure 2-18), the two more common are JPEG and GIF formats. *JPEG* (pronounced JAY-peg) is a format that compresses graphics to reduce their file size, which means the file takes up less storage space. Smaller file sizes result in faster downloading of Web pages because small files transmit faster than large files. The more compressed the file, the smaller the image and the lower the quality. The goal with JPEG graphics is to reach a balance between image quality and file size. Digital photos often use the JPEG format.

GIF (pronounced jiff) graphics also use compression techniques to reduce file sizes. The GIF format works best for images that have only a few distinct colors, such as company logos. The newer *PNG* (pronounced ping) graphics format improves upon the GIF format, and thus may eventually replace the GIF format.

The BMP and TIFF formats listed in Figure 2-18 may require special viewer software, and they have larger file sizes. Thus, these formats are not used on the Web as frequently as JPEG, GIF, and PNG formats.



Figure 2-17 This Web page uses colorful graphical designs and images to convey its messages.

! INNOVATIVE COMPUTING 2-1

View the Wonders of Space through the WorldWide Telescope

The phrase, reach for the stars, takes on a new meaning when using Microsoft's *WorldWide Telescope*. This free software combines a variety of multimedia, including high-resolution graphics from telescopes located on Earth and in space, with Web 2.0 services to allow people to explore the final frontier from their computers.

Users can pan and zoom around the night sky by looking through a specific telescope, such as the Hubble Space Telescope, and view the universe in the past, present, or future. In addition, they can browse graphics of a specific planet, the Milky Way Galaxy, black holes, and other celestial bodies in our solar system, galaxy, and beyond. They also can select different wavelengths, such as X-ray or visible light, to search for objects. Astronomers and educators also have created narrated tours of the sky to help interpret the images.



For more information, visit scsite.com/dc2010/ch2/innovative and then click WorldWide Telescope.

Graphics Formats Used on the Web

Abbreviation	Name	Uses
BMP	Bitmap	Desktop background, scanned images
GIF	Graphics Interchange Format	Simple diagrams, shapes, images with few colors
JPEG	Joint Photographic Experts Group	Digital camera photos
PNG	Portable Network Graphics	Web graphics
TIFF	Tagged Image File Format	Photos used by printing industry

Figure 2-18 The Web uses graphics file formats for images.

Some Web sites use thumbnails on their pages because graphics can be time-consuming to display. A *thumbnail* is a small version of a larger graphic. You usually can click a thumbnail to display a larger image (Figure 2-19).



Figure 2-19

Clicking the thumbnail in the top screen displays a larger image in a separate window.

Animation Many Web pages use **animation**, which is the appearance of motion created by displaying a series of still images in sequence. Animation can make Web pages more visually interesting or draw attention to important information or links. For example, text that animates by scrolling across the screen can serve as a ticker to display stock updates, news, sports scores, weather, or other information. Web-based games often use animation.

Web page developers add animation to Web pages using a variety of techniques. Web page authoring programs, such as Adobe Flash and Microsoft Expression Web, enable Web site developers to combine animation and interactivity in Web pages. Developers unfamiliar with Web page authoring programs can create an

animated GIF, which combines several GIF images in a single GIF file.

Audio On the Web, you can listen to audio clips and live audio. **Audio** includes music, speech, or any other sound. Simple applications consist of individual audio files available for download to a computer or device. Once downloaded, you can play (listen to) the contents of these files. Some common Web audio file formats are listed in Figure 2-20. Audio files are compressed to reduce their file sizes. For example, the **MP3** format reduces an audio file to about one-tenth its original size, while preserving much of the original quality of the sound.

Some music publishers have Web sites that allow users to download sample tracks free to persuade them to buy the entire CD. Others allow a user to purchase and download an entire CD (Figure 2-21). It is legal to download copyrighted music only if the song's copyright holder has granted permission for users to download and play the song.

To listen to an audio file on your computer, you need special software called a **player**. Most current operating systems contain a player. Popular players include iTunes, RealPlayer, and Windows Media Player. You can download the players free from the Web; some are plug-ins, which are discussed later in this chapter.

Some applications on the Web use streaming audio. **Streaming** is the process of transferring data in a continuous and even flow. Streaming allows users to access and use a file while it is transmitting. For example, *streaming audio* enables you to listen to music as it downloads to your computer. Many radio and television stations use streaming audio to broadcast music, interviews, talk shows, sporting events, music videos, news, live concerts, and other segments.

Podcasting is another popular method of distributing audio. A *podcast* is recorded audio, usually an MP3 file, stored on a Web site that can be downloaded to a computer or a portable media player such as an iPod. Examples of podcasts include music, radio shows, news stories, classroom lectures, political messages, and television commentaries. Podcasters register their podcasts with content aggregators. Subscribers select podcast feeds they want to be downloaded automatically whenever they connect.

Audio Web File Formats

Format	Description	Format	Description
AAC	Advanced Audio Coding	WAV	Windows waveform
AIFF	Audio Interchange File Format	WMA	Windows Media Audio (part of Windows Media framework)
ASF	Advanced Streaming (or Systems) Format (part of Windows Media framework)	RA	RealAudio sound file (supported by RealPlayer)
MP3	Moving Pictures Experts Group Audio Layer 3 (MPEG-3)	QT	QuickTime audio, video, or 3-D animation
Ogg	Free, unpatented audio and video format		

Figure 2-20 Popular Web audio file formats.

How to Purchase and Download Music Using iTunes

Step 1

Display the iTunes program on the screen. Search for, select, and pay for the music you want to purchase from the iTunes Music Store, which is integrated in the iTunes program.



Step 2

Download the music from the iTunes Music Store server to your computer's hard disk.



Step 3a

Listen to the music from your computer's hard disk.



Step 3b

Download music from your computer's hard disk to a portable media player. Listen to the music through earbuds attached to the portable media player.



Figure 2-21 This figure shows how to purchase and download music using iTunes.

Video On the Web, you can view video clips or watch live video. **Video** consists of full-motion images that are played back at various speeds. Most video also has accompanying audio. You can use the Internet to watch live and/or prerecorded coverage of your favorite television programs or enjoy a live performance of your favorite vocalist. You can upload, share, or view video clips at a video sharing Web site such as YouTube (Figure 2-22). Educators, politicians, and businesses are using video blogs and video podcasts to engage students, voters, and consumers.

Simple video applications on the Web consist of individual video files, such as movie or television clips, that you must download completely before you can play them on the computer. Video files often are compressed because they are quite large in size. These clips also are short in length, usually less than 10 minutes, because they can take a long time to download. The Moving Pictures Experts Group (*MPEG*) defines a popular video compression standard, a widely used one called *MPEG-4* or *MP4*. Another popular video format is Adobe Flash.

As with streaming audio, *streaming video* allows you to view longer or live video images as they download to your computer. Widely used standards supported by most Web browsers for transmitting streaming video data on the Internet are AVI (Audio Video Interleaved), QuickTime, Windows Media Format, and RealVideo. Like RealAudio, RealVideo is supported by RealPlayer.



For more information, visit scs.site.com/dc2010/ch2/weblink and then click YouTube.

FAQ 2-5

How are social networking Web sites and Internet video affecting Internet traffic?

A report from Cisco Systems states that Internet traffic will double every two years until 2012. The volume of Internet traffic is increasing mostly because of Internet videos and social networking. In addition, the increased use of video conferencing by business users also accounts for the increase in traffic.

For more information, visit scs.site.com/dc2010/ch2/faq and then click Internet Traffic.

Virtual Reality **Virtual reality (VR)** is the use of computers to simulate a real or imagined environment that appears as a three-dimensional (3-D) space. VR involves the display of 3-D images that users explore and manipulate interactively.

Using special VR software, a Web developer creates an entire 3-D environment that contains infinite space and depth, called a *VR world*. A VR world, for example, might show a house for sale. Potential buyers walk through rooms in the VR house by moving an input device forward, backward, or to the side.

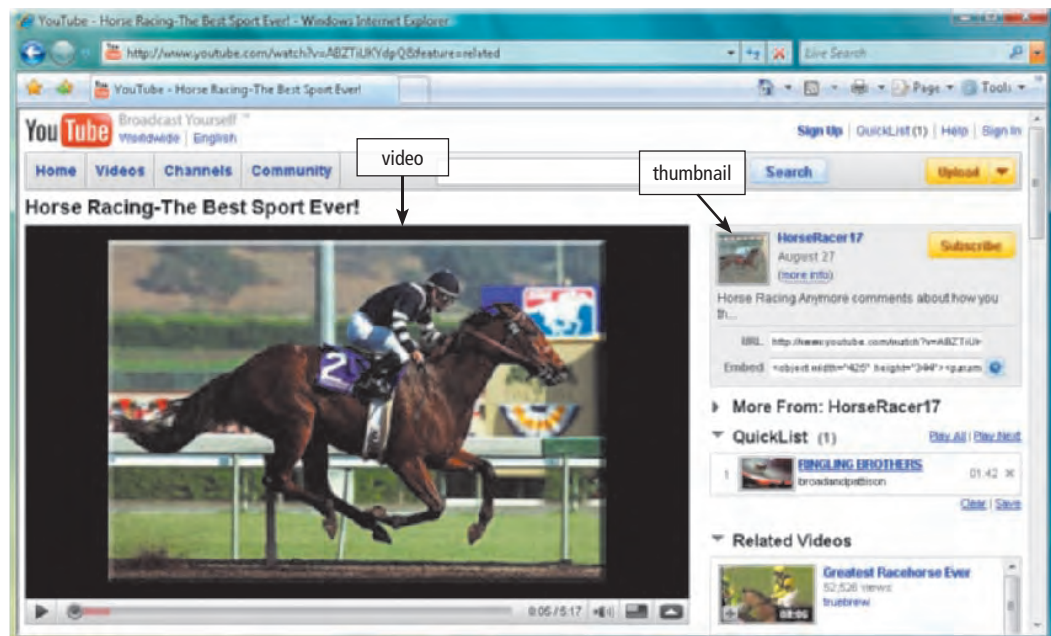


Figure 2-22 A video of a horse race.

Games and simulations on optical disc or on the Web often use VR (Figure 2-23). Many practical applications of VR also exist. Science educators create VR models of molecules, organisms, and other structures for students to examine. Companies use VR to showcase products or create advertisements. Architects create VR models of buildings and rooms so that clients can see how a completed construction project will look before it is built.



Figure 2-23 Residents (users) of the Second Life online social network interact with other online residents (users) in a VR world.

Plug-ins Most Web browsers have the capability of displaying basic multimedia elements on a Web page. Sometimes, a browser might need an additional program, called a plug-in. A **plug-in**, or *add-on*, is a program that extends the capability of a browser. You can download many plug-ins at no cost from various Web sites (Figure 2-24). Some plug-ins run on all sizes of personal computers and mobile devices. Others have special versions for mobile devices.

Web Publishing

Before the World Wide Web, the means to share opinions and ideas with others easily and inexpensively was limited to the media, classroom, work, or social environments. Generating an advertisement or publication that could reach a massive audience required much expense. Today, businesses and individuals convey information to millions of people by creating their own Web pages. The content of the Web pages ranges from news stories to product information to blogs.

Popular Plug-Ins



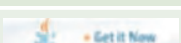





Plug-In Application	Description	Web Address
Acrobat Reader 	View, navigate, and print Portable Document Format (PDF) files — documents formatted to look just as they look in print	adobe.com
Flash Player 	View dazzling graphics and animation, hear outstanding sound and music, display Web pages across an entire screen	adobe.com
Java 	Enable Web browser to run programs written in Java, which add interactivity to Web pages	java.com
QuickTime 	View animation, music, audio, video, and VR panoramas and objects directly on a Web page	apple.com
RealPlayer 	Listen to live and on-demand near-CD-quality audio and newscast-quality video, stream audio and video content for faster viewing, play MP3 files, create music CDs	real.com
Shockwave Player 	Experience dynamic interactive multimedia, 3-D graphics, and streaming audio	adobe.com
Silverlight 	Experience high-definition video, high-resolution interactive multimedia, and streaming audio and video	microsoft.com
Windows Media Player 	Listen to live and on-demand audio, play or edit WMA and MP3 files, burn CDs, and watch DVD movies	microsoft.com

Figure 2-24 Most plug-ins can be downloaded free from the Web.

Web publishing is the development and maintenance of Web pages. To develop a Web page, you do not have to be a computer programmer. For the small business or home user, Web publishing is fairly easy as long as you have the proper tools. To learn more about how to publish a document on the Web, complete the Learn How To 3 activity on page 121.

The five major steps in Web publishing are as follows:

1. Plan a Web site.
Think about issues that could affect the design of the Web site. Identify the purpose of the Web site and the characteristics of the people whom you want to visit the Web site. Determine ways to differentiate your Web site from other similar ones.
2. Analyze and design a Web site.
Design the layout of elements of the Web site such as links, text, graphics, animation, audio, video, and virtual reality. Required hardware may include a digital camera, Web cam, scanner, sound card, and microphone.
3. Create a Web site.
Use a word processing program to create basic Web pages that contain text and graphics. Use Web page authoring software to create more sophisticated Web sites that include text, graphics, animation, audio, video, and special effects. For advanced features such as managing users, passwords, chat rooms, and e-mail, you may need to purchase specialized Web site management software.
4. Deploy a Web site.
Transfer the Web pages from your computer to a Web server. Many Internet access providers offer their customers storage space on a Web server. Another option is a Web hosting service, which provides storage space on a Web server for a reasonable monthly fee. To help others locate your Web page, register your Web address with various search engines to ensure your site will appear in the hit lists for searches for certain keywords.
5. Maintain a Web site.
Visit the Web site regularly to ensure the Web site contents are current and all links work properly.


Web Page Authoring Software

For more information, visit scs.site.com/dc2010/ch2/weblink and then click Web Page Authoring Software.

QUIZ YOURSELF 2-2

Instructions: Find the true statement below. Then, rewrite the remaining false statements so that they are true.

1. A blog is a Web site that uses a regularly updated journal format to reflect the interests, opinions, and personalities of the author and sometimes site visitors.
2. You can assume that information on the Web is correct and accurate.
3. Audio and video files are downloaded to reduce their file sizes.
4. Popular portals include iTunes, RealPlayer, and Windows Media Player.
5. The more widely used search engines for personal computers are Internet Explorer, Firefox, Opera, Safari, and Google Chrome.
6. To develop a Web page, you have to be a computer programmer.
7. To improve your Web searches, use general nouns and put the least important terms first in the search text.

 **Quiz Yourself Online:** To further check your knowledge of pages 80 through 98, visit scs.site.com/dc2010/ch2/quiz and then click Objectives 5 – 9.

E-Commerce

E-commerce, short for *electronic commerce*, is a business transaction that occurs over an electronic network such as the Internet. Anyone with access to a computer or mobile device, an Internet connection, and a means to pay for purchased goods or services can participate in e-commerce. Some people use the term *m-commerce* (mobile commerce) to identify e-commerce that takes place using mobile devices.

Popular uses of e-commerce by consumers include retail, finance, travel, entertainment, and health. Users can purchase just about any product or service on the Web, including groceries, flowers, books, computers, music, movies, cars, airline tickets, and concert tickets. They also can pay bills, invest in stocks, make airline reservations, reserve a hotel or car, and fill prescriptions.

Three types of e-commerce are business-to-consumer, consumer-to-consumer, and business-to-business. *Business-to-consumer* (B2C) e-commerce consists of the sale of goods and services to the general public. For example,

Apple has a B2C Web site. Instead of visiting a retail store to purchase an iPod, customers can order one directly from Apple's Web site.

A customer (consumer) visits an online business through an **electronic storefront**, which contains product descriptions, images, and a shopping cart. The **shopping cart** allows the customer to collect purchases. When ready to complete the sale, the customer enters personal data and the method of payment, which should be through a secure Internet connection. *E-retail*, short for electronic retail, occurs when businesses use the Web to sell products (Figure 2-25).

FAQ 2-6

Is it safe to shop online?

Not always. Although 78 percent of shoppers find online shopping convenient, about 75 percent of surveyed individuals are hesitant to enter their personal or credit card information online. It always is best to conduct online transactions with well-established companies. If possible, research these companies and read about others' online shopping experiences before making a purchase. If you never have heard of a particular online business, do not entrust them with your credit card information.

For more information, visit scs.site.com/dc2010/ch2/faq and then click Online Shopping.

An Example of E-Retail

Step 1

The customer displays the e-retailer's electronic storefront.



Step 2

The customer collects purchases in an electronic shopping cart.



Step 3

The customer enters payment information on a secure Web site. The e-retailer sends financial information to a bank.



Step 4

The bank performs security checks and sends authorization back to the e-retailer.



Step 7

While the order travels to the customer, shipping information is posted on the Web.

Step 6

The fulfillment center packages the order, prepares it for shipment, and then sends a report to the server where records are updated.

Step 5

The e-retailer's Web server sends confirmation to the customer, processes the order, and then sends it to the fulfillment center.



Step 8

The order is delivered to the customer.



Figure 2-25 This figure shows an example of e-retail.

Consumer-to-consumer (C2C) e-commerce occurs when one consumer sells directly to another, such as in an online auction. With an **online auction**, users bid on an item being sold by someone else. The highest bidder at the end of the bidding period purchases the item. eBay is one of the more popular online auction Web sites.

As an alternative to entering credit card, bank account, or other financial information online, some shopping and auction Web sites allow consumers to use an online payment service such as PayPal or Google Checkout. To use an online payment service, you create an account that is linked to your credit card or funds at a financial institution. When you make a purchase, you use your online payment service account, which transfers money for you without revealing your financial information. Read *Innovative Computing 2-2* to find out how shoppers can experience 3-D online stores.

Most e-commerce, though, actually takes place between businesses, which is called *business-to-business (B2B) e-commerce*. Businesses often provide goods and services to other businesses, such as online advertising, recruiting, credit, sales, market research, technical support, and training. For example, some MasterCard and Visa credit card companies provide corporations with Web-based purchasing, tracking, and transaction downloading capabilities.

Google Checkout

For more information, visit scs.site.com/dc2010/ch2/webblink and then click Google Checkout.

INNOVATIVE COMPUTING 2-2

Shopping Becomes a Virtual Experience


Part of retail shopping at the mall or the grocery store is the ability to browse aisles, view labels, and compare products side by side. Online shoppers may be able to share these shopping experiences in three-dimensional environments complete with shelving, signs, overhead lighting, and outdoor plazas.



Software manufacturer Kinset, Inc. is leading the 3-D e-commerce development. Taking its cue from video games and the Second Life VR world Web site, Kinset has launched its product to big-name retailers, including Brookstone. Shoppers download and then install this software, connect to the Internet, and

then begin their shopping experience.

When shoppers position their mouse pointer over an item, the information about the product is displayed. Pressing a specific key adds the item to a shopping cart, and another key brings the shopper to the checkout screen.

 For more information, visit scs.site.com/dc2010/ch2/innovative and then click Online Shopping.

Other Internet Services

The Web is only one of the many services on the Internet. The Web and other Internet services have changed the way we communicate. We use computers and mobile devices to send e-mail messages to the president, have a discussion with experts about the stock market, chat with someone in another country about genealogy, and talk about homework assignments with classmates via instant messages. Many times, these communications take place completely in writing — without the parties ever meeting each other. Read *Ethics & Issues 2-4* for a related discussion.

The following pages discuss these Internet services: e-mail, mailing lists, instant messaging, chat rooms, VoIP (Voice over IP), newsgroups and message boards, and FTP (File Transfer Protocol).

ETHICS & ISSUES 2-4

Should You Be Judged by Your Internet Communications?

Internet features, such as e-mail, instant messages, and chat, have become some of today's most popular methods of communications. Millions of people around the world send and receive various forms of Internet messages. The Internet links the geographically distanced, connects the economically separated, enables the physically challenged, and encourages the publicly timid. Almost all office workers are prolific users of Internet communications because their job depends on a great deal of collaboration with co-workers, management, vendors, and other departments. Because of the ease of use of such forms of communications, people are writing more than ever before — but is it good writing? The carefully crafted letters of an era gone by, handwritten in beautiful penmanship, have been replaced by messages stylistically equivalent to notes on the refrigerator. The immediacy of the Internet often results in messages that are ill conceived, casually spelled, poorly worded, grammatically flawed, and tritely expressed. Despite experts suggesting that users always should proofread messages carefully before sending them, communications often are misinterpreted or come across as being rude.

Should employers require that employees adhere to e-mail authoring policies? In general, has e-mail's impact on communications been positive or negative? Why? Would you judge somebody by the quality of his or her e-mail message? Why or why not? Could someone's professional reputation be enhanced or hindered by the quality and effectiveness of his or her Internet communications?

E-Mail

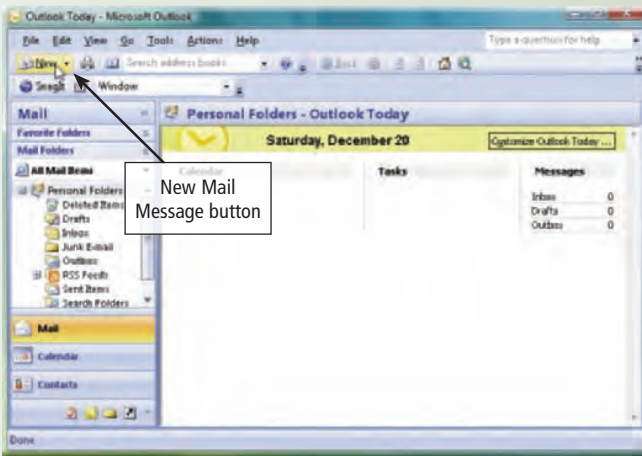
E-mail (short for *electronic mail*) is the transmission of messages and files via a computer network. E-mail was one of the original services on the Internet, enabling scientists and researchers working on government-sponsored projects to communicate with colleagues at other locations. Today, e-mail is a primary communications method for both personal and business use.

You use an **e-mail program** to create, send, receive, forward, store, print, and delete e-mail messages. Outlook and Windows Mail are two popular desktop e-mail programs; Gmail and Windows Live Hotmail are two popular free e-mail Web applications. The steps in Figure 2-26 illustrate how to send an e-mail message using Outlook.

How to Send an E-Mail Message Using Outlook

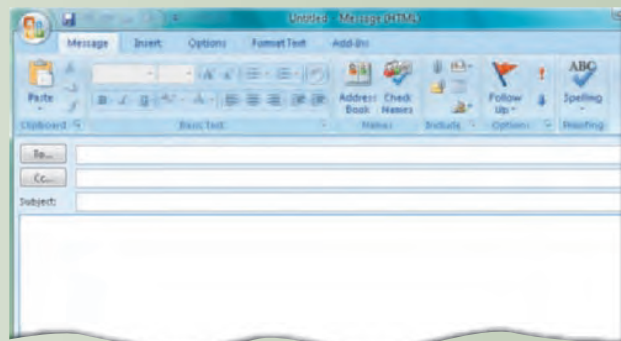
Step 1

Start an e-mail program and point to the New Mail Message button.



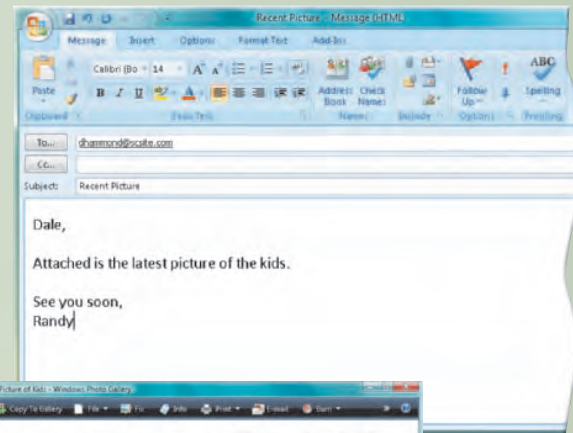
Step 2

Click the New Mail Message button to display the Message window.



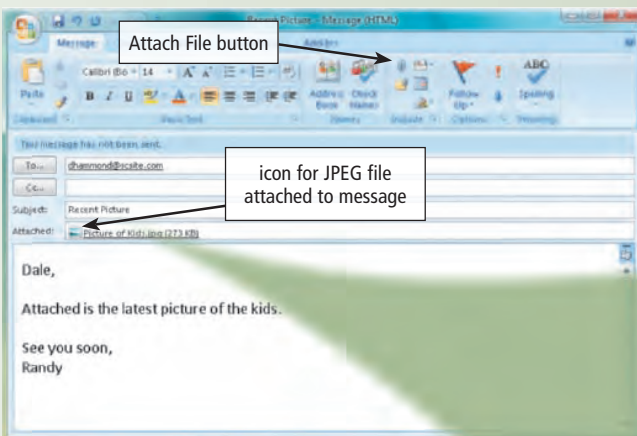
Step 3

Enter the recipient's e-mail address, the subject, and the message in the Message window.



Step 4

Click the Attach File button on the Message tab to attach a JPEG file containing a photo to the message. Click the Send button to send the message.



Step 5

When Dale receives the e-mail message, she opens the JPEG file to view the photo.

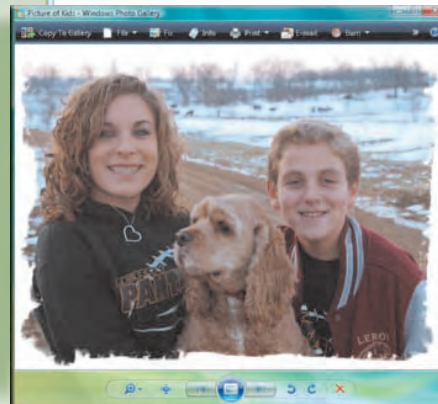


Figure 2-26 This figure shows how to send an e-mail message using Outlook.

The message can be simple text or can include an attachment such as a word processing document, a graphic, an audio clip, or a video clip. To learn more about how to attach a file to an e-mail message, complete the Learn How To 1 activity on page 120.

Just as you address a letter when using the postal system, you address an e-mail message with the e-mail address of your intended recipient. Likewise, when someone sends you a message, he or she must have your e-mail address. An **e-mail address** is a combination of a user name and a domain name that identifies a user so that he or she can receive Internet e-mail.

A **user name** is a unique combination of characters, such as letters of the alphabet and/or numbers, that identifies a specific user. Your user name must be different from the other user names in the same domain. For example, a user named Kiley Barnhill whose server has a domain name of scsite.com might want to select kbarnhill as her user name. If

scsite.com already has a kbarnhill (for Ken Barnhill), Kiley will have to select a different user name, such as kileybarnhill or k_barnhill.

Sometimes, organizations decide user names for new users. In many cases, however, users select their own user names, often selecting a nickname or any other combination of characters for their user name. Many users select a combination of their first and last names so that others can remember it easily.

In an Internet e-mail address, an @ (pronounced at) symbol separates the user name from the domain name. Your service provider supplies the domain name. A possible e-mail address for Kiley Barnhill would be kbarnhill@scsite.com, which would be read as follows: K Barnhill at s c site dot com. Most e-mail programs allow you to create an **address book**, or contacts folder, which contains a list of names and e-mail addresses.

Figure 2-27 illustrates how an e-mail message may travel from a sender to a receiver using a desktop e-mail program. When you send an

How an E-Mail Message May Travel from a Sender to a Receiver



Figure 2-27 This figure shows how an e-mail message may travel from a sender to a receiver.

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e-mail message, an outgoing mail server that is operated by your Internet access provider determines how to route the message through the Internet and then sends the message. *SMTP* (simple mail transfer protocol) is a communications protocol used by some outgoing mail servers.

As you receive e-mail messages, an incoming mail server — also operated by your Internet access provider — holds the messages in your mailbox until you use your e-mail program to retrieve them. *POP3*, the latest version of POP (*Post Office Protocol*), is a communications protocol used by some incoming mail servers. Most e-mail programs have a mail notification alert that informs you via a message and/or sound when you receive new mail.

Mailing Lists

A **mailing list**, also called a distribution list, is a group of e-mail names and addresses given a single name. When a message is sent to a mailing list, every person on the list receives a copy of the message in his or her mailbox. To add your e-mail name and address to a mailing list, you **subscribe** to it (Figure 2-28). To remove your name, you **unsubscribe** from the mailing list.

Thousands of mailing lists exist about a variety of topics in areas of entertainment, business, computers, society, culture, health, recreation, and education. Many vendors use mailing lists to communicate with their customer base.

? FAQ 2-7

Can my computer get a virus through e-mail?

Yes. A *virus* is a computer program that can damage files and the operating system. One way that virus authors attempt to spread a virus is by sending virus-infected e-mail attachments. If you receive an e-mail attachment, you should use an antivirus program to verify that it is virus free.

For more information, read the High-Tech Talk article on page 178, the section about viruses and antivirus programs in Chapter 8, and visit scsite.com/dc2010/ch2/faq and then click Viruses.

E-Mail

For more information, visit scsite.com/dc2010/ch2/weblink and then click E-Mail.

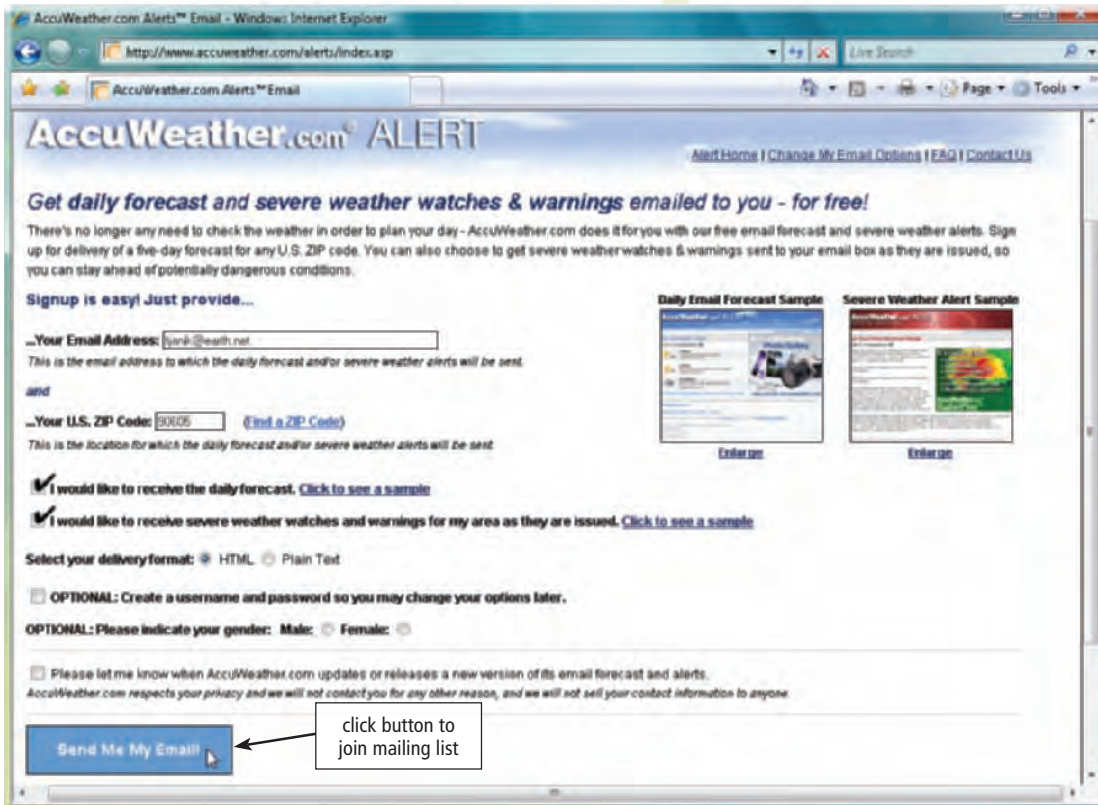


Figure 2-28 When you join a mailing list, you and all others on the mailing list receive e-mail messages from the Web site.

Instant Messaging

Instant messaging (IM) is a real-time Internet communications service that notifies you when one or more people are online and then allows you to exchange messages or files or join a private chat room with them. **Real time** means that you and the people with whom

you are conversing are online at the same time. Some IM services support voice and video conversations (Figure 2-29). Many IM services also can alert you to information such as calendar appointments, stock quotes, weather, or sports scores. They also allow you to send photos

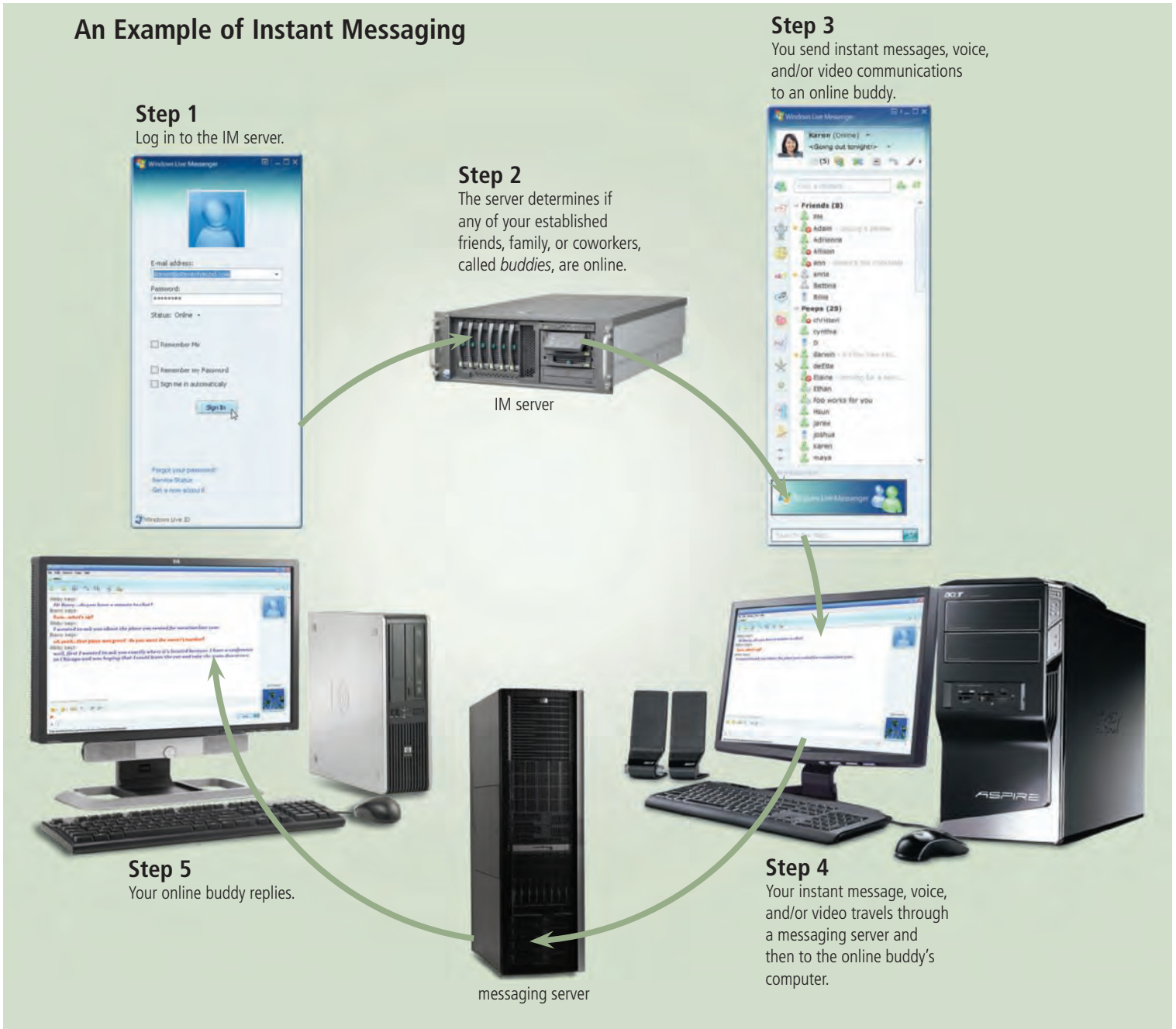


Figure 2-29 This figure shows an example of instant messaging.

or other documents to a recipient, listen to streaming music, and play games with another online party. For IM to work, both parties must be online at the same time. Also, the receiver of a message must be willing to accept messages.

To use IM, you may have to install *instant messenger* software on the computer or mobile device, such as a smart phone, you plan to use. Some operating systems, such as Windows, include an instant messenger. Popular IM software includes AIM (AOL Instant Messenger), Google Talk, MySpace IM, Windows Live Messenger, and Yahoo! Messenger.

Few IM programs follow IM standards. To ensure successful communications, all individuals on the contact list need to use the same or a compatible instant messenger.

? FAQ 2-8

How popular are various online communications methods?

A research study conducted by Ipsos revealed that e-mail is expected to remain the preferred method of online communications during the next several years, at least. Methods of online communications expected to become more popular in the future include (listed from most popular to least popular) video conferencing, instant messaging, and text messaging.

For more information, visit scsite.com/dc2010/ch2/faq and then click Online Communications.

Chat Rooms

A **chat** is a real-time typed conversation that takes place on a computer. A **chat room** is a location on an Internet server that permits users to chat with each other. Anyone in the chat room can participate in the conversation, which usually is specific to a particular topic.

As you type on your keyboard, a line of characters and symbols is displayed on the computer screen. Others connected to the same chat room server also see what you have typed (Figure 2-30). Some chat rooms support voice chats and video chats, in which people hear or see each other as they chat.

To start a chat session, you connect to a chat server through a program called a *chat client*. Today's browsers usually include a chat client. If yours does not, you can download a chat client from the Web. Some Web sites allow users to conduct chats without a chat client.

Once you have installed a chat client, you can create or join a conversation on the chat server to which you are connected. The chat room should indicate the discussion topic. The person who creates a chat room acts as the operator and has responsibility for monitoring the conversation and disconnecting anyone who becomes disruptive. Operator status can be shared or transferred to someone else.



Figure 2-30 As you type, the words and symbols you enter are displayed on the computer screens of other people in the same chat room. To save time many chat and IM users type abbreviations and acronyms for phrases, such as 'r u there?', which stands for 'Are you there?'.

Chat Rooms

For more information, visit scsite.com/dc2010/ch2/weblink and then click Chat Rooms.

VoIP

VoIP, (*Voice over IP*, or Internet Protocol) also called *Internet telephony*, enables users to speak to other users over the Internet. That is, VoIP uses the Internet (instead of the public switched telephone network) to connect a calling party to one or more local or long-distance called parties.

To place an Internet telephone call, you need a high-speed Internet connection (such as a DSL or cable modem); Internet telephone service; a microphone or telephone, depending on the Internet telephone service; and Internet telephone software or a VoIP router, or a telephone adapter, depending on the Internet telephone service. Calls to other parties with the same Internet telephone service

often are free, while calls that connect to the telephone network typically cost about \$15 to \$25 per month.

As you speak in a microphone connected to your computer or a telephone connected to the VoIP router or telephone adapter, the Internet telephone software and the computer's sound card or the VoIP router or telephone adapter convert your spoken words (analog signals) to digital signals and then transmit the digitized audio over the Internet to the called parties. Software and equipment at the receiving end reverse the process so that the receiving parties can hear what you have said. Figure 2-31 illustrates one possible configuration for VoIP.

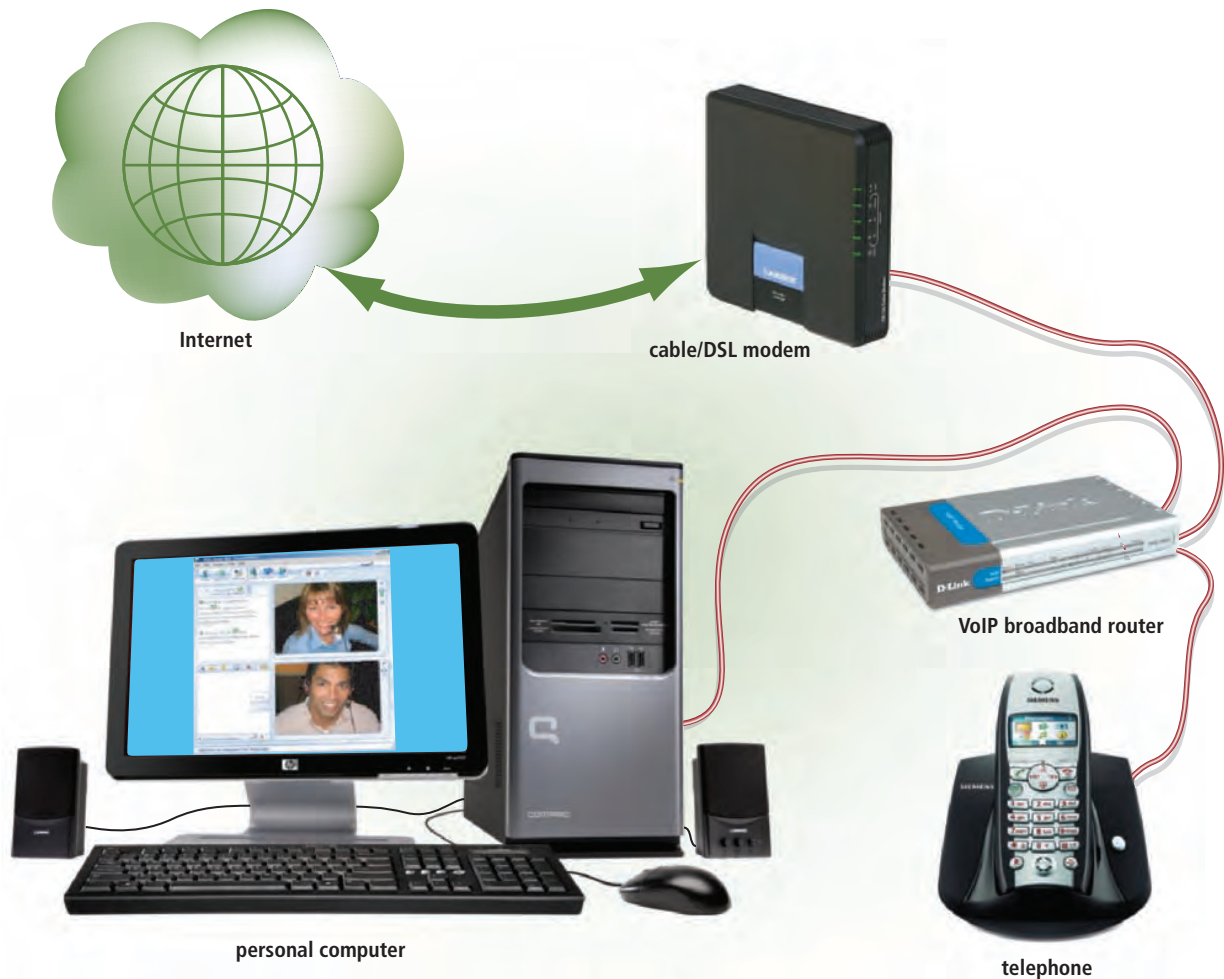


Figure 2-31 One type of equipment configuration for a user making a call via VoIP.

Newsgroups and Message Boards

A **newsgroup** is an online area in which users have written discussions about a particular subject (Figure 2-32). To participate in a discussion, a user posts a message, called an article, to the newsgroup, and other users in the newsgroup read and reply to the message. A *thread* or *threaded discussion* consists of the original article and all subsequent related replies.

A computer that stores and distributes newsgroup messages is called a news server. Some newsgroups require you to enter a user name and password to participate in the discussion. For example, a newsgroup for students taking a college course may require a user name and password to access the newsgroup. This ensures that only students in the course participate in the discussion.

To participate in a newsgroup, typically you use a program called a *newsreader*. Windows Mail includes a newsreader. Some Web sites, such as Google Groups, that sponsor newsgroups have a built-in newsreader.

A popular Web-based type of discussion group that does not require a newsreader is a **message board**. Many Web sites use message boards instead of newsgroups because they are easier to use.

FTP

FTP (File Transfer Protocol) is an Internet standard that permits file uploading and downloading with other computers on the Internet. Uploading is the opposite of downloading; that is, **uploading** is the process of transferring documents, graphics, and other objects from your computer to a server on the Internet. Web page authors, for example, often use FTP to upload their Web pages to a Web server.

Many operating systems include FTP capabilities. If yours does not, you can download FTP programs from the Web, usually for a small fee.

An *FTP server* is a computer that allows users to upload and/or download files using FTP. An FTP site is a collection of files including text, graphics, audio clips, video clips, and program files that reside on an FTP server. Many FTP sites have *anonymous FTP*, whereby anyone can transfer some, if not all, available files. Some FTP sites restrict file transfers to those who have authorized accounts (user names and passwords) on the FTP server.

Large files on FTP sites often are compressed to reduce storage space and download time. Before you can use a compressed (zipped) file, you must uncompress (unzip) it. Chapter 8 discusses utilities that zip and unzip files.



FTP

For more information, visit sccsite.com/dc2010/ch2/webblink and then click FTP.

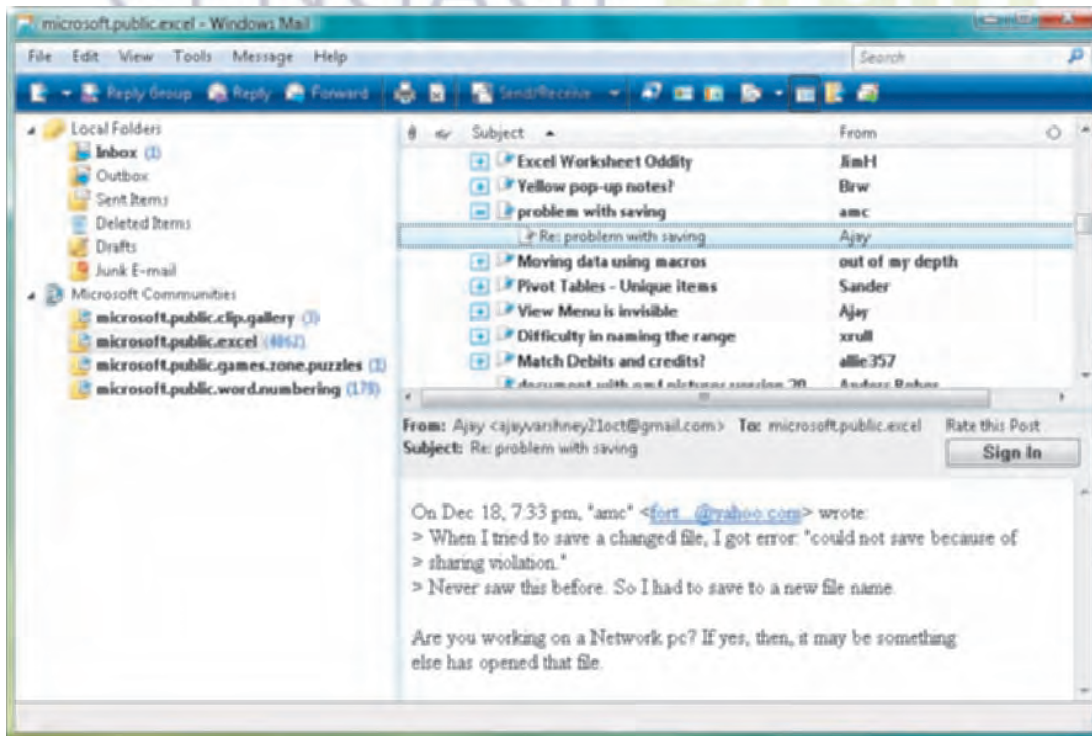


Figure 2-32 Users in a newsgroup read and reply to other users' messages.

Netiquette

Netiquette, which is short for Internet etiquette, is the code of acceptable behaviors users should follow while on the Internet; that is, it is the conduct expected of individuals while online. Netiquette includes rules for all aspects of the

Internet, including the World Wide Web, e-mail, instant messaging, chat rooms, FTP, and newsgroups and message boards. Figure 2-33 outlines some of the rules of netiquette. Read Ethics & Issues 2-5 for a related discussion.

NETIQUETTE — Golden Rule: Treat others as you would like them to treat you.

- In e-mail, chat rooms, and newsgroups:
 - Keep messages brief. Use proper grammar, spelling, and punctuation.
 - Be careful when using sarcasm and humor, as it might be misinterpreted.
 - Be polite. Avoid offensive language.
 - Read the message before you send it.
 - Use meaningful subject lines.
 - Avoid sending or posting *flames*, which are abusive or insulting messages. Do not participate in *flame wars*, which are exchanges of flames.
 - Avoid sending spam, which is the Internet's version of junk mail. *Spam* is an unsolicited e-mail message or newsgroup posting sent to many recipients or newsgroups at once.
 - Do not use all capital letters, which is the equivalent of SHOUTING!
 - Use **emoticons** to express emotion. Popular emoticons include

:)	Smile	:	Indifference	:o	Surprised
:(Frown	:\	Undecided		
- Use abbreviations and acronyms for phrases:

btw	by the way
imho	in my humble opinion
fyi	for your information
tfn	ta ta for now
fwiw	for what it's worth
tyvm	thank you very much
- Clearly identify a *spoiler*, which is a message that reveals a solution to a game or ending to a movie or program.
- Read the *FAQ* (frequently asked questions), if one exists. Many newsgroups and Web pages have an *FAQ*.
- Do not assume material is accurate or up-to-date. Be forgiving of other's mistakes.
- Never read someone's private e-mail.

Figure 2-33 Some of the rules of netiquette.

ETHICS & ISSUES 2-5

Would Banning Anonymous Comments Reduce Cyberbullying?

Recently, several high-profile cases highlighted the issue of cyberbullying. *Cyberbullying* is the harassment of computer users, often teens and pre-teens, through various forms of Internet communications. The behavior typically occurs via e-mail, instant messaging, and chat rooms, and can result in a traumatic experience for the recipient. The bullying may be in the form of threats, spreading of rumors, or humiliation. Usually, the perpetrators of cyberbullying remain anonymous. Many people believe that the anonymous

nature of the Internet directly leads to this unscrupulous behavior. Some government officials and advocacy groups have asked for laws that would ban anonymous comments in chat rooms and require that Internet access providers verify and record the true identity of all users. Others have proposed that it be illegal to sign up for an e-mail account or instant messaging account with a fake screen name. Opponents of such plans claim that anonymity and privacy are too important to give up. They state, for example, that the right

to be critical of the government in an anonymous forum is a basic right. The rights of everyone should not be infringed upon due to bad behavior of a small group of people.

Would banning anonymous comments reduce cyberbullying? Why or why not? What are the positive and negative aspects of the freedom to remain anonymous on the Internet? What other measures can be taken to reduce cyberbullying? What role can parents play in reducing cyberbullying?


Cyberbullying

For more information, visit scsite.com/dc2010/ch2/weblink and then click Cyberbullying.

✓ QUIZ YOURSELF 2-3

Instructions: Find the true statement below. Then, rewrite the remaining false statements so that they are true.

1. A chat room is a location on an Internet server that permits users to chat with each other.
2. An e-mail address is a combination of a user name and an e-mail program that identifies a user so that he or she can receive Internet e-mail.
3. Business-to-consumer e-commerce occurs when one consumer sells directly to another, such as in an online auction.
4. FTP is an Internet standard that permits file reading and writing with other computers on the Internet.
5. Spam uses the Internet (instead of the public switched telephone network) to connect a calling party to one or more called parties.
6. Netiquette is the code of unacceptable behaviors while on the Internet.
7. VoIP enables users to subscribe to other users over the Internet.

 **Quiz Yourself Online:** To further check your knowledge of pages 98 through 108, visit scsite.com/dc2010/ch2/quiz and then click Objectives 10 – 12.

Chapter Summary

This chapter presented the history and structure of the Internet. It discussed the World Wide Web at length, including topics such as browsing, navigating, searching, Web publishing, and e-commerce. It also introduced other services

available on the Internet, such as e-mail, instant messaging, chat rooms, VoIP, newsgroups and message boards, and FTP. Finally, the chapter listed rules of netiquette.

Computer Usage @ Work

Entertainment

Do you wonder how music on the radio sounds so perfectly in tune, how animated motion pictures are created, or how one controls lighting during a concert? Not only does the entertainment industry rely on computers to advertise and sell their services on the Internet, computers also assist in other aspects, including audio and video composition, lighting control, computerized animation, and computer gaming.

As mentioned in this chapter, entertainment Web sites provide music and movies you can purchase and download to your computer or mobile device; live news broadcasts, performances, and sporting events; games you can play with other online users; and much more.

As early as 1951, computers were used to record and play music. Today, computers play a much larger role in the music industry. For example, if you are listening to a song on the radio and notice that not one note is out of tune, it is possible that software was used to change individual notes without altering the rest of the song.


Many years ago, creating cartoons or animated motion pictures was an extremely time-consuming task because artists were responsible for sketching thousands of drawings by hand. Currently, artists use

computers to create these drawings in a fraction of the time, which significantly can reduce the time and cost of development.

Computers also are used in the game industry. While some game developers create games from scratch, others might use game engines that simplify the development process. For example, LucasArts created the GrimE game engine, which is designed to create adventure games.

During a concert, lighting technicians use computer programs to turn lights off and on, change color, or change location at specified intervals. In fact, once a performance begins, the technicians often merely are standing by, monitoring the computer as it performs most of the work. A significant amount of time and effort, however, is required to program the computer to perform its required tasks during a live show.

The next time you listen to a song, watch a movie, play a game, or attend a concert, think about the role computers play in contributing to your entertainment.

 For more information, visit scsite.com/dc2010/ch2/work and then click Entertainment.



High-Tech Talk

A Computer's Internet Protocol (IP) Address

Every computer on the Internet has a unique address, called an IP address, that distinguishes it from other computers on the Internet. Currently, two versions of IP addresses exist: IPv4 (Internet Protocol Version 4) and IPv6 (Internet Protocol Version 6). An IPv4 address has two parts that identify a specific computer: one part to identify the network where that computer resides and a second part to pinpoint the specific computer or host within that network. An IPv6 address has three parts: a global prefix to identify the network, a subnet to identify the location within the network, and the interface ID to identify the specific computer or host (Figure 2-34). Today, IPv4 addresses are more commonly used. For this reason, the terms IP address and IPv4 address are used interchangeably.

A typical IPv4 address — such as 72.14.207.99 — has four groups of numbers that range from 0 through 255. This form of the IP address sometimes is called a *dotted decimal number* or *dotted quad*. The four groups of numbers in the dotted quad are called octets, because they each have 8 bits when viewed in binary form for a total of 32 bits in the IP address. For instance, the binary form of 72.14.207.99 is 01001000.00001110.11001111.01100011. For more information about how the binary system works, see Appendix C.

Because each of the 8 bits can be 1 or 0, the total possible combinations per octet are 2^8 , or 256. Combining the four octets of an IP address provides a possible 2^{32} or 4,294,967,296 unique values. The actual number of available addresses is about 3 billion, because some values are reserved for special use and are, therefore, off limits.

IP addresses, which are assigned by InterNIC

(The Internet's Network Information Center), belong to one of three network classes: A, B, or C. In a Class A network, the first octet of the IPv4 address is assigned a number between 1 and 127. Large enterprises typically are assigned a Class A network, which can contain more than 16 million hosts; this allows network administrators to assign a value of their choice to the remaining three octets. Class B networks contain a number between 128 and 191 in the first octet. The second octet also is fixed, but the organization can assign values of its choice to the third and fourth octets. Class B networks have more than 65,000 hosts. Class C networks begin with a value between 192 and 223 and allow only the fourth octet to be customized. Class C networks can have only 254 hosts. Class D and E networks also exist, although they rarely are used.

To request data such as a Web page from a computer on the Internet, you need only an IP address. For instance, if you type the IPv4 address 72.14.207.99 in your Web browser's Address bar the browser will display the home page on the machine hosting the Google Web site. Of course, remembering an IP address is difficult at best — so you probably would just type the domain name, www.google.com, in the browser. The browser then contacts a domain name server (DNS) to resolve the human-readable domain name into a machine-readable IP address. Each domain name server houses a simple database that maps domain names to IP addresses. The DNS would resolve the human-readable domain name, www.google.com, into a machine-readable IP address, 72.14.207.99.

Domain names are helpful because they are easier for people to remember than IP addresses. You can learn more about a

domain using the whois form at the Network Solutions Web site (www.netsol.com) and then click the WHOIS link). If you type a domain name, such as google.com, the form displays the registration information for that domain, including its IP address.

Like all other computers, your computer must have an IP address to connect to the Internet or another computer that has an IP address. Servers generally have *static IP addresses*, because they usually are connected to the Internet and their IP addresses do not change often. When you connect to the Internet using your home computer, you most likely are using a temporary or *dynamic IP address*. Your access provider uses the *Dynamic Host Configuration Protocol (DHCP)* to assign your computer a temporary dynamic IP address from a pool of IP addresses. The dynamic IP address is unique only for that session. Once you disconnect, the DHCP server releases that IP address back in the IP address pool so that it can assign it to the next requesting computer. Even if you immediately reconnect, the DHCP server might not assign you the same IP address. Using DHCP and dynamic IP addresses means an Internet access provider needs only one IP address for each modem it supports, rather than one for each of its millions of customers.

Billions of IP addresses sounds like a lot. But, because so many computers and other devices connected to the Internet need unique IP addresses, a growing shortage of IP addresses exists. The newer IP addressing scheme is IPv6, also called IPng (IP Next Generation, which) will lengthen IP addresses from 32 bits to 128 bits and increase the number of available IP addresses to a whopping 3.4×10^{38} , or 340,000,000,000,000,000,000,000,000,000,000,000,000,000. Software is available that will install IPv6 on most current computers, although many networks and Internet service providers do not yet require its use. In fact, it could be many years before IPv6 completely replaces IPv4.

Do you want to know the IP address currently assigned to your computer? Click the Start button on the Windows taskbar and then click Control Panel. Click Network and Internet and then click View Network Status and Tasks. Finally, click View status and then click Details.

For more information, visit scsite.com/dc2010/ch2/tech and then click IP Addresses.

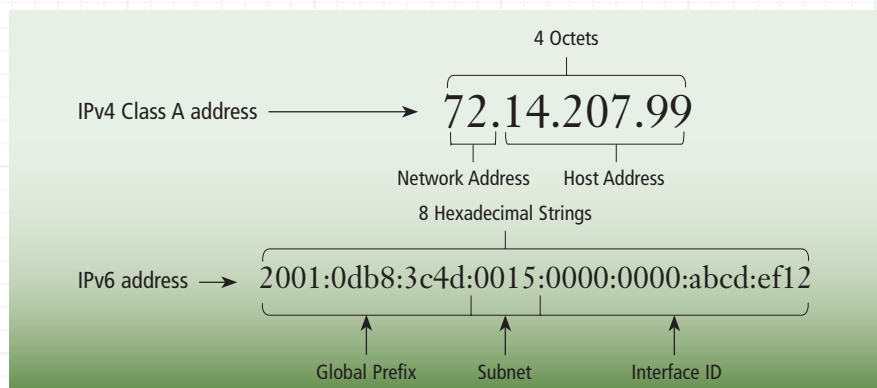


Figure 2-34 Components of IPv4 and IPv6 addresses.

Companies on the Cutting Edge

GOOGLE Popular Search Engine and Services

Google founders Sergey Brin and Larry Page have done very little advertising, but their Web site has become a household word, largely on favorable word-of-mouth reviews. They launched the Web site in 1998 in a friend's garage with the goal of providing the best possible experience for their loyal users who are looking for information presented clearly and quickly.

Google regularly scans more than one trillion Web pages in search of unique phrases and terms. Its

thousands of connected computers deliver organized search results for the hundreds of millions of queries users input daily. The company created the online encyclopedia Knol in 2008, joined its Google Earth and News features to give real-time accounts of current events in specific locations, and was named *Fortune's* Best Company to Work For. Among its other services are Google Docs and YouTube.



eBAY World's Largest Online Marketplace

Millions of products are traded daily on eBay auctions, whether it is across town or across the globe. The more than 62 million registered worldwide shoppers generate at least \$1.5 billion in annual revenue through purchases on the main Web site, eBay, along with items on Shopping.com, tickets on StubHub, classifieds on Kijiji, and other e-commerce venues.

The shoppers likely pay for their merchandise using PayPal, another eBay service. This merchant service allows buyers to transfer money from savings accounts

or use their credit card without having to expose the account number to the seller. Skype, an eBay service, allows more than 340 million registered Internet users to make video and voice calls worldwide. Other eBay companies are Rent.com, which offers listings for apartments and houses, and Shopping.com, which allows consumers to find and compare products. In 2008, eBay introduced major initiatives to protect its bidders from fraudulent offers and malicious content.



For more information, visit scsite.com/dc2010/ch2/companies.

Technology Trailblazers

TIM BERNERS-LEE Creator of the World Wide Web

Being the creator of the World Wide Web is an impressive item on any resume, and it certainly helped *Tim Berners-Lee* become the 3Com Founders Professor of Engineering at the Massachusetts Institute of Technology in 2008. As a professor in the electrical engineering and computer science departments, he researches social and technical collaboration on the Internet.

Berners-Lee's interest in sharing information via Web servers, browsers, and Web addresses developed in 1989

while working at CERN, the European Organization for Nuclear Research, in Geneva, Switzerland. He continued to improve his design of a program that tracked random associations for several years and then became the director of the World Wide Web Consortium (W3C), a forum to develop Web standards, in 1994.

Queen Elizabeth bestowed the Order of Merit – the highest civilian honor – upon the British-born Berners-Lee in 2007.



MARK ZUCKERBERG Facebook Founder and CEO

As one of the youngest self-made billionaires in history, *Mark Zuckerberg* could have his choice of the finest things in life. Instead, he lives very modestly and walks to Facebook's Palo Alto headquarters.

Both Microsoft and AOL had recruited Zuckerberg during his senior year in high school in New Hampshire. He declined their job offers and decided to attend Harvard. In college, he and some friends developed several projects, laying the foundation that led to Facebook's

eventual start. Harvard administrators claimed these Web sites violated students' privacy. He, however, had instant success launching Facebook from his dorm room, and the Web site's popularity quickly grew to other Ivy League and Boston-area colleges and then worldwide. He left his studies at Harvard University in 2004 and moved to California.

Today, Zuckerberg says he spends the majority of his time running the \$15 billion company on very little sleep.



For more information, visit scsite.com/dc2010/ch2/trailblazers.

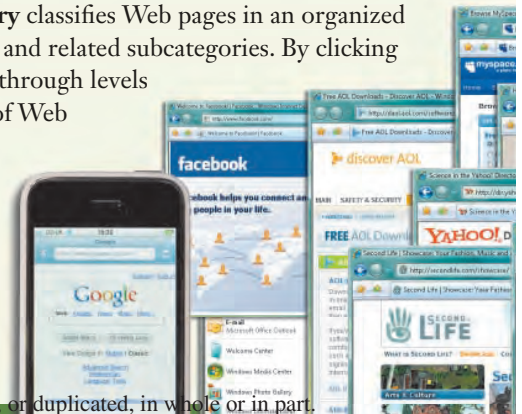
Chapter Review

The Chapter Review reinforces the main concepts presented in this chapter.

- ☞ To listen to an audio version of this Chapter Review, visit scsite.com/dc2010/ch02/review.
To obtain help from other students about any concept in this chapter, visit scsite.com/dc2010/ch02/forum and post your thoughts and questions.

- 1. How Did the Internet Evolve?** The **Internet**, also called the *Net*, is a worldwide collection of networks that links millions of businesses, government agencies, educational institutions, and individuals. The Internet has its roots in *ARPANET*, a network started in 1969 to link scientific and academic researchers across the United States. In 1986, the National Science Foundation connected its huge network, called *NSFnet*, to ARPANET, creating a configuration of complex networks and hosts that became known as the Internet. Today, more than 550 million *host* computers connect to the Internet.
- 2. What Are the Various Types of Internet Connections, and What Are the Differences between Broadband and Dial-Up Connections?** Many home and small business users opt to connect to the Internet via high-speed *broadband* Internet connections. *DSL* (digital subscriber line) provides Internet connections using regular copper telephone lines. *Cable Internet service* provides high-speed Internet access through the cable television network via a cable modem. *Fiber to the Premises (FTTP)* uses fiber-optic cable to provide high-speed Internet access. *Fixed wireless* provides high-speed Internet connections using a dish-shaped antenna to communicate via radio signals. A *cellular radio network* offers high-speed Internet connections to devices with built-in compatible technology or computers with wireless modems. A **Wi-Fi** network uses radio signals. *Satellite Internet service* provides high-speed Internet connections via satellite. Some homes and small businesses connect to the Internet with dial-up access. *Dial-up access*, which is slower-speed technology, takes place when the modem in your computer connects to the Internet via a standard telephone line that transmits data and information using an analog (continuous wave) pattern.
- 3. What Are the Types of Internet Access Providers?** An **access provider** is a business that provides access to the Internet free or for a fee. An **ISP (Internet service provider)** is a regional or national access provider. An **online service provider (OSP)** provides Internet access in addition to members-only features. A **wireless Internet service provider (WISP)** provides wireless Internet access to desktop and notebook computers and mobile devices with built-in wireless capabilities (such as Wi-Fi) or to computers using wireless modems or wireless access devices.
- 4. What Is the Purpose of an IP Address, and What Is Its Relationship to a Domain Name?** An **IP address** (Internet Protocol address) is a number that uniquely identifies each computer or device connected to the Internet. The Internet relies on IP addresses to send data to computers at specific locations. The IP address usually consists of four groups of numbers, each separated by a period. A **domain name** is the text version of an IP address.

☞ Visit scsite.com/dc2010/ch2/quiz and then click Objectives 1 – 4.
- 5. What Is the Purpose of a Web Browser, and What Are the Components of a Web Address?** A **Web browser**, or **browser**, is application software that allows users to access and view Web pages or access Web 2.0 programs. With an Internet connection established, you start a Web browser, which then retrieves and displays a starting Web page, sometimes called a **home page**. The home page usually contains links to other Web pages. A **link**, short for *hyperlink*, is a built-in connection to another related Web page or part of a Web page. A **Web page** has a unique address called a **URL (Uniform Resource Locator)**, or **Web address**. A Web address consists of a protocol, a domain name, and sometimes the path to a specific Web page or location on a Web page.
- 6. How Do You Use a Search Engine to Search for Information on the Web, and What Is the Difference between a Search Engine and a Subject Directory?** A **search engine** is a program that finds Web sites, Web pages, images, videos, news, maps, and other information related to a specific topic. To use a search engine, you enter a word or phrase, called **search text** or a *search query*, that describes the item you want to find. Each word in the search text is known as a *keyword*. The search engine displays a list of *hits*. When clicked, each hit displays an associated Web site or Web page. A **subject directory** classifies Web pages in an organized set of categories and related subcategories. By clicking links, you move through levels to display a list of Web pages about a desired topic.



Chapter Review

7. What Are the Types of Web Sites? A **portal** is a Web site that offers a variety of Internet services from a single location. A news Web site contains newsworthy material. An informational Web site contains factual information. A business/marketing Web site promotes or sells products or services. A **blog**, short for *Weblog*, is an informal Web site consisting of time-stamped articles, or posts, in a diary or journal format, usually listed in reverse chronological order. A **wiki** is a collaborative Web site that allows users to create, add to, modify, or delete the Web site content via their Web browser. An **online social network**, or **social networking Web site**, encourages members to share their interests, ideas, stories, photos, music, and videos with other registered users. An educational Web site offers avenues for teaching and learning. An entertainment Web site provides an interactive and engaging environment. An advocacy Web site describes a cause, opinion, or idea. A **Web application**, or *Web app*, is a Web site that allows users to access and interact with software through a Web browser or any computer or device connected to the Internet. A **content aggregator** is a business that gathers and organizes Web content and then distributes, or feeds, the content to subscribers for free or a fee. A personal Web site is maintained by a private individual or family.

8. How Do Web Pages Use Graphics, Animation, Audio, Video, Virtual Reality, and Plug-Ins? Some Web pages use **multimedia**, which combines text with graphics, animation, audio, video, and/or virtual reality. A **graphic** is a digital representation of nontext information such as a drawing, chart, or photo. **Animation** is the appearance of motion created by displaying a series of still images in sequence. **Audio** includes music, speech, or any other sound. **Video** consists of full-motion images played back at various speeds. **Virtual reality (VR)** is the use of computers to simulate an environment that appears as three-dimensional space. A **plug-in**, or *add-on*, is a program that extends a browser's capability to display multimedia elements.

9. What Are the Steps Required for Web Publishing?

Web publishing is the development and maintenance of Web pages. The five major steps to Web publishing are: (1) plan a Web site, (2) analyze and design a Web site, (3) create a Web site, (4) deploy a Web site, and (5) maintain a Web site.

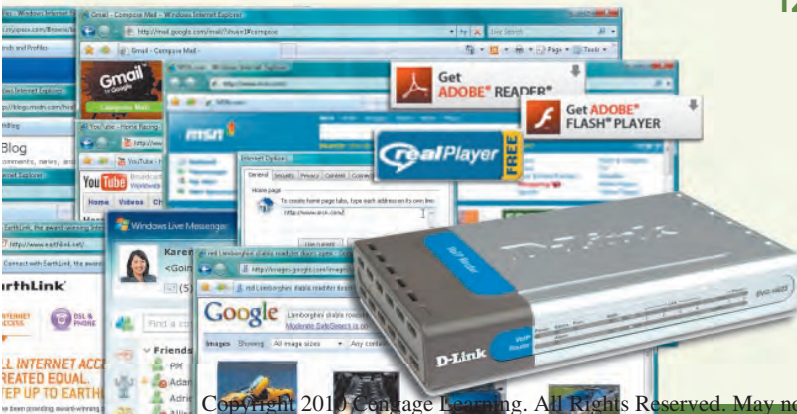
Visit scsite.com/dc2010/ch2/quiz and then click Objectives 5 – 9.

10. What Are the Types of E-Commerce? **E-commerce**, short for *electronic commerce*, is a business transaction that occurs over an electronic network such as the Internet. *Business-to-consumer (B2C) e-commerce* consists of the sale of goods and services to the general public. *Consumer-to-consumer (C2C) e-commerce* occurs when one consumer sells directly to another, such as in an **online auction**. *Business-to-business (B2B) e-commerce* takes place between businesses that exchange goods and services.

11. How Do E-Mail, Mailing Lists, Instant Messaging, Chat Rooms, VoIP, Newsgroups and Message Boards, and FTP Work? **E-mail** (short for *electronic mail*) is the transmission of messages and files via a computer network. A **mailing list** is a group of e-mail names and addresses given a single name, so that everyone on the list receives a message sent to the list. **Instant messaging (IM)** is a **real-time** Internet communications service that notifies you when one or more people are online. A **chat room** is a location on an Internet server that permits users to conduct real-time typed conversations. **VoIP** (*Voice over IP*, or Internet Protocol), also called *Internet telephony*, enables users to speak to other users over the Internet, instead of the public switched telephone network. A **newsgroup** is an online area in which users have written discussions about a particular subject. A **message board** is a Web-based type of discussion group that is easier to use than a newsgroup. **FTP** (*File Transfer Protocol*) is an Internet standard that permits file **uploading** and **downloading** with other computers on the Internet.

12. What Are the Rules of Netiquette? **Netiquette**, which is short for Internet etiquette, is the code of acceptable behaviors users should follow while on the Internet. Netiquette rules include: keep messages short, be polite, avoid sending *flames* or *spam*, use **emoticons** and acronyms, clearly identify a *spoiler*, read the *FAQ*, do not assume material is accurate or up-to-date, and never read someone's private e-mail.

Visit scsite.com/dc2010/ch2/quiz and then click Objectives 10 – 12.



Key Terms

You should know the Primary Terms and be familiar with the Secondary Terms. The list below helps focus your study.

To see an example of and a definition for each term, and to access current and additional information from the Web, visit scs.site.com/dc2010/ch2/terms.

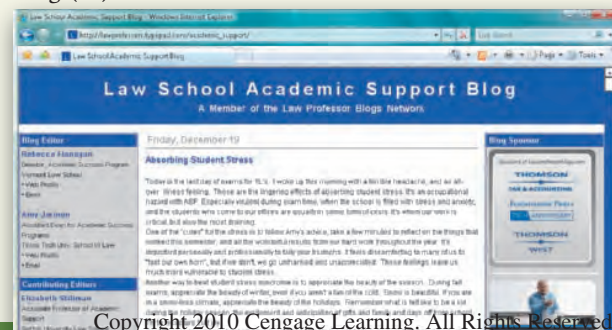
Primary Terms

(shown in bold-black characters in the chapter)

access provider (77)
 address book (102)
 animation (94)
 audio (94)
 blog (90)
 browser (81)
 chat (105)
 chat room (105)
 DNS server (80)
 domain name (79)
 downloading (82)
 e-commerce (98)
 electronic storefront (99)
 e-mail (101)
 e-mail address (102)
 e-mail program (101)
 emoticons (108)
 FTP (107)
 graphic (93)
 home page (82)
 instant messaging (IM) (104)
 Internet (74)
 IP address (79)
 ISP (Internet service provider) (78)
 link (82)
 mailing list (103)
 media sharing Web site (91)
 message board (107)
 MP3 (94)
 multimedia (92)
 netiquette (108)
 newsgroup (107)
 online auction (100)
 online community (89)
 online service provider (OSP) (78)
 online social network (90)

player (94)
 plug-in (97)
 portal (89)
 real time (104)
 RSS 2.0 (92)
 search engine (85)
 search text (85)
 shopping cart (99)
 social networking Web site (90)
 streaming (94)
 subject directory (85)
 subscribe (103)
 surfing the Web (83)
 tabbed browsing (84)
 traffic (76)
 unsubscribe (103)
 uploading (107)
 URL (82)
 user name (102)
 video (96)
 video blog (90)
 virtual reality (VR) (96)
 VoIP (106)
 Web (80)
 Web 2.0 (81)
 Web address (82)
 Web application (91)
 Web browser (81)
 Web page (80)
 Web publishing (98)
 Web server (81)
 Web site (81)
 Wi-Fi (76)
 wiki (90)
 wireless Internet service provider (78)
 World Wide Web (80)

blog (90)



Secondary Terms

(shown in italic characters in the chapter)

add-on (97)
 animated GIF (94)
 anonymous FTP (107)
 ARPA (75)
 ARPANET (75)
 Atom (92)
 blogger (90)
 blogosphere (90)
 bookmark (83)
 broadband (76)
 buddies (104)
 business-to-business (B2B) e-commerce (100)
 business-to-consumer (B2C) e-commerce (98)
 cable Internet service (76)
 ccTLD (80)
 cellular radio network (76)
 chat client (105)
 click (84)
 consumer-to-consumer (C2C) e-commerce (100)
 content aggregator (92)
 dial-up access (76)
 domain name system (DNS) (80)
 DSL (76)
 dynamic Web page (81)
 electronic commerce (98)
 electronic mail (101)
 e-retail (99)
 FAQ (108)
 favorite (83)
 Fiber to the Premises (FTTP) (76)
 file (77)
 fixed wireless (76)
 flame wars (108)
 flames (108)
 FTP server (107)
 GIF (93)
 graphical image (93)
 gTLD (80)
 bits (86)
 host (75)
 hot spots (76)
 http (82)
 hyperlink (82)
 hypermedia (83)
 hypertext (83)
 Hypertext Transfer Protocol (82)
 ICANN (80)

instant messenger (105)
 Internet backbone (78)
 Internet telephony (106)
 IPv6 (80)
 JPEG (93)
 keyword (85)
 m-commerce (98)
 microbrowser (82)
 MP4 (96)
 MPEG (96)
 MPEG-4 (96)
 national ISP (78)
 Net (74)
 newsreader (107)
 NSFnet (75)
 PNG (93)
 podcast (94)
 POP3 (103)
 Post Office Protocol (103)
 pull (83)
 push (83)
 Really Simple Syndication (92)
 regional ISP (78)
 registrar (80)
 satellite Internet service (76)
 search query (85)
 SMTP (103)
 spam (108)
 spider (88)
 spoiler (108)
 static Web page (81)
 streaming audio (94)
 streaming video (96)
 thread (107)
 threaded discussion (107)
 thumbnail (94)
 top-level domain (TLD) (80)
 Uniform Resource Locator (82)
 vlog (90)
 vlogger (90)
 vlogosphere (90)
 Voice over IP (106)
 VR world (96)
 W3C (76)
 Web app (91)
 Weblog (90)
 WebSlices (92)
 wireless portal (89)
 WISP (78)
 WWW (80)

Checkpoint

The Checkpoint exercises test your knowledge of the chapter concepts. The page number containing the answer appears in parentheses after each exercise. The Beyond the Book exercises will help broaden your understanding of the concepts presented in this chapter.

 To complete the Checkpoint exercises interactively, visit scsite.com/dc2010/ch2/check.

True/False

Mark T for True and F for False.

- _____ 1. A single government agency owns and controls the Internet. (76)
- _____ 2. DSL provides high-speed Internet connections through the cable television network. (76)
- _____ 3. In general, the first portion of each IP address identifies the network and the last portion identifies the specific computer. (79)
- _____ 4. A Web 2.0 Web site can never allow users to modify Web site content. (81)
- _____ 5. A Web page has a unique address, called a URL or Web address. (82)
- _____ 6. Hypertext combines text-based links with graphic, audio, and video links. (83)
- _____ 7. The major disadvantage with a subject directory is that users have difficulty deciding which categories to choose as they work through the menus of links presented. (88)
- _____ 8. Most social networking Web sites include chat rooms, newsgroups, and other communications services. (90)
- _____ 9. Streaming disallows users from accessing and using a file while it is transmitting. (94)
- _____ 10. A plug-in is a program that extends the capability of an add-on. (97)
- _____ 11. Most e-commerce actually takes place between consumers, which is called consumer-to-consumer e-commerce. (100)
- _____ 12. Flames are abusive or insulting messages. (108)

Multiple Choice

Select the best answer.

1. _____ offers high-speed Internet connections to devices with built-in compatible technology or computers with wireless modems. (76)
 - a. Cable Internet service
 - b. A digital subscriber line
 - c. A cellular radio network
 - d. Fiber to the Premises (FTTP)
2. As with an IP address, the components of a domain name are separated by _____. (79)
 - a. commas
 - b. periods
 - c. colons
 - d. semicolons
3. _____ combines text-based links with graphic, audio, and video links. (83)
 - a. Hypertext
 - b. Multi-linking
 - c. Hypermedia
 - d. Tabbed browsing
4. All of the following techniques can be used to improve Web searches except _____. (88)
 - a. put the most important terms last
 - b. read a search engine's Help information
 - c. list all possible spellings
 - d. if a search is unsuccessful, try another search engine
5. A _____ is a Web site that offers a variety of Internet services from a single, convenient location. (89)
 - a. blog
 - b. wiki
 - c. portal
 - d. podcast
6. A(n) _____ is a small version of a larger graphic. (94)
 - a. thumbnail
 - b. MP3
 - c. wiki
 - d. portal
7. _____ is the process of transferring documents, graphics, and other objects from your computer to a server on the Internet. (107)
 - a. Downloading
 - b. Social networking
 - c. Uploading
 - d. Blogging
8. _____ is the code of acceptable behaviors users should follow while on the Internet. (108)
 - a. Post Office Protocol
 - b. The Golden Rule
 - c. Netiquette
 - d. An FAQ

Checkpoint

Matching Match the terms with their definitions.

- | | |
|-----------------------------|---|
| _____ 1. gTLD (80) | a. built-in connection to another related Web page or part of a Web page |
| _____ 2. ccTLD (80) | b. a two-letter country code for international Web sites outside the United States |
| _____ 3. DNS Server (80) | c. enables users to speak to other users over the Internet |
| _____ 4. IPv6 (80) | d. format that reduces an audio file to about one-tenth its original size |
| _____ 5. link (82) | e. new IP addressing scheme that may increase the number of available IP addresses |
| _____ 6. search engine (85) | f. translates the domain name to its associated IP address |
| _____ 7. MP3 (94) | g. software used to listen to an audio file on a computer |
| _____ 8. player (94) | h. identifies the type of organization associated with a domain |
| _____ 9. video (96) | i. program that finds Web sites, Web pages, images, videos, news, maps, and other information related to a specific topic |
| _____ 10. VoIP (106) | j. full-motion images that are played back at various speeds |

Short Answer Write a brief answer to each of the following questions.

- Describe three different types of broadband Internet services. _____ What is the difference between a regional ISP and a national ISP? _____
- How is a static Web page different from a dynamic Web page? _____ What is a Web site? _____
- What is a Web application? _____ What are some features and examples of Web applications? _____
- What are three types of specifications used by content aggregators to distribute content? _____ How might you evaluate the accuracy of a Web site? _____
- What is Web publishing? _____ What are the five major steps in Web publishing? _____

Beyond the Book Follow the book element instructions below; then present your findings (brief report, presentation, discussion, or other means).

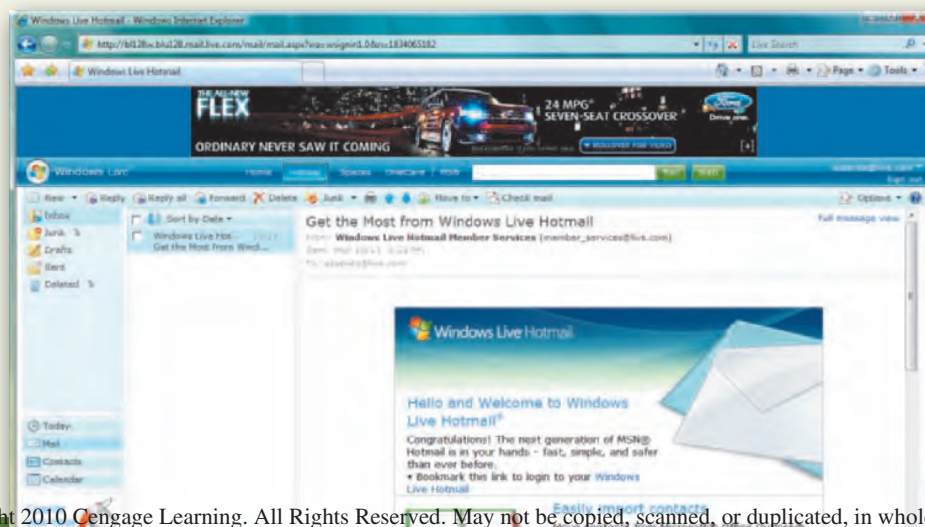
- Ethics & Issues** — Select an Ethics & Issues in this chapter (84, 87, 90, 100, 108), find a recent newspaper/magazine article that supports one point of view presented, and then evaluate the article.
- Computer Usage @ Work** — Use the Web or a recent newspaper/magazine to locate three additional unique usages of computer technology in the entertainment industry (109). What makes the use of these technologies unique to the entertainment industry?
- Companies on the Cutting Edge and Technology Trailblazers** — Use the Web or a recent business newspaper/magazine to locate an interesting fact about Google, eBay, Tim Berners-Lee, or Mark Zuckerberg that was not presented in the chapter (111).
- High-Tech Talk** — Locate a recent newspaper/magazine article that discusses topics related to A Computer's Internet Protocol (IP) Address (110). Would you recommend the article you found? Why or why not?
- FAQs and Web Links** — Use the Web or a recent newspaper/magazine to locate three additional facts about an FAQ (77, 78, 82, 88, 96, 99, 103, 105) and Web Link (76, 78, 82, 84, 96, 98, 100, 103, 105, 107, 108) that were not presented in the chapter.
- Looking Ahead** — Use the Web or a recent newspaper/magazine to discover additional uses of the technology presented in Web 3.0 to Reinvent the Virtual World (81).
- Innovative Computing** — Use the Web or a recent newspaper/magazine to locate two additional interesting facts about View the Wonders of Space through the WorldWide Telescope (93) and Shopping Becomes a Virtual Experience (100).
- Making Use of the Web** — Visit three of the Research Web Sites (126) and outline the information on each Web site and the possible uses for each Web site.

Learn It Online

The Learn It Online exercises are interactive Web exercises designed to reinforce and expand your understanding of the chapter concepts. The descriptions below briefly summarize each exercise.

To access the Learn It Online exercises and for specific exercise instructions, visit scsite.com/dc2010/ch2/learn.

- 1 At the Movies — Tell Your Stories via Vlog**
Watch a movie to learn about how to post your thoughts to a vlog and then answer questions about the movie.
- 2 Video and Audio: You Review It — VoIP**
Search for, choose, and write a review of a video, podcast, or vodcast that discusses Voice over IP.
- 3 Student Edition Labs — Connecting to the Internet, Getting the Most out of the Internet, and E-mail**
Enhance your understanding and knowledge about the Internet and e-mail by completing the Connecting to the Internet, Getting the Most out of the Internet, and E-mail Labs.
- 4 Practice Test**
Take a multiple choice test that checks your knowledge of the chapter concepts and review the resulting study guide.
- 5 Who Wants To Be a Computer Genius??**
Play the Shelly Cashman Series version of this popular game by answering questions to find out if you are a computer genius. Panic buttons are available to provide assistance during game play.
- 6 Wheel of Terms**
Identify important key terms presented in this chapter by playing the Shelly Cashman Series version of this popular game.
- 7 DC Track and Field**
Practice or compete against other students in three track and field events by answering multiple choice, true/false, and short answer questions related to concepts discussed in this chapter.
- 8 You're Hired!**
Embark on the path to a career in computers by answering questions and solving puzzles related to concepts discussed in this chapter.
- 9 Crossword Puzzle Challenge**
Complete an interactive crossword puzzle to reinforce concepts presented in this chapter.
- 10 Windows Exercises**
Step through the Windows Vista exercises to learn about Internet properties, dial-up networking connections, and using Help to understand the Internet.
- 11 Exploring Computer Careers**
Read about a career as a Web developer, search for related employment advertisements, and then answer related questions.
- 12 Web Apps — Windows Live Hotmail**
Learn how to sign up for a free e-mail account, add a contact to your address book, and send an e-mail message.



Problem Solving @ Home

The Problem Solving @ Home exercises extend your knowledge of the chapter concepts by seeking solutions to practical computer problems that you may encounter at home or school. The Collaboration exercise should be completed with a team.

☞ To discuss the Problem Solving @ Home exercises with other students, visit scs.site.com/dc2010/ch2/forum and post your thoughts or questions.

In the real world, practical problems often can be solved in multiple ways. Provide one solution to each of the following problems using available resources, such as articles on the Web or in print, blogs, podcasts, videos, television, user guides, other individuals, and electronics and computer stores. You may need to use multiple resources to obtain an answer. Present your solutions in the form requested by your instructor (brief report, presentation, discussion, or other means).

- 1. Page Not Displayed** When you type the Web address of your favorite news Web site in the Address bar of the Web browser, you immediately see an error message stating that the Web page cannot be displayed. You did not have problems accessing the Internet yesterday. Before calling technical support, how will you attempt to troubleshoot the problem?



- 2. Slow Internet Connection** You just installed VoIP telephone service in your house. Each time you are on the telephone, however, you notice that your Internet connection slows down significantly. What could be causing this?

- 3. No Wireless Connection** When you return home to visit your parents and turn on your new notebook computer, it does not connect automatically to their wireless network. What is your next step?
- 4. Eliminating Pop-Ups** Each time you attempt to visit a Web site, many pop-up windows open on your computer. In fact, you sometimes close up to 10 windows that automatically appear. You used to browse the Web without this nuisance, but it is worsening by the day. What steps will you take to eliminate these pop-up windows?
- 5. Incorrect Home Page** After starting your Web browser, you notice that your home page has

changed. You display the Internet Options dialog box to change your home page back to its previous setting, close your browser, and then start the browser again. Surprisingly, your Web browser still navigates to a Web site other than the one you chose. What is your next step?


- 6. Images Not Being Displayed** When you navigate to a Web page, you notice that no images are displaying. You successfully have viewed Web pages with images in the past and are not sure why images suddenly are not displayed. What steps will you take to view the images?
- 7. Incorrect Search Engine** A class project requires that you conduct research on the Web. After typing the Web address for Google's home page and pressing the ENTER key, your Web browser redirects you to a different search engine. What could be wrong?
- 8. Unsolicited Friend Requests** You recently signed up for an account on the MySpace social networking Web site. When you log in periodically, you find that people you do not know are requesting to be your friend. How should you respond?
- 9. New Browser Windows** While browsing the Web, each time you click a link, the link's destination opens in a new browser window. You prefer to have each link open in a new tab so that your taskbar does not become cluttered. How will you resolve this?

Collaboration

- 10. Finding Trustworthy Sources** Your history professor asked all of the students in her class to write a five-page paper about the Boston Tea Party. Instead of using books, you decide to find all of the relevant information you need on the Internet. After reading this chapter, you realize that not all Internet sources may be trustworthy, and that you must search the Internet for accurate Web sites. Form a team of three people and use various search engines to search for Web sites that discuss the Boston Tea Party. One team member should use the Google search engine, one team member should use the Yahoo! search engine, and one team member should use the Windows Live search engine. Which search engine displayed the most results overall? Which search engine returned the most relevant, trustworthy results? What search text did everyone use to narrow the search results to the most relevant Web sites? Did any of the search engines recommend alternate search text that might help to find relevant information?

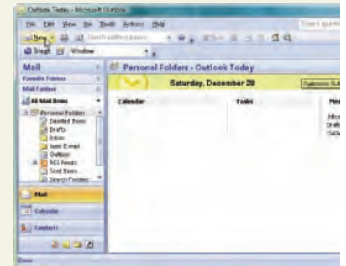
Problem Solving @ Work

The Problem Solving @ Work exercises extend your knowledge of the chapter concepts by seeking solutions to practical computer problems that you may encounter at work. The Collaboration exercise should be completed with a team.

 To discuss the Problem Solving @ Work exercises with other students, visit scsite.com/dc2010/ch2/forum and post your thoughts or questions.

In the real world, practical problems often can be solved in multiple ways. Provide one solution to each of the following problems using available resources, such as articles on the Web or in print, blogs, podcasts, videos, television, user guides, other individuals, and electronics and computer stores. You may need to use multiple resources to obtain an answer. Present your solutions in the form requested by your instructor (brief report, presentation, discussion, or other means).

- 1. Plug-In Required** Upon viewing a Web page, a message appears stating that you do not have the proper plug-in required to view the page's multimedia content. What is your next step?
- 2. Blocked Instant Messenger** Today, you started a new job. After setting up your new computer, you download your favorite IM (instant messaging) program successfully and without issue. After attempting to enter your user name and password, however, the program does not connect to the IM service. You are certain that your user name and password are correct, so what else might be causing this?
- 3. Access Denied** During your lunch hour, you decide to search the Web for possible vacation destinations. After visiting several airline and hotel Web sites, you attempt to visit the Web site for a Caribbean resort. Much to your surprise, the Web browser informs you that the Web site has been blocked. Why might this happen?
- 4. Sporadic E-Mail Message Delivery** The e-mail program on your computer has been delivering new messages only every hour, on the hour. Historically, new e-mail messages would arrive and be displayed immediately upon being sent by the sender. Furthermore, your coworkers claim that they sometimes do not receive your e-mail messages until hours after they are sent. What might be the problem?
- 5. E-Mail Message Formatting** A friend sent an e-mail message containing a photo to your e-mail account at work. Upon receiving the e-mail message, the photo does not display. You also notice that e-mail messages never display any formatting, such as different fonts, font sizes, and font colors. What might be causing this?
- 6. Automatic Response** When you return from vacation, a colleague informs you that when she sent e-mail messages to your e-mail address, she would not always receive your automatic response stating that you were out of the office. Why might your e-mail program not respond automatically to every e-mail message received?
- 7. Suspicious Web Site Visits** The director of your company's Information Technology department has sent you an e-mail message stating that you have been spending an excessive amount of time viewing Web sites not related to your job. You periodically visit Web sites not related to work, but only on breaks, which the company allows. How does he know your Web browsing habits? How will you respond to this claim?
- 8. Wrong Web Site** When attempting to visit your friend's Web site from your office computer, another Web site displays in its place. What might be wrong? What steps can you take so that you can visit his Web site?




Collaboration

- 9. Computers in Entertainment** The drama department at a local high school is considering developing a movie and has asked for your help. The drama teacher would like to incorporate technology wherever possible, in hopes that it would decrease the costs of the movie's production. Form a team of three people to help determine what technology can be used to assist in the movie's production. One team member should research the type of technology that can be used during the filming process. Another team member should research the types of hardware and software available for editing footage, and the third team member should research the hardware and software requirements for creating the media to distribute the finished product.

Learn How To

The Learn How To activities step you through fundamental technology skills when using a computer. The Learn How To exercises enable you to become more proficient with these skills.

 Premium Activity: To see a visual demonstration of the associated Learn How To activity, visit scsite.com/dc2010/ch2/howto.

Learn How To 1: Attach a File to an E-Mail Message

When you send an e-mail message, it sometimes is necessary to attach a file to supplement the body of the e-mail message. Most e-mail programs allow you to attach a file to your e-mail messages easily, but many do not allow you to attach files exceeding a specified size limit (which varies by your e-mail service). You can attach a file to an e-mail message by completing the following steps:

1. Start your e-mail program and compose a new e-mail message to your recipient. Make sure that you have a descriptive subject and that you explain in the e-mail message that you are attaching a file.
2. To attach a file, locate and click the Attach File button or link. If you are unable to locate this button, you may find an icon with a picture of a paperclip or a menu command to attach a file. Some e-mail programs also may have a text box in the new message window with an adjacent Browse button. In this case, click the Browse button.
3. Locate and click the file you wish to attach and then click the Insert (or Open or Select) button (Figure 2-35).

4. Verify that your e-mail message contains the attachment and then click the Send button.

When the recipient opens the e-mail message, he or she also will be able to open the attachment.

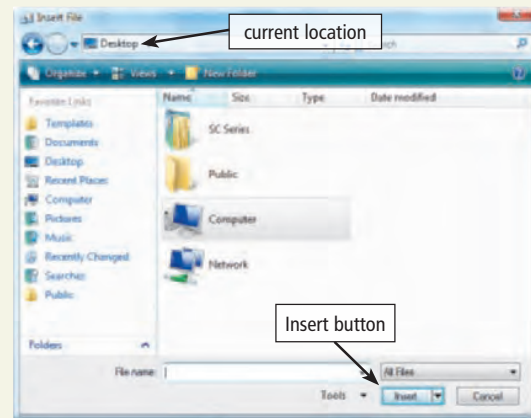


Figure 2-35

Exercises

1. Start your e-mail program. Compose a new e-mail message to your instructor, and attach a file containing your current course schedule. Verify that your message has been received and then close your e-mail program.
2. Locate three free e-mail Web applications. How many file attachments do these e-mail programs allow you to attach to one e-mail message? Is a maximum file size specified for an e-mail attachment? Can you pay to upgrade your e-mail account so that these restrictions are lifted? Submit these answers to your instructor.

Learn How To 2: Search the Web for Driving Directions, Addresses, and Telephone Numbers

In addition to searching the Web for information using search engines such as Google and Yahoo!, some Web sites are designed specifically to search for other information such as driving directions, addresses, and telephone numbers.

Search for Driving Directions

1. Start your Web browser, type `www.mapquest.com` in the Address bar, and then press the ENTER key to display the MapQuest home page. If necessary, scroll down to display the Directions box.
2. Type the starting address (or intersection), city, state, and ZIP code (if you know it) in the appropriate text boxes in the Starting Location area of the Directions box.
3. Type the ending address (or intersection), city, state, and ZIP code (if you know it) in the appropriate text boxes in the Ending Location area of the Directions box.

4. Click the Get Directions button to display the driving directions.

Search for the Address and Telephone Number of a Business

1. If necessary, start your Web browser. Type `www.infospace.com` in the Address bar, and then press the ENTER key to display the InfoSpace home page.
2. Click the Find a Business by Name option button.
3. Type the name of the business in the Name of Business text box, type the City where the business is located (if you know it), and then select the State from the State* drop-down list.
4. Click the SEARCH button to display the search results.
5. Click the phone link on the Web page with the search result(s) to display the telephone number.
6. Close your Web browser.

Learn How To

Exercises

1. If necessary, start Internet Explorer by clicking the Start button, and then click Internet Explorer on the Start menu. Type `www.mapquest.com` in the Address bar, and then press the ENTER key. Search for driving directions between your address and the address of a friend or family member. How many miles are between the two addresses? How long would it take you to drive from your address to the other address? Write a paragraph explaining whether you would or would not use MapQuest to retrieve driving directions. Submit this paragraph to your instructor.
2. Use the Web to search for another Web site that provides driving directions. Use the Web site to search for directions between the same two locations from Exercise 1. Are the driving directions the same as the ones that MapQuest provided? If not, why might they be different? Which Web site did you use? Do you prefer this Web site to MapQuest? Why or why not? Write a paragraph with your answers and submit it to your instructor.
3. Think about a company for which you would like to work. In your Web browser, display the InfoSpace Web page (`www.infospace.com`) and then search for the address and telephone number of this company. If InfoSpace does not display the desired information, what other Web sites might you be able to use to search for the address and telephone number for a company?

Learn How To 3: Publish Your Resume on the Web

Publishing your resume on the Web is a great way to distribute your resume to multiple people. To publish your resume on the Web, complete the following steps:

1. Using Microsoft Word, create a new resume or open an existing resume that you wish to publish on the Web. When you have finished creating the resume, click the Office Button and then click Save As on the menu.
2. Click the Desktop button in the Save As dialog box, type `resume` in the File name text box, click Web page in the 'Save as type' list, and then click the Save button.
3. Quit Microsoft Word.
4. Start your Web browser and then type `http://www.50webs.com` in the Address bar. When the Web page is displayed, click one of the SIGN UP buttons.
5. Select the free Web hosting plan, click the 'Use a subdomain' option button, and then click the NEXT button.
6. Type the required information to sign up for the free plan. Make note of the subdomain you choose for your Web site. For example, if you type `resume` as your subdomain, your Web site address will be `http://resume.50webs.com`.
7. Click the check box to agree to the Terms and Conditions, and then click the Signup button. 50Webs will send your user name and password to the e-mail address you specified while signing up.
8. Click the Start button and then click Computer on the Start menu. In the Address bar, type `ftp://subdomain.50webs.com` (where subdomain should be replaced with the name of the subdomain you chose in

Step 6). Type your user name and password in the Log On As dialog box, and then click the Log On button.

9. Double-click your Web site folder, and then drag your resume file from the desktop to the window containing your Web site files. If a `resume_files` folder exists on your desktop, you also should drag that folder to the window containing your Web site files.
10. In your Web browser, type `http://subdomain.50webs.com/resume.htm` (subdomain should be replaced with your chosen subdomain from Step 6) (Figure 2-36).




Figure 2-36

Exercise

1. Use Microsoft Word to create a Web page that you would like others to see when they visit your new Web site. Include your name, e-mail address, and any other information that you would not object to making public. Save the file as a Web page using the file name, `index.htm`. Upload the file to the 50Webs.com Web server and then send the Web page address to your instructor.

Web Research

The Web Research exercises broaden your understanding of the chapter concepts by presenting questions that require you to search the Web for answers.

 To discuss the Web Research exercises with other students, visit scsite.com/dc2010/ch2/ forum and post your thoughts or questions.

1 Search Sleuth

Use one of the search engines listed in Figure 2-10 in Chapter 2 on page 85 or your own favorite search engine to find the answers to the following questions. Copy and paste the Web address from the Web page where you found the answer. Some questions may have more than one answer. If required, submit your answers to your instructor. (1) What were the title, date of publication, and purpose of the Internet Engineering Task Force's RFC 1 document? (2) What is the mission of the World Wide Web Consortium (W3C)? (3) What topic does the film *Adina's Deck* address? (4) What are the current figures on the Reporters Without Borders' Press Freedom Barometer? (5) What was eBay's original name, and what was the first item offered for auction? (6) Why did ConnectU sue Facebook in 2008 and 2004? (7) What is the cost to use Google's 411 service?

2 Green Computing

EcoSearch is a search engine dedicated to supporting the Earth's natural resources. Visit this Web site (ecosearch.org), use your word processing program to answer the following questions, and then, if required, submit your answers to your instructor. (1) From what company do the search results come? (2) Click the Learn More link on the page. What charities does EcoSearch support? (3) How can you get involved to help EcoSearch? (4) Click the EcoSearch Home link at the bottom of the page to return to the EcoSearch home page. In the text box, type `ecosearch donate profits` and then click the Search button. Click several of the resulting links and review the



information. Write a 50-word summary of the information, including what percent of EcoSearch pro-

ceeds is donated to charities and how much money EcoSearch expects to donate each year.

3 Social Networking

MySpace is considered one of the pioneering Web sites that helped popularize the online social networking phenomenon. Calling itself "a place for friends," it allows the millions of registered members to create

profiles for free and then invite friends to join their networks. The growth of this Web site has helped it emerge as one of the more popular search engines. Visit the MySpace site (myspace.com), type the name of your favorite musical artist or group in the search text box, and then click the Search button. How many search results were found? Visit some of these profiles. Which music videos, playlists, and ringtones are featured? How do you create and edit your own playlists and add a song to your profile? Then click the Safety Tips link at the bottom of the page and read the guidelines for posting information and reporting inappropriate content. Summarize the music profiles you viewed and the guidelines. If required, submit your summary to your instructor.

4 Blogs

Many of the best blogs in the blogosphere have received awards for their content and design. For example, loyal blogging fans nominate and vote for their favorite blogs by visiting the Blogger's Choice Awards Web site (bloggerschoiceawards.com). Visit this Web site, click the Best Blog Design, Best Blog About Blogging, and Best Education Blog links, and view some of the blogs receiving the largest number of votes. Then visit other award sites, including the Interactive Media Awards (interactivemediaawards.com), Bloggies (bloggies.com), and the Best of Blogs (thebestofblogs.com). Which blogs, if any, received multiple awards on the different Web sites? Who casts the votes? What criteria are used to judge these blogs?

5 Ethics in Action

Some Internet access providers have admitted they monitored their users' Web surfing activities without giving notice of this eavesdropping practice. Embarq and Charter Communications secretly tested advertising technology to gather data about specific Web searches and then display advertisements relating to these searches. Privacy experts claim these Internet access providers' practices violate federal privacy laws, including the wiretapping statute. Locate news articles discussing the Internet access providers' Web eavesdropping. Then locate Web sites that oppose this practice. Summarize the views of the advertisers and the privacy proponents. If required, submit your summary to your instructor.

Critical Thinking

The Critical Thinking exercises challenge your assessment and decision-making skills by presenting real-world situations associated with the chapter concepts. The Collaboration exercise should be completed with a team.

To discuss the Critical Thinking exercises with other students, visit scsite.com/dc2010/ch2/ forum and post your thoughts or questions.

To evaluate the situations below, use personal experiences and available resources such as articles on the Web or in print, blogs, podcasts, videos, television, user guides, other individuals, and electronics and computer stores. You may need to use multiple resources to form conclusions and make recommendations.

1. Class Discussion — Browser Comparison

Although Internet Explorer may be the most widely used Web browser, it is not the only Web browser in use. Evaluate and compare reviews of other Web browsers such as Google Chrome, Safari, or Firefox with Internet Explorer. Discuss the major differences between the browsers you researched and Internet Explorer. Examples of differences might include the number and types of features, how they display Web pages, and the speed at which they perform. Include in your discussion which browser you would recommend and the reasons for your recommendation.

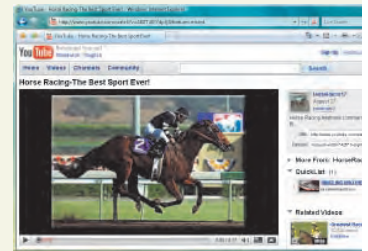
2. Class Presentation — Brick-and-Click Businesses

Many retailers, such as Best Buy, Barnes and Noble, and Toys R Us, are brick-and-click businesses. That is, they allow customers to conduct complete transactions at a physical location as well as online at a Web site. Choose a local brick-and-click business in which you have shopped at the physical location and then visit the Web site of the same business. Compare the type, availability, and cost (include tax and shipping) of products or services available. Analyze the advantages and disadvantages of dealing with the physical location versus the Web site of a brick-and-click business and then present your recommendation of whether you would rather shop at the physical location or at the Web site. Note the factors that influenced your decision. Next, locate a company that only conducts business online, but sells the same

products as the brick-and-click business. How do the prices compare? Would you prefer to shop using this Web site instead?

3. Research — Acceptable Use Policy

Most schools and businesses provide free Internet access to students and employees while they are at school or at work. While the school's or business's intention is for the Internet to be used for academic or work-related purposes, employees and students often find it easy to become involved with other activities on the Internet not related to their job or academics, which can degrade Internet access for others, or lead to poor job performance. For these reasons, many schools and businesses create an Acceptable Use Policy that outlines how students and employees should use the Internet. It also may outline consequences for unauthorized Internet use. Locate two Acceptable Use Policies that are published online. Compare these two policies, find two additional Acceptable Use Policies online, and then create a policy you believe would be fair to employees of a small business. Be sure to include guidelines for Internet use during breaks, use of IM programs, and the use of Web sites that are not related to their job.



Collaboration

- 4. Web Site Evaluation** You are vice president of operations for a major luxury hotel chain. You and three teammates want to start a new chain of discount hotels called Sleepy Hollow. You have made a plan that includes opening hotels initially in Seattle, Kansas City, Nashville, and Dallas. You plan to offer comfortable rooms, wireless Internet access, a business center, and a hot breakfast buffet. Besides offering reservations over the telephone, you want to develop a Web site that will allow customers to negotiate a nightly rate as their check-in time approaches. With your teammates, evaluate existing major hotel Web sites by listing the advantages and disadvantages of each. Assign each member the task of evaluating two of the following hotel chains: Marriot, Hilton, Holiday Inn, Ramada, Super 8, Motel 6, Days Inn, and Radisson. Team members should print the home page of the hotel chain to which they are assigned and evaluate their respective hotels' Web sites, paying particular attention to the following areas: (1) design of the Web site, (2) ease of use, (3) reservations, (4) awards programs, (5) special offers, (6) online Help, (7) information about the hotel, and (8) contact information for the hotel. Prepare a report and/or presentation summarizing your evaluations and ranking the sites in terms of their effectiveness. Be sure to include brief explanations supporting your rankings.

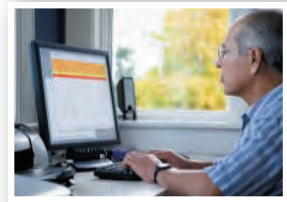
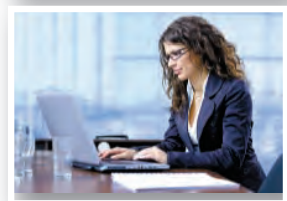
Making Use of the Web



INFORMATION LITERACY IS DEFINED as having the practical skills needed to evaluate information critically from print and electronic resources and to use this information accurately in daily life. Locating Web sites may be profitable for your educational and professional careers, as the resources may help you research class assignments and make your life more fulfilling and manageable.

Because the Web does not have an organizational structure to assist you in locating reliable material, you may need additional resources to guide you in searching. To help you find useful Web sites, this Special Feature describes specific information about a variety of Web pages, and it includes tables of Web addresses so that you can get started. The material is organized in several areas of interest.

Web Exercises at the end of each area will reinforce the material and help you discover Web sites that may add a treasure trove of knowledge to your life.



Areas of Interest	
Fun and Entertainment	Shopping and Auctions
Research	Weather, Sports, and News
Blogs	Learning
Online Social Networks and Media Sharing	Science
Travel	Health
Environment	Careers
Finance	Literature and Arts
Government	



Fun and Entertainment

That's Entertainment

Rock 'n' Roll on the Web

Consumers place great significance on buying entertainment products for fun and recreation. Nearly 10 percent of the United States's economy is spent on attending concerts and buying optical discs, reading materials, sporting goods, and toys.

Many Web sites supplement our cravings for fun and entertainment. For example, you can see and hear the musicians inducted into the Rock and Roll Hall of Fame and Museum. If you need an update on your favorite reality-based television program or a preview of an upcoming movie, E! Online and Entertainment Weekly provide the latest features about actors and actresses. The Internet Movie Database contains reviews of more than one million titles (Figure 1).

Watch the surfers riding the waves and romp with pandas at the San Diego Zoo. Web cams can display live video on Web pages, taking armchair travelers across the world for views of natural attractions, monuments, and cities. Many Web sites featuring Web cams are listed in the table in Figure 2.

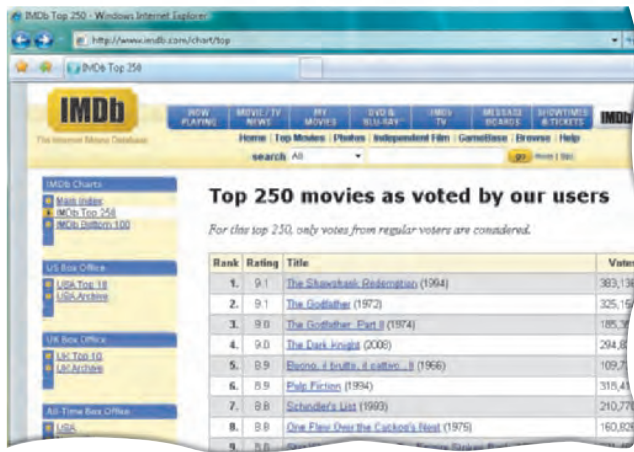


Figure 1 Visitors exploring the Internet Movie Database will find the latest news about their favorite television programs and movies.

Fun and Entertainment Web Sites

Entertainment	Web Address
AMG All Music Guide	allmusic.com
E! Online	eonline.com
Entertainment Weekly's EW	ew.com/ew
Games.com	games.com
Internet Movie Database	imdb.com
Old Time Radio (OTR) — Radio Days: A Soundbite History	otr.com
Rock and Roll Hall of Fame and Museum	rockhall.com
World Radio Network	wrn.org
Yahoo! Entertainment	entertainment.tv.yahoo.com
Web Cams	Web Address
Camvista Global	camvista.com
Discovery Kids — Live Cams	kids.discovery.com/cams/cams.html
EarthCam — Webcam Network	earthcam.com
Gatorland	gatorland.com/gatorcam.php
Geocaching — The Official Global GPS Cache Hunt Site	geocaching.com
Mauna Loa Live Camera	esrl.noaa.gov/gmd/obop/mlo/livcamera.html
Panda Cam San Diego Zoo	sandiegozoo.org/zoo/ex_panda_station.html
WebCam Central	camcentral.com
Wild Birds Unlimited Bird FeederCam	wbu.com/feedercam_home.html

For more information about fun and entertainment Web sites, visit scsite.com/dc2010/ch2/web.

Figure 2 When you visit Web sites offering fun and entertainment resources, you can be both amused and informed.

Fun and Entertainment Web Exercises

- 1 Visit the [Geocaching](#) site listed in Figure 2. Find the geocaches within five miles of your home or school and then print a map showing their locations. Then, visit the Discovery Kids — Live Cams Web site and view one of the animal cams in the Live Cams. What do you observe? Visit another Web site listed in Figure 2 and describe the view. What are the benefits of having Web cams at these locations throughout the world?
- 2 What are your favorite movies? Use the Internet Movie Database Web site listed in Figure 2 to search for information about two films, and write a brief description of the biographies of the major stars and director for each movie. Then, visit one of the entertainment Web sites and describe three of the featured stories. At the Rock and Roll Hall of Fame and Museum Web site, view the information about The Beatles and one of your favorite musicians. Write a paragraph describing the information available about these rock stars.

Research

Search and Ye Shall Find

Information on the Web

A recent Web Usability survey conducted by the Nielsen Norman Group found that 88 percent of people who connect to the Internet use a search engine as their first online action. Search engines require users to type words and phrases that characterize the information being sought. Windows Live Search (Figure 3), Google, and AltaVista are some of the more popular search engines. The key to effective searching on the Web is composing search queries that narrow the search results and place the more relevant Web sites at the top of the results list.

Keep up with the latest developments by viewing online dictionaries and encyclopedias that add to their collections of computer and product terms on a regular basis. Shopping for a new computer can be a daunting experience, but many online guides can help you select the components that best fit your needs and budget. If you are not confident in your

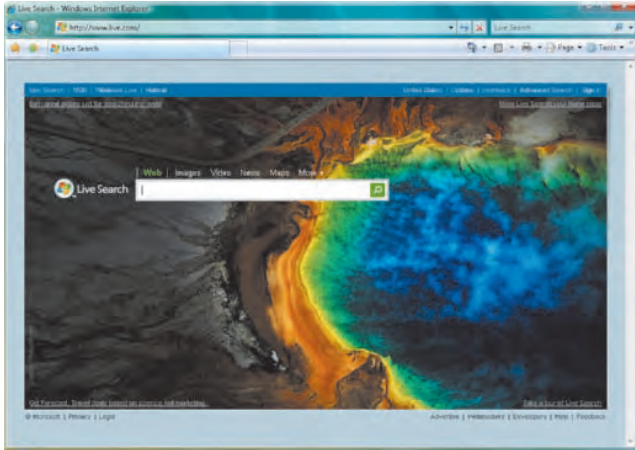


Figure 3 The Windows Live Search Web site provides a search engine for news, images, video, and maps.

ability to solve a problem alone, turn to online technical support. Web sites often provide streaming how-to video lessons, tutorials, and real-time chats with experienced technicians. Hardware and software reviews, price comparisons, shareware, technical questions and answers, and breaking technology news are found on comprehensive portals. Figure 4 lists popular research Web sites.

Research Web Sites

Research	Web Address
A9.com	a9.com
AccessMyLibrary	accessmylibrary.com
AltaVista	altavista.com
Answers.com	answers.com
Ask	ask.com
ChaCha	chacha.com
CNET	cnet.com
eHow	ehow.com
Google	google.com
HotBot	hotbot.com
Librarians' Internet Index	lii.org
PC911	pcnineoneone.com
Switchboard	switchboard.com
Webopedia	webopedia.com
Windows Live Search	live.com
ZDNet	zdnet.com

For more information about research Web sites, visit scsite.com/dc2010/ch2/web.

Figure 4 Web users can find information by using research Web sites.

Research Web Exercises

- 1 Use two of the search engines listed in Figure 4 to find three Web sites that review the latest digital cameras from Kodak and Canon. Make a table listing the search engines, Web site names, and the cameras' model numbers, suggested retail price, and features.
- 2 Visit the Webopedia Web site. Search this site for five terms of your choice. Create a table with two columns: one for the term and one for the Web definition. Then, create a second table listing five recently added or updated words and their definitions on this Web site. Next, visit the CNET Web site to choose the components you would buy if you were building a customized desktop computer and notebook computer. Create a table for both computers, listing the computer manufacturer, processor model name or number and manufacturer, clock speed, RAM, cache, number of expansion slots, and number of bays.

Blogs

Express Yourself

Blogosphere Growing Swiftly

Internet users are feeling the need to publish their views, and they are finding Weblogs, or blogs for short, the ideal vehicle. The blogosphere began as an easy way for individuals to express their opinions on the Web. Today, this communication vehicle has become a powerful tool, for individuals, groups, and corporations are using blogs to promote their ideas and advertise their products. It is not necessary to have a background in Web design to be able to post to a blog.

Bloggers generally update their Web sites frequently to reflect their views. Their posts range from a paragraph to an entire essay and often contain links to other Web sites. The more popular blogs discuss politics, lifestyles, and technology.

Individuals easily may set up a blog free or for a fee, using Web sites such as Blogger, Bloglines (Figure 5), and TypePad. In addition, online social networks may have a built-in blogging feature. Be cautious of the information you post on your blog, especially if it is accessible to everyone online.

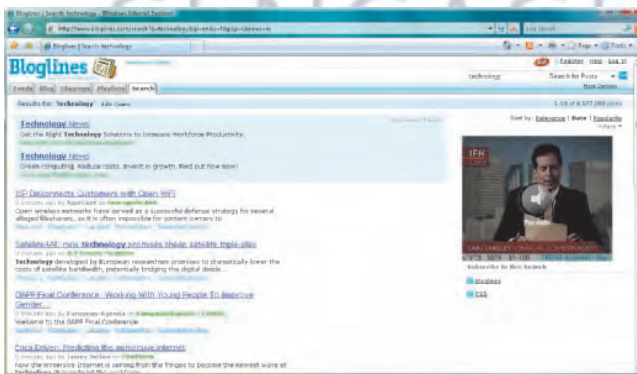


Figure 5 Bloglines keeps readers abreast of the latest technology, entertainment, and political news in the blogosphere.

Corporate blogs, such as The GM FastLane Blog, discuss all aspects of the company's products, whereas all-encompassing blogs, such as the MetaFilter Community Weblog and others in Figure 6, are designed to keep general readers entertained and informed.

Blogs are affecting the manner in which people communicate, and some experts predict they will one day become our primary method of sharing information.

Blogs Web Sites

Blog	Web Address
A List Apart	alistapart.com
Blog.com	blog.com
Blog Flux	topsites.blogflux.com
Blogger	blogger.com
Bloglines	bloglines.com
Blogstream	blogstream.com
Davenetics*Remote Control Revolutionary	davenetics.com
Geek News Central	geeknewscentral.com
GM FastLane Blog	fastlane.gmblogs.com
kottke.org	kottke.org
MetaFilter Community Weblog	metafilter.com
Rocketboom	rocketboom.com
TreeHugger	treehuggertv.com
TypePad	typepad.com

For more information about blogs Web sites, visit scsite.com/dc2010/ch2/web.

Figure 6 These blogs offer information about technology, news, politics, and entertainment.

Blogs Web Exercises

- 1 Visit three of the blog Web sites listed in Figure 6. Make a table listing the blog name, its purpose, the author, its audience, and advertisers, if any, who sponsor the blog. Then, write a paragraph that describes the information you found on each of these blogs.
- 2 Many Internet users read the technology blogs to keep abreast of the latest developments. Visit the Geek News Central and Bloglines blogs listed in Figure 6 and write a paragraph describing the top story in each blog. Read the posted comments, if any. Then, write another paragraph describing two other stories found on these blogs that cover material you have discussed in this course. Write a third paragraph discussing which one is more interesting to you. Would you add reading blogs to your list of Internet activities? Why or why not?

Online Social Networks and Media Sharing

Check Out My New Photos

Online Social Networks and Media Sharing Web Sites Gain Popularity

Do you ever wonder what your friends are doing? What about your friends' friends? The popularity of online social networks has increased dramatically in recent years. Online social networks, such as those listed in Figure 7, allow you to

Online Social Networks and Media Sharing

Online Social Networks	Web Address
Club Penguin	clubpenguin.com
Facebook	facebook.com
LinkedIn	linkedin.com
MySpace — a place for friends	myspace.com
orkut	orkut.com
Windows Live Spaces	spaces.live.com
Media Sharing	Web Address
flickr	flickr.com
MyPhotoAlbum	myphotoalbum.com
Phanfare	phanfare.com
Picasa Web Albums	picasa.com
Shutterfly	shutterfly.com
Yahoo! Video	video.yahoo.com
YouTube	youtube.com
<p>For more information about online social networks and media sharing Web sites, visit scs.site.com/dc2010/ch2/web.</p>	

Figure 7 Online social networks and media sharing Web sites are popular ways to keep in touch with friends, meet new people, and share media.

create a personalized profile that others are able to view online. These profiles may include information about you such as your hometown, your age, your hobbies, and pictures. You also may create links to your friends' pages, post messages for individual friends, or bulletins for all of your friends to see. Online social networks are great places to keep in touch with your friends and to network with professionals for business purposes.

If you would like to post pictures and videos and do not require the full functionality of an online social network, you might consider a media sharing Web site, which is a type of online social network. Media sharing Web sites such as YouTube and Phanfare (Figure 8) allow you to post media, including photos and videos, for others to view, print, and/or download. Media sharing Web sites, which may be free or charge a fee, provide a quick, efficient way to share photos of your last vacation or videos of your family reunion.



Figure 8 The Phanfare Web site allows users to share their photo and video files with people throughout the world.

Online Social Networks and Media Sharing Web Exercises

- 1 Many individuals now use online social networks.** Visit two online social networks listed in Figure 7. (If you are attempting to access an online social network from your classroom and are unable to do so, your school may have restricted use of social networking Web sites.) Compare and contrast these two sites by performing the following actions and recording your findings. First, create a profile on each of these sites. If you find a Web site that charges a fee to sign up, choose another Web site. How easy is the sign-up process? Does either Web site ask for any personal information you are uncomfortable sharing? If so, what information? Once you sign up, make a list of five of your closest friends, and search for their profiles on each of these two sites. Which site contains more of your friends? Browse each site and make a list of its features. In your opinion, which site is better? Explain why.
- 2 Media sharing Web sites make it extremely easy to share photos and videos with friends, family, and colleagues.** Before choosing a media sharing Web site to use, you should do some research. Visit two media sharing Web sites in Figure 7. Is there a fee to post media to these Web sites? If so, how much? Are these Web sites supported by advertisements? Locate the instructions for posting media to these Web sites. Are the instructions straightforward? Do these Web sites impose a limit on the number and/or size of media files you can post? Summarize your responses to these questions in two or three paragraphs.

Travel

Get Packing!

Explore the World without Leaving Home

When you are ready to arrange your next travel adventure or just want to explore destination possibilities, the Internet provides ample resources to set your plans in motion.

To discover exactly where your destination is on this planet, cartography Web sites, including MapQuest and Yahoo! Maps, allow you to pinpoint your destination. View your exact destination using satellite imagery with Google Maps and Live Search Maps (Figure 9).

Some excellent starting places are general travel Web sites such as Expedia Travel, Cheap Tickets, Orbitz, and Travelocity. Many airline Web sites allow you to reserve hotel rooms, activities, and rental cars while booking a flight. These all-encompassing Web sites, including those in Figure 10, have tools to help you find the lowest prices and details about flights, car rentals, cruises, and hotels.

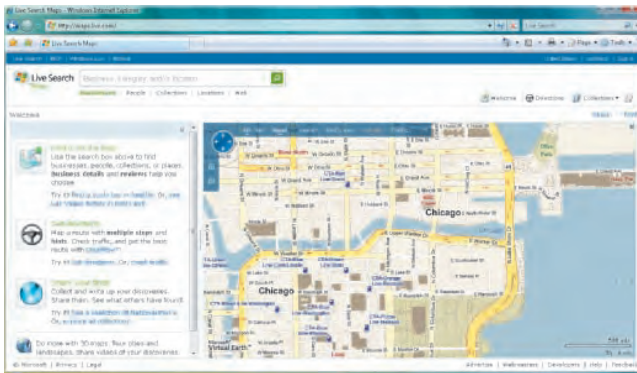


Figure 9 Live Search Maps provides location information and satellite imagery for many regions on this planet.

Comprehensive online guidebooks can provide useful details about maximizing your vacation time while saving money.

Travel Web Sites

General Travel	Web Address
CheapTickets	cheaptickets.com
Expedia Travel	expedia.com
Kayak	kayak.com
Orbitz	orbitz.com
SideStep	sidestep.com
Travelocity	travelocity.com

Cartography	Web Address
Google Maps	maps.google.com
Live Search Maps	local.live.com
MapQuest	mapquest.com
Maps.com	maps.com
Yahoo! Maps	maps.yahoo.com

Travel and City Guides	Web Address
Frommer's Travel Guides	frommers.com
GoPlanit	goplanit.com
U.S.-Parks US National Parks and Monuments Travel Guide	us-parks.com
Virtual Tourist	virtualltourist.com

For more information about travel Web sites, visit scs.site.com/dc2010/ch2/web.

Figure 10 These travel resources Web sites offer travel information to exciting destinations throughout the world.

Travel Web Exercises

- 1** Visit one of the cartography Web sites listed in Figure 10 and obtain the directions from your campus to one of these destinations: the Washington Monument in Washington, D.C.; the Statue of Liberty on Ellis Island in New York; Disneyland in Anaheim, California; or the Grand Old Opry in Nashville, Tennessee. How many miles is it to your destination? What is the estimated driving time? Use the Google Maps Web site to obtain an overhead image of this destination. Then, visit one of the general travel Web sites listed in the table and plan a flight from the nearest major airport to one of the four destinations for the week after finals and a return trip one week later. Which airline, flight numbers, and departure and arrival times did you select?
- 2** Visit one of the travel and city guides Web sites listed in Figure 10, and choose a destination for a getaway this coming weekend. Write a one-page paper giving details about this location, such as popular hotels and lodging, expected weather, population, local colleges and universities, parks and recreation, ancient and modern history, and tours. Include a map or satellite photo of this place. Why did you select this destination? How would you travel there and back? What is the breakdown of expected costs for this weekend, including travel expenditures, meals, lodging, and tickets to events and activities? Which Web addresses did you use to complete this exercise?

Environment

The Future of the Planet

Making a Difference for Earth

From the rain forests of Africa to the marine life in the Pacific Ocean, the fragile ecosystem is under extreme stress. Many environmental groups have developed Web sites, including those listed in Figure 11, in attempts to educate worldwide

Environment Web Sites	
Name	Web Address
Central African Regional Program for the Environment (CARPE)	carpe.umd.edu
Earthjustice	earthjustice.org
EarthTrends: Environmental Information	earthtrends.wri.org
Environmental Defense Fund	edf.org
Environmental Sites on the Internet	www.ima.kth.se/im/envsite/envsite.htm
EPA AirData — Access to Air Pollution Data	epa.gov/air/data
Global Warming	globalwarming.org
Green Computing Impact Organization	gcio.org
GreenNet	gn.apc.org
New American Dream	newdream.org
University of Wisconsin — Milwaukee Environmental Health and Safety Resources	uwm.edu/Dept/EHSRM/EHSLINKS
USGS Acid rain data and reports	bqs.usgs.gov/acidrain
<p>For more information about environment Web sites, visit scsite.com/dc2010/ch2/web.</p>	

Figure 11 Environment Web sites provide vast resources for ecological data and action groups.

populations and to increase resource conservation. The Environmental Defense Fund Web site (Figure 12) contains information for people who would like to help safeguard the environment.

On an international scale, the Environmental Sites on the Internet Web page developed by the Royal Institute of Technology in Stockholm, Sweden, has been rated as one of the better ecological Web sites. Its comprehensive listing of environmental concerns range from aquatic ecology to wetlands.

The U.S. federal government has a number of Web sites devoted to specific environmental concerns. For example, the U.S. Environmental Protection Agency (EPA) provides pollution data, including ozone levels and air pollutants, for specific areas. Its AirData Web site displays air pollution emissions and monitoring data from the entire United States and is the world's most extensive collection of air pollution data.

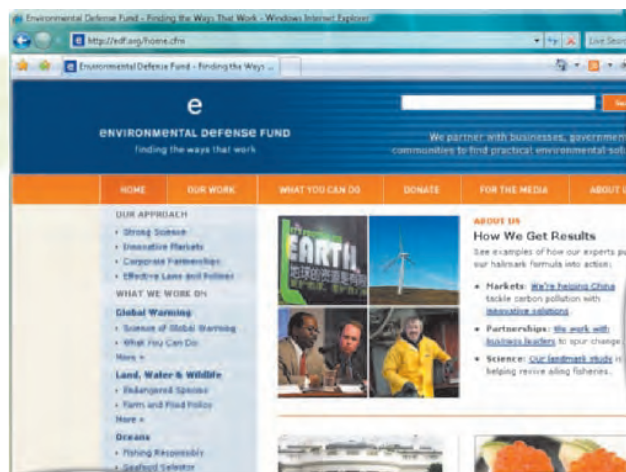


Figure 12 A visit to the Environmental Defense Fund Web site provides practical advice about protecting the environment.

Environment Web Exercises

- 1** The New American Dream Web site encourages consumers to reduce the amount of junk mail sent to their homes. Using the table in Figure 11, visit the Web site to learn how many trees are leveled each year to provide paper for these mailings and how many garbage trucks are needed to haul this waste. Read the letters used to eliminate names from bulk mail lists. To whom would you mail these letters? How long does it take to stop these unsolicited letters?
- 2** Visit the EPA AirData Web site. What is the highest ozone level recorded in your state this past year? Where are the nearest air pollution monitoring Web sites, and what are their levels? Where are the nearest sources of air pollution? Read two reports about two different topics, such as acid rain and air quality, and summarize their findings. Include information about who sponsored the research, who conducted the studies, when the data was collected, and the impact of this pollution on the atmosphere, water, forests, and human health. Whom would you contact for further information?

Finance

Money Matters

Cashing In on Financial Advice

You can manage your money with advice from financial Web sites that offer online banking, tax help, personal finance, and small business and commercial services.

If you do not have a personal banker or a financial planner, consider a Web adviser to guide your investment decisions. The MSN Money Web site (Figure 13) provides financial news and investment information.

If you are ready to ride the ups and downs of the Dow and the NASDAQ, an abundance of Web sites listed in Figure 14, including Reuters and Morningstar, can help you select companies that fit your interests and financial needs.

Claiming to be the fastest, easiest tax publication on the planet, the Internal Revenue Service Web site contains procedures for filing tax appeals and contains IRS forms, publications, and legal regulations.



Figure 13 The MSN Money Web site contains features related to college and family finances.

Finance Web Sites

Advice and Education	Web Address
Bankrate	bankrate.com
ING Direct	ingdirect.com
LendingTree	lendingtree.com
Loan.com	loan.com
The Motley Fool	fool.com
MSN Money	moneycentral.msn.com
Wells Fargo	wellsfargo.com
Yahoo! Finance	finance.yahoo.com
Stock Market	Web Address
AIG Retirement	valic.com
E*TRADE Financial	us.etrade.com
Financial Engines	financialengines.com
Merrill Lynch	ml.com
Morningstar	morningstar.com
Reuters	reuters.com/investing
Vanguard	vanguard.com
Taxes	Web Address
H&R Block	hrblock.com
Internal Revenue Service	irs.gov
Jackson Hewitt	jacksonhewitt.com
Liberty Tax Service	libertytax.com

For more information about finance Web sites, visit scsite.com/dc2010/ch2/web.

Figure 14 Financial resources Web sites offer general information, stock market analyses, and tax advice, as well as guidance and money-saving tips.

Finance Web Exercises

- 1 Visit three advice and education Web sites listed in Figure 14 and read their top business world reports. Write a paragraph about each, summarizing these stories. Which stocks or mutual funds do these Web sites predict as being sound investments today? What are the current market indexes for the DJIA (Dow Jones Industrial Average), S&P 500, and NASDAQ, and how do these figures compare with the previous day's numbers?
- 2 Using two of the stock market Web sites listed in Figure 14, search for information about Microsoft, Apple, and one other software vendor. Write a paragraph about each of these stocks describing the revenues, net incomes, total assets for the previous year, current stock price per share, highest and lowest prices of each stock during the past year, and other relevant investment information.

Government

Stamp of Approval

Making a Federal Case for Useful Information

When it is time to buy stamps to mail your correspondence, you no longer need to wait in long lines at your local post office. The U.S. Postal Service has authorized several organizations to sell stamps online.

You can recognize U.S. Government Web sites on the Internet by their .gov top-level domain. For example, the extensive Library of Congress Web site is loc.gov (Figure 15). Government and military Web sites offer a wide range of information. The Time Service Department Web site will provide you with the correct time. If you are looking for a federal document, FedWorld lists thousands of documents distributed by the government on its Web site. For access to the names of your congressional representatives, visit the extensive HG.org Web site. Figure 16 shows some of the more popular U.S. Government Web sites.



Figure 15 The Library of Congress Web site has resources about American history, world culture, and digital preservation.

Government Resources Web Sites

Postage	Web Address
Endicia	endicia.com
Pitney Bowes	pb.com
Stamps.com	stamps.com
Government	Web Address
FedWorld	www.fedworld.gov
HG.org — Worldwide Legal Directories	hg.org
Library of Congress	loc.gov
National Agricultural Library	nal.usda.gov
Smithsonian Institution	smithsonian.org
THOMAS (Library of Congress)	thomas.loc.gov
Time Service Department	tycho.usno.navy.mil
U.S. Department of Education	ed.gov
United States Department of the Treasury	treas.gov
U.S. Government Printing Office	www.access.gpo.gov
United States National Library of Medicine	nlm.nih.gov
United States Patent and Trademark Office	uspto.gov
USAJOBS	usajobs.opm.gov
The White House	whitehouse.gov
For more information about government Web sites, visit scsite.com/dc2010/ch2/web .	

Figure 16 These Web sites offer information about buying U.S.-approved postage online and researching federal agencies.

Government Web Exercises

- 1 **View the three postage Web sites listed in Figure 16.** Compare and contrast the available services on each one. Consider postage cost, necessary equipment, shipping services, security techniques, and tracking capability. Explain why you would or would not like to use this service.
- 2 **Visit the HG.org Web site listed in Figure 16.** What are the names, addresses, and phone numbers of your two state senators and your local congressional representative? On what committees do they serve? Who is the chief justice of the Supreme Court, and what has been this justice's opinion on two recently decided cases? Who are the members of the president's cabinet? Then, visit two other Web sites listed in Figure 16. Write a paragraph about each Web site describing its content and features.

Shopping and Auctions

Bargains Galore

Let Your Mouse Do Your Shopping

From groceries to clothing to computers, you can buy just about everything you need with just a few clicks of your mouse. More than one-half of Internet users will make at least one online purchase this year. Books, computer software and hardware, and music are the hottest commodities.

The two categories of Internet shopping Web sites are those with physical counterparts, such as Wal-Mart and Crutchfield (Figure 17), and those with only a Web presence, such as Amazon and Buy. Popular Web shopping sites are listed in Figure 18.

Another method of shopping for the items you need, and maybe some you really do not need, is to visit auction Web sites, including those listed in Figure 18. Categories include antiques and collectibles, automotive, computers, electronics, music, sports, sports cards and memorabilia, and toys. Online auction Web sites can offer unusual items, including *Star Wars* memorabilia or a round of golf with Tiger Woods.



Figure 17 Crutchfield is a popular electronic retailer that sells a variety of products.

eBay is one of thousands of Internet auction Web sites and is the world's largest personal online trading community. In addition, craigslist is a free online equivalent of classified advertisements.

Shopping and Auctions Web Sites

Auctions	Web Address
craigslist	craigslist.org
eBay	ebay.com
Sotheby's	sothebys.com
uBid	ubid.com
U.S. Treasury — Seized Property Auctions	ustreas.gov/auctions

Books and Music

Books and Music	Web Address
Amazon	amazon.com
Barnes & Noble	bn.com
BookFinder	bookfinder.com

Computers and Electronics

Computers and Electronics	Web Address
BestBuy	bestbuy.com
Buy	buy.com
Crutchfield	crutchfield.com

Miscellaneous

Miscellaneous	Web Address
drugstore	drugstore.com
Google Product Search	google.com/products
SmashBuys	smashbuys.com
Wal-Mart	walmart.com

For more information about shopping and auctions Web sites, visit scsite.com/dc2010/ch2/web.

Figure 18 Making online purchases can help ease the burden of driving to and fighting the crowds in local malls.

Shopping and Auctions Web Exercises

- 1 Visit two of the computers and electronics and two of the miscellaneous Web sites listed in Figure 18. Write a paragraph describing the features these Web sites offer compared with the same offerings from stores. In another paragraph, describe any disadvantages of shopping at these Web sites instead of actually visiting a store. Then, describe their policies for returning unwanted merchandise and for handling complaints.
- 2 Using one of the auction Web sites listed in Figure 18, search for two objects pertaining to your hobbies. For example, if you are a sports fan, you can search for a complete set of Upper Deck cards. If you are a car buff, search for your dream car. Describe these two items. How many people have bid on these items? Who are the sellers? What are the opening and current bids?

Weather, Sports, and News

What's News?

Weather, Sports, and News Web Sites Score Big Hits

Rain or sun? Hot or cold? Weather is the leading online news item, with at least 10,000 Web sites devoted to this field. Millions of people view The Weather Channel Web site (Figure 19) each month.

Baseball may be the national pastime, but sports aficionados yearn for everything from auto racing to cricket. The Internet has millions of pages of multimedia sports news, entertainment, and merchandise.

The Internet has emerged as a major source for news, with more than one-third of Americans going online at least once a week and 15 percent going online daily for reports of major news events. Many of these viewers are using RSS (Really Simple Syndication) technology to be notified when new stories about their favorite topics are available on the Internet. Popular weather, sports, and news Web sites are listed in Figure 20.



Figure 19 Local, national, and international weather conditions and details about breaking weather stories are available on The Weather Channel Web site.

Weather, Sports, and News Web Sites

Weather	Web Address
AccuWeather	accuweather.com
Infoplease Weather	infoplease.com/weather.html
Intellicast	intellicast.com
National Weather Service	www.crh.noaa.gov
The Weather Channel	weather.com
Sports	Web Address
CBS SportsLine	cbs.sportsline.com
ESPN	espn.com
NASCAR	nascar.com
International Olympic Committee	olympic.org
Sporting News Radio	radio.sportingnews.com
Yahoo! Sports	sports.yahoo.com
News	Web Address
Annenberg Political Fact Check	factcheck.org
Geek.com	geek.com
Google News	news.google.com
MSNBC	msnbc.com
Onlinenewspapers	onlinenewspapers.com
privacy.org	privacy.org
SiliconValley	siliconvalley.com
Starting Page	startingpage.com/html/news.html
USA TODAY	usatoday.com
Washington Post	washingtonpost.com

For more information about weather, sports, and news Web sites, visit scs.site.com/dc2010/ch2/web.

Figure 20 Keep informed about the latest weather, sports, and news events with these Web sites.

Weather, Sports, and News Web Exercises

- 1 Visit two of the sports Web sites in Figure 20 and write a paragraph describing the content these Web sites provide concerning your favorite sport. Visit Google News and then search for stories about this sports team or athlete. Then, create a customized news page with stories about your sports interests. Include RSS feeds to get regularly updated summaries on this subject.
- 2 Visit the Onlinenewspapers and Starting Page Web sites listed in Figure 20 and select two newspapers from each site. Write a paragraph describing the top national news story featured in each of these four Web pages. Then, write another paragraph describing the top international news story displayed at each Web site. In the third paragraph, discuss which of the four Web sites is the most interesting in terms of story selection, photos, and Web page design.

Learning

Yearn To Learn

Discover New Worlds Online

While you may believe your education ends when you finally graduate from college, learning is a lifelong process. You can increase your technological knowledge by visiting several Web sites (Figure 21) with tutorials about building your own Web sites, the latest news about the Internet, and resources for visually impaired users.

Learning Web Sites

Learning How To's	Web Address
Bartleby: Great Books Online	bartleby.com
AT&T Education	www.kn.pacbell.com/wired
BBC Learning	bbc.co.uk/learning
CBT Nuggets	cbtnuggets.com
HowStuffWorks	howstuffworks.com
Internet Public Library	ipl.org
Learn the Net	learthenet.com
ScienceMaster	sciencemaster.com
Search Engine Watch	searchenginewatch.com
Wiredguide	wiredguide.com
Cooking	Web Address
Betty Crocker	bettycrocker.com
Chef2Chef	chef2chef.net
Food Network	foodnetwork.com

For more information about learning Web sites, visit scsite.com/dc2010/ch2/web.

Figure 21 The information gleaned from these Web sites can help you learn about many aspects of our existence.

The HowStuffWorks Web site has won numerous awards for its clear, comprehensive articles that demystify aspects of our everyday life. It includes ratings and reviews of products written by *Consumer Guide* editors.

A consortium of colleges maintains the Internet Public Library, which includes subject collections, reference materials, and a reading room filled with magazines and books. Volunteer librarians will answer your personal questions asked in its Ask an IPL Librarian form.

Enhancing your culinary skills can be a rewarding endeavor. No matter if you are a gourmet chef or a weekend cook, you will be cooking in style with the help of online resources, including those listed in Figure 21.

Have you ever wondered how to make a key lime pie? How about learning how to cook some easy, low-calorie dishes? Are you seeking advice from expert chefs? The Food Network Web site (Figure 22) is filled with information related to cooking, grilling, and healthy eating.

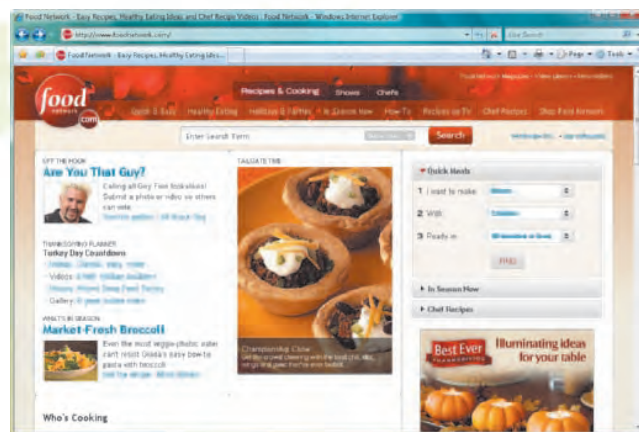


Figure 22 The Food Network Web site provides access to healthy recipes, grilling tips, and cookware.

Learning Web Exercises

- 1 Using one of the Learning How To's Web sites listed in Figure 21, search for information about installing memory in a computer. Write a paragraph about your findings. Then, review the material in the HowStuffWorks Web site listed in Figure 21, and write a paragraph describing articles on this Web site that are pertinent to your major.
- 2 Visit one of the cooking Web sites listed in Figure 21 and find two recipes or cooking tips that you can use when preparing your next meal. Write a paragraph about each one, summarizing your discoveries. Which Web sites allow you to create your own online recipe book? What are the advantages and disadvantages of accessing these Web sites on the new appliances and gadgets that might someday be in your kitchen?

Science

$$E = Mc^2$$

Rocket Science on the Web

For some people, space exploration is a hobby. Building and launching model rockets allow these at-home scientists to participate in exploring the great frontier of space. For others, space exploration is their life. Numerous Web sites, including those in Figure 23, provide in-depth information about the universe.

Science Web Sites

Periodicals	Web Address
Archaeology Magazine	archaeology.org
Astronomy Magazine	astronomy.com
New Scientist	newscientist.com
OceanLink	oceanlink.island.net
Science Magazine	sciencemag.org
Scientific American	sciam.com
Resources	Web Address
National Science Foundation (NSF)	nsf.gov
Science.gov: USA.gov for Science	science.gov
Thomson Reuters	scientific.thomson.com/free/
Science Community	Web Address
American Scientist, The Magazine of Sigma Xi, The Scientific Research Society	amsci.org
Federation of American Scientists	fas.org
NASA	www.nasa.gov
Sigma Xi, The Scientific Research Society	sigmaxi.org
For more information about science Web sites, visit scsite.com/dc2010/ch2/web .	

Figure 23 Resources available on the Internet offer a wide range of subjects for enthusiasts who want to delve into familiar and unknown territories in the world of science.

Science Web Exercises

- 1 Visit the **National Science Foundation Web site** listed in the table in Figure 23. What are the topics of the latest science news and special reports? Which speeches and lectures are featured? What are the titles of image, video, and audio files in the Multimedia Gallery?
- 2 Visit the **NASA Web site** listed in the table in Figure 23. Click the Latest News link and then click the Missions topic. When are the next two launches scheduled? What are the purposes of these missions? Click the Careers @ NASA topic and then write a paragraph describing the internships, cooperative programs, and summer employment opportunities. Then, view two of the science community Web sites listed in Figure 23 and write a paragraph about each of these Web sites describing the information each contains.

NASA's Web site contains information about rockets, the space shuttle, the International Space Station, space transportation, and communications. Other science resources explore space-related questions about astronomy, physics, the earth sciences, microgravity, and robotics.

Rockets and space are not the only areas to explore in the world of science. Where can you find the latest pictures taken with the Hubble Space Telescope? Do you know how climate change is affecting the human body? You can find the answers to these questions and many others through the New Scientist Web site (newscientist.com) shown in Figure 24.

The National Science Foundation's Web site features overviews of current topics and an extensive Multimedia Gallery with audio and video files, photos, and paintings.

Science.gov is an outstanding resource for scientific databases and thousands of authoritative science Web sites. The U.S. government science information provided offers 200 million pages of research, with search results ranked by relevance and sorted by topic and year.

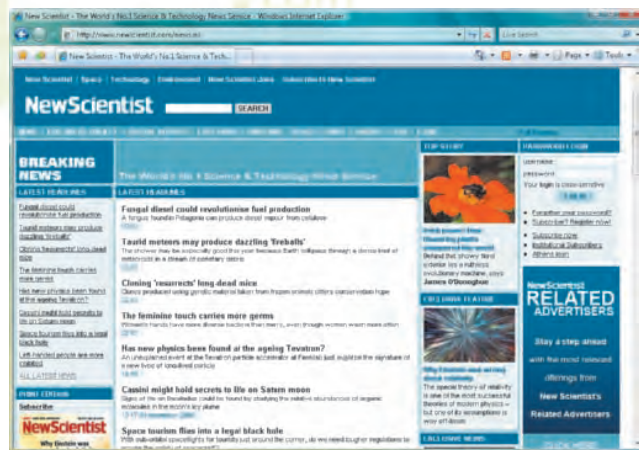


Figure 24 The New Scientist Web site covers news about space exploration, the environment, and technology.

Health

No Pain, All Gain

Store Personal Health Records Online

More than 75 million consumers use the Internet yearly to search for health information, so using the Web to store personal medical data is a natural extension of the Internet's capabilities. Internet health services and portals are available to store your personal health history, including prescriptions, lab test results, doctor visits, allergies, and immunizations.

Google Health allows users to create a health profile, import medical records, and locate medical services and doctors. Web sites such as healthfinder.gov (Figure 25) provide free wellness information to consumers. Wise consumers, however, verify the online information they read with their personal physician.

In minutes, you can register with a health Web site by choosing a user name and password. Then, you create a record to enter your medical history. You also can store data for your emergency contacts, primary care physicians, specialists, blood type, cholesterol levels, blood pressure, and insurance plan. No matter where you are in the world, you and medical



Figure 25 The healthfinder.gov Web site provides advice and tools to prevent illnesses and check drug interactions.

personnel can obtain records via the Internet or fax machine. Some popular online health databases are shown in Figure 26.

Health Web Sites

Medical History	Web Address
Google Health	google.com/health
PersonalMD	personalmd.com
iHealth	medem.com
Lifestar	mylifestarphr.com
Practice Solutions	practicesolutions.ca
Records for Living, Inc — Personal Health and Living Management	recordsforliving.com
WebMD	webmd.com
General Health	Web Address
Centers for Disease Control and Prevention	cdc.gov
familydoctor	familydoctor.org
healthfinder	healthfinder.gov
KidsHealth	kidshealth.org
LIVESTRONG.COM	livestrong.com
Medical Library Association Consumer and Patient Health Information Section (CAPHIS)	caphis.mlanet.org/consumer
MedlinePlus	medlineplus.gov
PE Central: Health and Nutrition Web Sites	pecentral.org/websites/healthsites.html
Physical Activity Guidelines	health.gov/paguidelines
For more information about health Web sites, visit scsite.com/dc2010/ch2/web .	

Figure 26 These health Web sites allow you to organize your medical information and store it in an online database and also obtain information about a variety of medical conditions and treatments.

Health Web Exercises

- 1 Access one of the health Web sites listed in Figure 26.** Register yourself or a family member and then enter the full health history. Create an emergency medical card if the Web site provides the card option. Submit this record and emergency card to your instructor. If you feel uncomfortable disclosing medical information for yourself or a family member, you may enter fictitious information.
- 2 Visit three of the health Web sites listed in Figure 26.** Describe the features of each. Which of the three is the most user-friendly? Why? Describe the privacy policies of these three Web sites. Submit your analysis of these Web sites to your instructor.

Careers

In Search of the Perfect Job

Web Helps Career Hunt

While your teachers give you valuable training to prepare you for a career, they rarely teach you how to begin that career. You can broaden your horizons by searching the Internet for career information and job openings.

First, examine some of the job search Web sites. These resources list thousands of openings in hundreds of fields, companies, and locations. For example, the USAJOBS Web site, shown in Figure 27, allows you to find information for Federal jobs. This information may include the training and education required, salary data, working conditions, job descriptions, and more. In addition, many companies advertise careers on their Web sites.

When a company contacts you for an interview, learn as much about it and the industry as possible before the interview. Many of the Web sites listed in Figure 28 include detailed company profiles and links to their corporate Web sites.



Figure 27 The USAJOBS Web site is the official location for Federal jobs and information for job seekers.

Career Web Sites

Job Search	Web Address
BestJobsUSA	bestjobsusa.com
CareerBuilder	careerbuilder.com
Careerjet	careerjet.com
CareerNET	careernet.com
CAREERXCHANGE	careerxchange.com
CollegeGrad.com	collegegrad.com
EmploymentGuide.com	employmentguide.com
Job.com	job.com
Job Bank USA	jobbankusa.com
JobWeb	jobweb.com
Monster	monster.com
USAJOBS	www.usajobs.gov
VolunteerMatch	volunteermatch.org
Yahoo! HotJobs	hotjobs.yahoo.com
Company/Industry Information	Web Address
Careers.org	careers.org
Forbes	forbes.com/leadership/careers
Fortune	fortune.com
Hoover's	hoovers.com
Occupational Outlook Handbook	stats.bls.gov/oco
For more information about career Web sites, visit scsite.com/dc2010/ch2/web .	

Figure 28 Career Web sites provide a variety of job openings and information about major companies worldwide.

Careers Web Exercises

- 1 Use two of the job search Web sites listed in Figure 28 to find three companies with job openings in your field. Make a table listing the Web site name, position available, description, salary, location, desired education, and desired experience.
- 2 It is a good idea to acquire information before graduation about the industry in which you would like to work. Are you interested in the automotive manufacturing industry, the restaurant service industry, or the financial industry? Use two of the company/industry information Web sites listed in Figure 28 to research a particular career related to your major. Write a paragraph naming the Web sites and the specific information you found, such as the nature of the work, recommended training and qualifications, employment outlook, and earnings. Then, use two other Web sites to profile three companies with positions available in this field. Write a paragraph about each of these companies, describing the headquarters' location, sales and earnings for the previous year, total number of employees, working conditions, benefits, and competitors.

Literature and Arts

Find Some Culture

Get Ready to Read, Paint, and Dance

Brush up your knowledge of Shakespeare, grab a canvas, and put on your dancing shoes. Literature and arts Web sites,

Literature and Arts Web Sites	
Literature	Web Address
Bartleby	bartleby.com
Bibliomania	bibliomania.com
The Complete Review	complete-review.com
eNotes	enotes.com
Fantastic Fiction	fantasticfiction.co.uk
Literary History	literaryhistory.com
Nobel Prize in Literature	nobelprize.org/ nobel_prizes/literature
Project Gutenberg	gutenberg.org
Project MUSE	muse.jhu.edu
Arts	Web Address
absolutearts	absolutearts.com
The Children's Museum of Indianapolis	childrensmuseum.org
ARTINFO Gallery Guide	artinfo.com/galleryguide/
The Getty	getty.edu
Louvre Museum	louvre.fr
Montreal Museum of Fine Arts	mmfa.qc.ca
The Museum of Online Museums	coudal.com/moom
National Gallery of Art	nga.gov
Virtual Library museums pages (VLmp)	icom.museum/vlmp
<p>For more information about literature and arts Web sites, visit scsite.com/dc2010/ch2/web.</p>	

Figure 29 Discover culture throughout the world by visiting these literature and arts Web sites.

including those in Figure 29, are about to sweep you off your cyberfeet.

The full text of hundreds of books is available online from the Bibliomania and Project Gutenberg Web sites. The Complete Review provides summaries, reviews, and Web links about a variety of books and their authors. The Bartleby Web site features biographies, definitions, quotations, dictionaries, and indexes.

When you are ready to absorb more culture, you can turn to various art Web sites. Many museums have images of their collections online. Among them are the Getty Museum in Los Angeles, the Montreal Museum of Fine Arts, and the Louvre Museum in Paris (Figure 30).

The absolutearts Web site focuses on contemporary art and includes video interviews with artists, art history research, and artists' blogs.

The Museum of Online Museums Web site provides links to museum and gallery Web sites, such as the Museum of Modern Art, The Bauhaus Archive, and The Art Institute of Chicago.

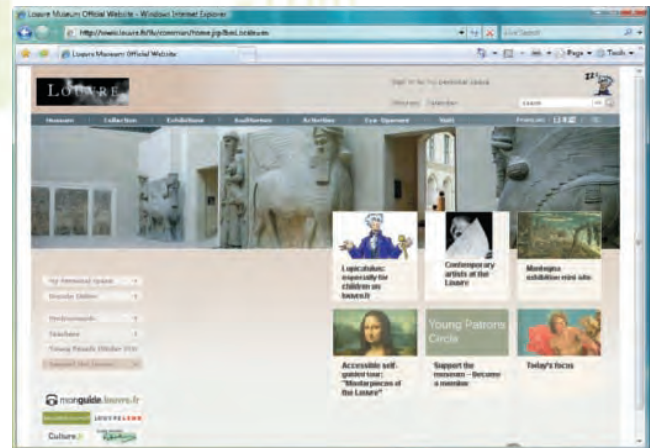


Figure 30 Permanent and temporary exhibitions, educational activities, and a bookstore are featured on the Louvre Museum Web site.

Literature and Arts Web Exercises

- 1 Visit the **Literary History Web site** listed in Figure 29 and view one author in the Twentieth Century Literature, Nineteenth Century Literature, British Poets, and African American Literature sections. Read two literary criticism articles about each of the four authors and write a paragraph describing which of these authors is the most interesting to you. What are the advantages and disadvantages of reading literary criticism electronically?
- 2 Using the **arts Web sites** listed in Figure 29, search for three temporary exhibitions in galleries throughout the world. Describe the venues, the artists, and the works. Which permanent collections are found in these museums? Some people shop for gifts in the museums' stores. View and describe three items for sale.

Quiz Yourself 2-1

1. True Statement
2. **A WISP** **An IP address (or Internet Protocol address)** is a number that uniquely identifies each computer or device connected to the Internet.
3. **An IP address** **A domain name**, such as www.google.com, is the text version of a **domain name** **an IP address**.
4. **Satellite** **Cable** Internet service provides high-speed Internet access through the cable television network via a cable modem.
5. The World Wide Web Consortium (W3C) oversees research and **owns** **sets standards and guidelines for many areas of** the Internet.

Quiz Yourself 2-2

1. True Statement
2. You can **not** assume that information on the Web is correct and accurate.
3. Audio and video files are **downloaded** **compressed** to reduce their file sizes.
4. Popular **portals** **players** include iTunes, RealPlayer, and Windows Media Player.
5. The more widely used **search engines** **Web browsers** for personal computers are Internet Explorer, Firefox, Opera, Safari, and Google Chrome.
6. To develop a Web page, you **do not** have to be a computer programmer.
7. To improve your Web searches, use **general** **specific** nouns and put the **least** **most** important terms first in the search text.

Quiz Yourself 2-3

1. True Statement
2. An e-mail address is a combination of a user name and **an e-mail** **program** **a domain name** that identifies a user so that he or she can receive Internet e-mail.
3. **Business** **Consumer**-to-consumer e-commerce occurs when one consumer sells directly to another, such as in an online auction.
4. FTP is an Internet standard that permits file **reading** **uploading** and **writing** **downloading** with other computers on the Internet.
5. **Spam** **Internet telephony** uses the Internet (instead of the public switched telephone network) to connect a calling party to one or more called parties.
6. Netiquette is the code of **un**acceptable behaviors while on the Internet.
7. VoIP enables users to **subscribe** **speak** to other users over the Internet.

This page contains answers for this chapter only.

CENGAGE

Credits

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