did you
know?

The Web is exploding all around you. Never before has the world seen such a dynamic and exciting technology become a part of our lives so quickly. Many young people growing up today cannot even comprehend life without the Web.

from *the U.S. Postal Service (www.usps.gov) and a variety of other Web sites, you can buy stamps and print them with your printer.*

the *current asking price for the Web site name www.jesus.com (which is used by its owner as a personal ad) is over $10 million.*

uproar.com, a popular gaming site on the Web, receives over 3 billion visitors each week (many of course are repeats).

by the year 2005, U.S. Web surfers will represent only 30 percent of the world's total Web community.

after its inception, it took only five years for 20 percent of U.S. households to be surfing the Web. It took over 40 years before 20 percent of U.S. households owned an automobile.

ebay, the Web's most popular auction site, currently has over __??__ million items up for auction.

To find out just how many items eBay has up for auction right now, visit www.mhhe.com/i-series.

C H A P T E R

2

two

The World Wide Web and the Internet

How Vast Is Your Virtual Imagination?

The Web (and the Internet) has almost instantly become an important part of all our lives. Many businesses on the Web don't even exist in the physical world. That is, they exist solely in cyberspace, and you can't find them on any street corner. In Chapter 1, we introduced you to the world of computers and technology by briefly surfing a few places on the Web. Let's continue our exploration.

A://THE WORLD WIDE WEB

As we begin, let's define a couple of terms and revisit a few definitions from Chapter 1. First, the World Wide Web and the Internet. The ***Internet*** is a vast network of networked computers (hardware and software) that connects millions of people all over the world. The ***World Wide Web (Web)*** is the Internet in a linked multimedia form. So, in spite of the fact that people use the terms "Internet" and "Web" interchangeably, they are different. The Internet is what really makes the Web possible.

You can access and use the Internet without going through the Web. If you do, you'll see just text information, with no color and with no links. You'll also have to enter character-based commands instead of pointing at and clicking on buttons and menu options. You can think of the Web as a graphical user interface (GUI) that rests on top of the Internet. It allows you to work with and see information in a much richer and more meaningful format.

ADDRESSES, SITES, AND PAGES
What Does a Web Site Address Tell Me?

From Chapter 1, you now know that a Web site is a specific location on the Web where you visit, gather information, and perhaps order products and that a Web site address is a unique name that identifies a specific site on the Web. For example, the *USA Today* is a Web site, and its Web site address is www.usatoday.com (see Figure 2.1). Let's go there and do some exploring.

F I G U R E   2.1

Most Web sites include many Web pages. At the *USA Today* Web site, for example, you can click on **Sports** to go to a Web page devoted entirely to that topic.
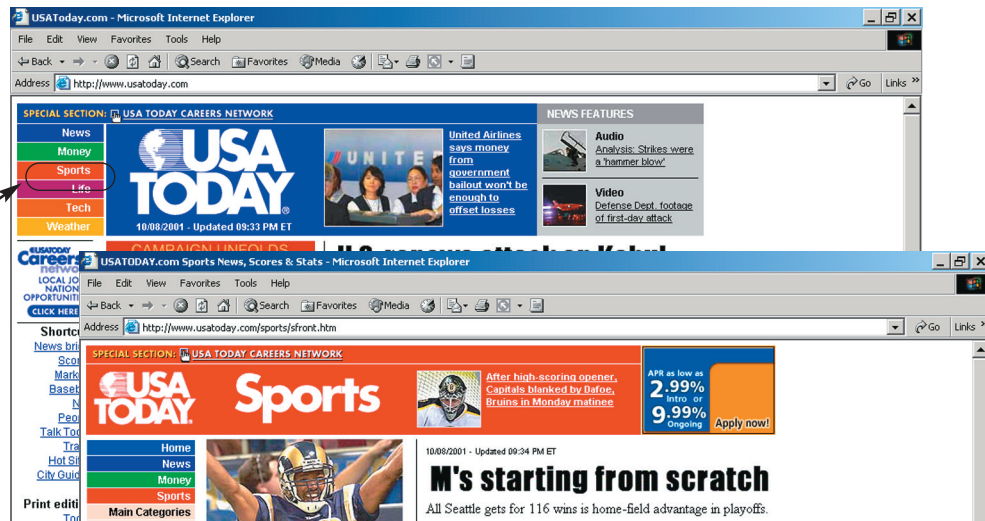
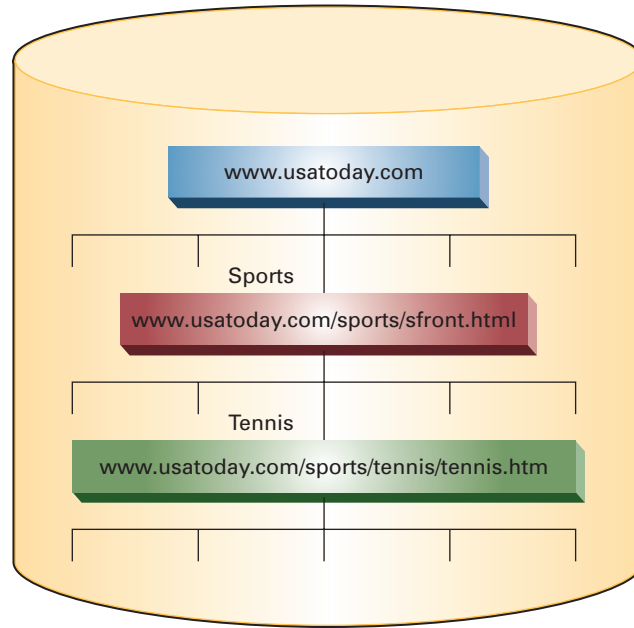**Click here to go to the Sports Web page.**

F I G U R E 2.2

The structure of a Web site and its Web pages is most often in a hierarchical form.

Most Web sites include several and perhaps even hundreds of Web pages. A *Web page* is a specific portion of a Web site that deals with a certain topic. Some Web sites may actually contain only a single Web page, but that's not the case most of the time. At the *USA Today,* for example, you can click on **Sports,** which is a Web page within the *USA Today* Web site. From there, you can click on **Tennis,** which is another Web page within a Web page (**Sports**) within the *USA Today* Web site. Like the *USA Today,* most Web sites contain Web pages in a hierarchical form (see Figure 2.2). People tend to use the terms Web site and Web page interchangeably—in this text we'll most often use the term Web site. Incidentally, **Sports** and **Tennis** are both examples of links.

Addresses for Web sites and pages can actually become quite long, like the ones in Figure 2.2. But you don't need to remember addresses. All you have to do is add them to your Favorites list in your Web browser software. Once you find a site or page you like, simply click on **Favorites** in the menu bar and then **Add to Favorites . . . .** Your Web browser software will add the logical name (for example, USA Today Latest News) to your Favorites list for you. Whenever you surf the Web again, all you have to do is display your Favorites list and click on the logical name. Your Web browser recalls the address and instantly takes you there.

F I G U R E 2.3

Using your **Favorites** list, you can organize the sites you visit frequently.
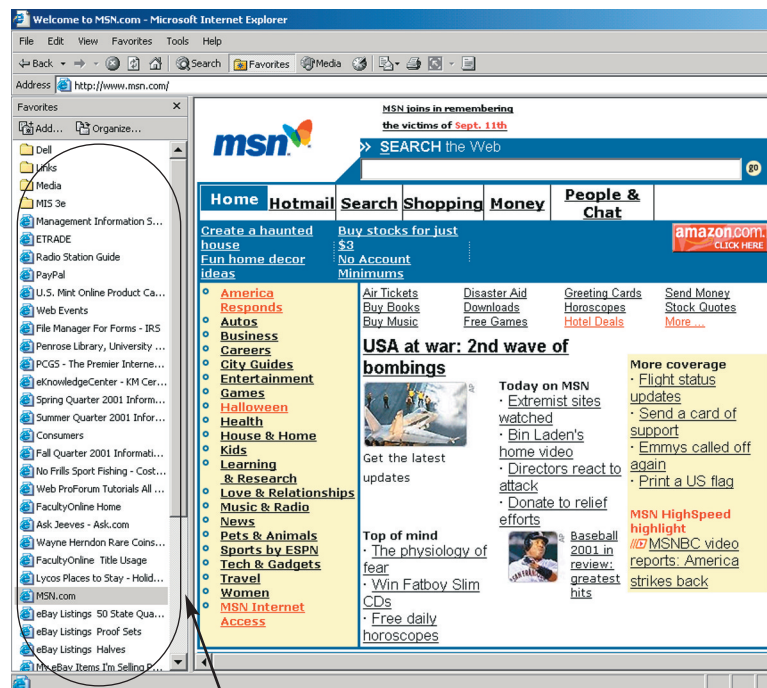
You can organize your favorite Web sites within folders or list them individually.

WEB SITES WORTH SURFING
Where Do You Recommend I Start Surfing on the Web?

There are literally millions of sites on the Web, and the ones you like are simply your personal preferences. Let's get you started by looking at some we think will interest you.

Careers

In many ways, computers (and technology in general) can help you land a really great job. First and foremost, you need computer skills in jobs today. So, just learning about computers is a step in the right direction. You can also use the Web to search for jobs and post your resume in a database. Employers, in turn, search these databases to find potential employees (and it could be you).

To search for a job and post your resume for employers to review, we recommend that you start with such sites as Monster.com (www.monster.com shown below), hotjobs.com (www.hotjobs.com), and headhunter.net (www.headhunter.net). There are numerous other great sites that can help you find a job. For a comprehensive list, please visit the site for this text at www.mhhe.com/i-series. At any of these sites, you simply type in a job you want (and possibly a desired location), and you'll instantly see a list of available jobs.

F I G U R E   2.4

To begin your career search, consider visiting sites such as Monster.com.
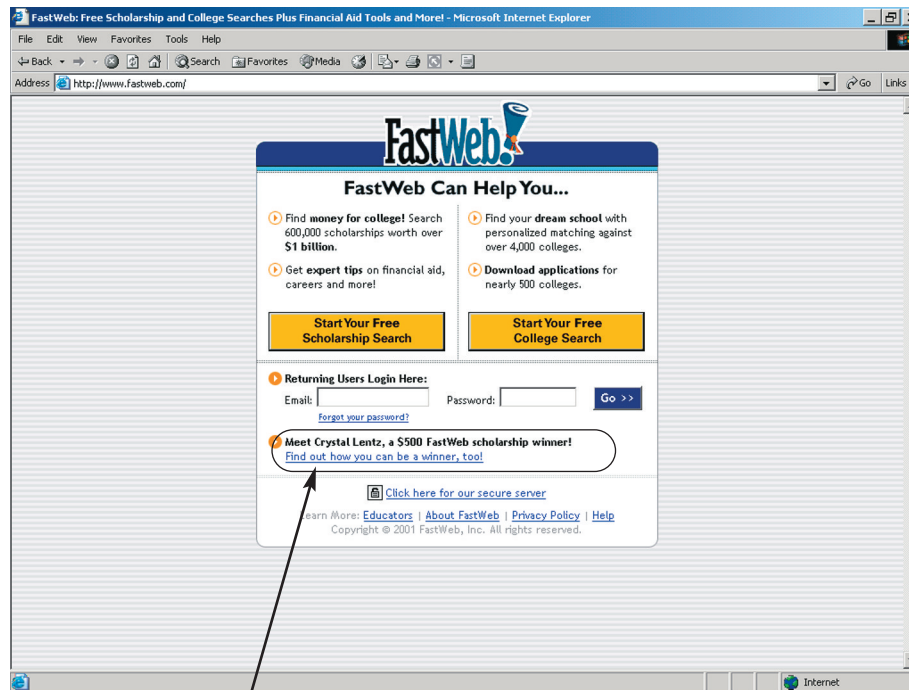

There are over 1,000,000 jobs posted at Monster.com.

Information and Reference

The Web is a wealth of information at your fingertips. You can find everything from recipes to the latest sports scores on the Web. Some information and reference sites you visit are purely for your personal enjoyment and pleasure. Others, however, can benefit you greatly. For example, you can find research material at Electric Library (www.elibrary.com). That site allows you to search newspapers, books, magazines, radio transcripts, and even maps.

You can find information and reference sites that deal with a particular topic that might interest you, as well. At Consumer World (www.consumerworld.org), for example, you can research products you're considering purchasing. You can read about the latest safety reviews of automobiles, find the best rates for investments, and learn more about the newest prescription drugs.

FastWeb (www.fastweb.com in Figure 2.5) is certainly a site worth visiting. FastWeb can help you find funding for your education. It has everything from government loans to free money you don't even have to pay back. Millions of dollars in scholarships each year go unclaimed because no one completes an application. FastWeb can help you find those scholarships and much more.
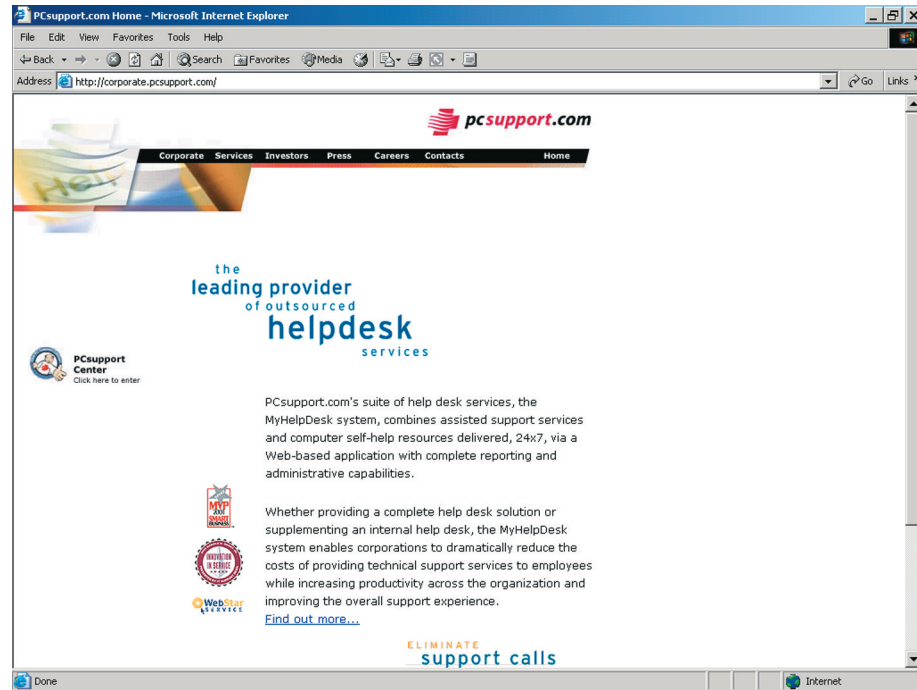

FIGURE 2.5

FastWeb and many other sites offer information and reference material that can greatly benefit you.

Once you begin using FastWeb, you're automatically entered into a daily drawing for education funding.

F I G U R E 2.6

You can do more than just order computers on the Web. Sites such as PCSupport.com provide answers to your technology questions.

Computing

While you're using your computer to find sites on the Web, you might want to think about computer-related sites. Computer-related sites cover a broad range of topics and electronic commerce activities. At Dell (www.dell.com), for example, you can customize your own computer system and pay for it with a credit card.

Other sites cover specific aspects of computers such as software. At software.net (www.software.net) you can buy almost any kind of software you want. While browsing for software, you can do so by category (desktop publishing or graphics), by software name (Word or Excel), and even by publisher (Microsoft or Lotus).

What might really interest you are the sites that can help you be more productive in using your computer or help you fix something on your computer. For example, PCSupport.com (corporate.pcsupport.com) and service911.com (www.service911.com) are both sites devoted to answering your computer-related questions. You can read FAQ pages, send an e-mail to an expert (who will respond within 24 hours), and even participate in a chat room.

Travel

In virtual space (the Web, that is), traveling is fun and easy. Just start typing in Web site addresses and clicking on links and you'll soon be in places all over the world. The Web can also help you visit real places and go on vacations. It doesn't matter if you have your eye on a cruise or simply need to fly home for the holidays; there are many travel and travel-related Web sites that can help.

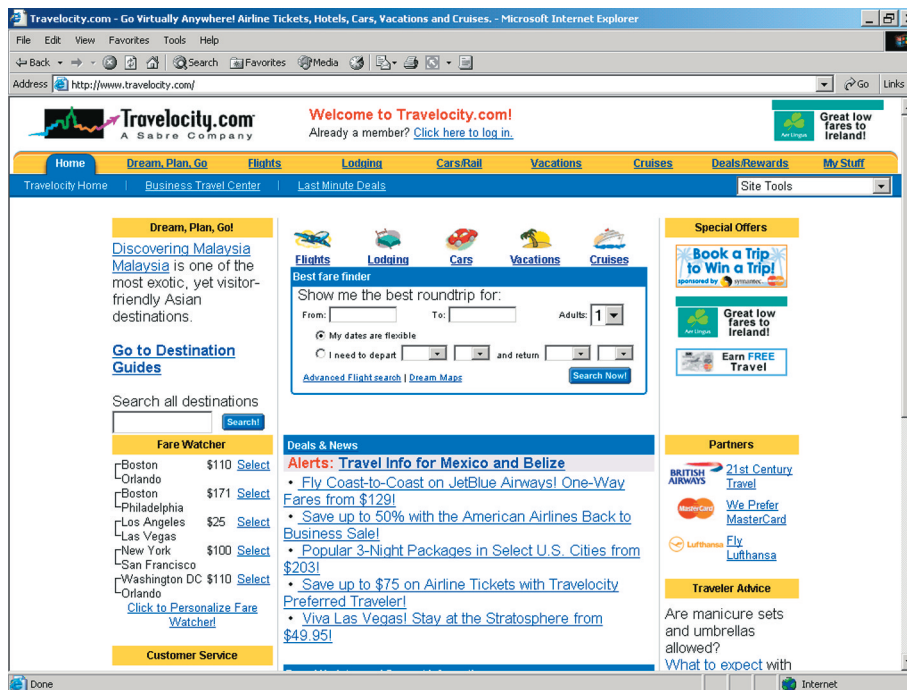*did you* **know?** The *word "stressed" spelled backwards is "desserts."*

The Web is now a great place to schedule all your travel arrangements.

At Travelocity.com (www.travelocity.com shown in Figure 2.7), you can book airline travel, rent cars, and make reservations at hotels around the world. You can even find "fire sale" deals, which are nothing more than extremely cheap airline tickets. They may not be for exactly where you want to go, but, if you don't care and just want to get away, they may be perfect.

Other popular travel sites include Expedia (www.expedia.com), TravelSecrets (www.travelsecrets.com), and HotWire (www.hotwire.com). None of these sites require a fee for their use, and all you need is a credit card to pay for your travels.

USING A SEARCH ENGINE

What if I Don't Know Which Site I Should Be Visiting?

Finding information on the Web can often be easy; other times it can be extremely difficult. What if you need information, but don't know exactly where to find it? Fortunately, you can find your information (and probably more than you want) by using a search engine. A *search engine* is a facility on the Web that allows you to find Web sites by key word or words.

There are two main types of search engines—directories and true search engines. A *directory search engine* organizes listings of Web sites into hierarchical lists. A *true search engine,* on the other hand, uses software agent technologies (we'll discuss these in more detail in a later chapter) to search the Web for key words and place them into indexes.

Suppose, for example, that you wanted to find out who won the Academy Awards in the year 2001. To do so, you could use a directory search engine such as Yahoo! (see Figure 2.8). You would first go to the Yahoo! site by typing www.yahoo.com into the address field. Then, you would click on **Arts & Humanities, Awards, Movies and Films@, Academy Awards,** and **Coverage of the 73rd Annual Academy Awards.** You can then select whatever Web site seems to offer the information you want.
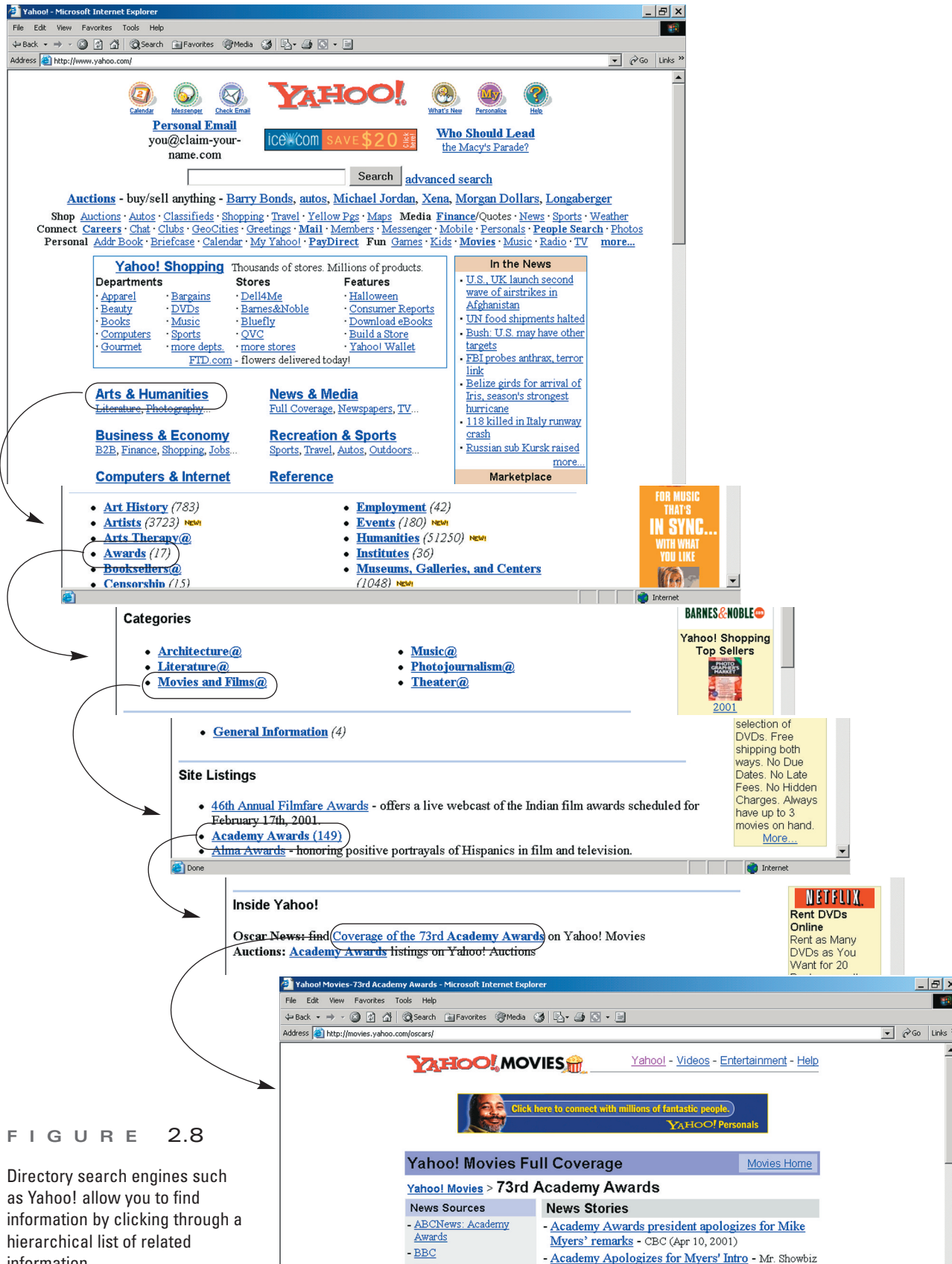
F I G U R E   2.8

Directory search engines such as Yahoo! allow you to find information by clicking through a hierarchical list of related information.

On the other hand, you could use a true search engine, such as Ask Jeeves, to find the same information. Ask Jeeves is a search engine that allows you to enter a question concerning what information you'd like to find. To do so, you would first go to Ask Jeeves by typing www.askjeeves.com into the address field. Then, you would enter the question, "Who won the Academy awards in 2001" (without the quote marks), and click on Ask (see Figure 2.9). As you can see in the second screen, Ask Jeeves then provides a list of Web sites with the information you want.

We definitely recommend that you become acquainted with both types of search engines. Other popular search engines include Mamma.com (www.mamma.com), AltaVista (www.altavista.com), Excite (www.excite.com), HotBot (www.hotbot.com), Lycos (www.lycos.com), and Web-Crawler (www.webcrawler.com).

F I G U R E   2.9

True search engines such as Ask Jeeves allow you to enter a question related to the information you want to find.

i·series insights

Ethics, Security & Privacy

Getting Conned by Dot-Coms

The "brick-and-mortar" business world is full of shady deals and scams. So is the "click-and-mortar" business world of the Web. And it's even harder to pursue and prosecute criminals in the virtual world of the Web. Hiding behind Web site addresses is often an effective mechanism. Here's just a sampling of a few shady deals that have gone down on the Web.

- One-time auction houses advertised for several weeks about an upcoming auction. When the auction was over and money was collected, no goods were shipped.
- Typical credit card fraud in which card numbers were used to illegally order other products.
- "All expenses paid" vacations that ended up including a hotel that wasn't free.
- A variety of health care products that turned out to be snake oil. This is a big scam on the Web.

One Web site even offered free access to adult-oriented material. But it turned out not to be free. Once you went there, the site disconnected your phone call through your modem, kept your line active, and used it to call a long-distance number to another service provider outside the United States.

Be careful when you're ordering products and services on the Web. Deals that seem to be too good to be true probably are. If you feel you've been scammed on the Web, immediately contact the Federal Trade Commission at www.ftc.gov.

SECTION A://

making the grade

1. The _____ is a vast network of networked computers (hardware and software) that connects millions of people all over the world.
2. A _____ is a specific portion of a Web site that deals with a certain topic.
3. If you find a site you'd like to visit frequently, you should add it to your _____ list.
4. A _____ is a facility on the Web that allows you to find Web sites by key word or words.
5. A _____ organizes listings of Web sites into hierarchical lists.

B://HARDWARE AND SOFTWARE FOR SURFING THE WEB

By now, we hope, you're excited about the prospects of surfing the Web. It's actually quite easy to do, and the Web offers something for everyone. Let's take a step back and discuss what hardware and software you need for surfing the Web.

HARDWARE FOR WEB SURFING

What Hardware Do I Need for Surfing the Web?

You can use a variety of hardware configurations to surf the Web—anything from a very expensive notebook or desktop to a relatively inexpensive cell phone. Many people are choosing to access the Web in a variety of ways. They just can't seem to get enough of the Web. You may fall into that category.

Today's Typical Computer Systems

Today's typical computer system that you can buy offers all the hardware you need to surf the Web, including hardware devices such as keyboard, mouse, monitor, and modem. A *modem* is a device that connects your computer through a phone line to a network of other computers. To use your modem, all you have to do is connect it to a phone line and then dial up another computer that's already connected to the Web. We'll talk more about this connection process when we discuss connectivity software in a moment.

Web Computers

There are many people today who want a computer just to surf the Web. They're not really interested in investing a lot of money to have a great deal of CPU speed or a lot of RAM (internal memory). For these people, a Web computer is a nice solution. A *Web computer* is a scaled-down version of today's typical computer system that provides Web access and costs about half the price.

Again, these are great computer systems if you're primarily interested in surfing the Web. They also allow you to use a variety of personal productivity software such as word processing and personal information management. However, if you also want to do a lot of video editing and other intensive tasks, these types of machines are not for you. For a list of Web computers and their capabilities, visit the site for this text at www.mhhe.com/i-series.

Television-Based Web Surfing Machines

As technology becomes more prevalent and widespread, you can expect to see a convergence of devices that offer you access to information. One such convergence that's already occurring is Web access through your television. Many cable TV providers today offer access to the Web through your cable line. If so, your television actually becomes your monitor.

Other products, such as WebTV, offer something similar. If you buy a WebTV system, you get a box that connects to a phone line and your television. The system also comes with a wireless mouse and keyboard. So, you can sit back in your favorite chair and surf the Web on your television from across the room (see Figure 2.10 on the next page).

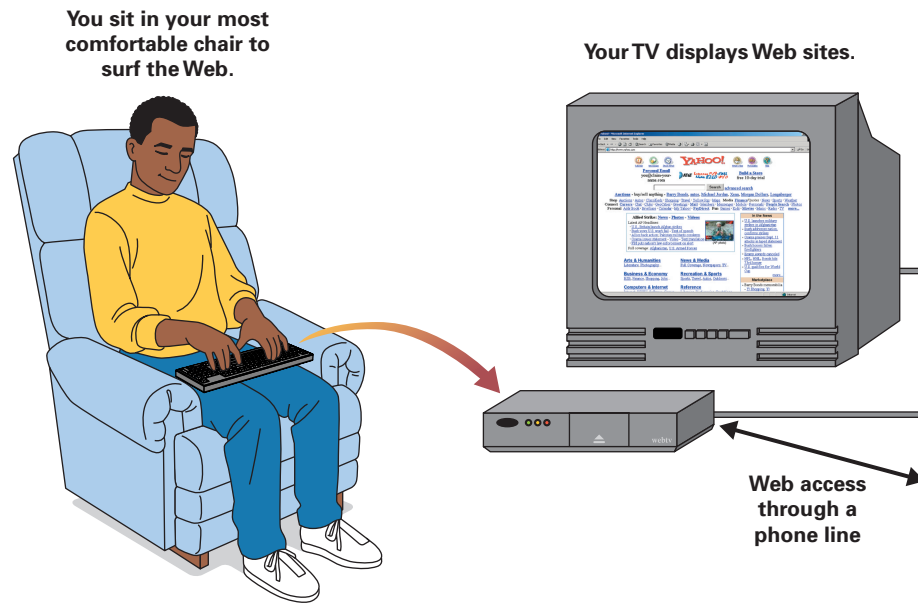However, a WebTV system doesn't include such devices as a disk, CD, or DVD drive. So, you can't do anything with your WebTV system except surf the Web. WebTV systems cost about $100, and then you pay a monthly fee of about $25 to surf the Web.

Web Phones

For people on the go, there are a variety of wireless Web surfing machines, namely, personal digital assistants and Web phones. A *Web phone* is a

F I G U R E   2.10

Television-based Web surfing machines such as WebTV bring the Web to your television screen.

You sit in your most comfortable chair to surf the Web.

Your TV displays Web sites.

Web access through a phone line

special type of cell phone that allows you to access the Web. Most important, Web phones include a microbrowser. A *microbrowser* is Web browser software for Web phones that can display text information in a small amount of space.

Web phones today also offer you other nice features, mainly in the form of personal information management software. So, in addition to making phone calls and accessing the Web, you can use your Web phone to keep appointments, maintain an address book, and take short notes.

Don't buy a Web phone if you want to enjoy hours of Web surfing with cool graphics, animation, and sound. Web phones are ideal for fast access to bits and pieces of information—flight schedules, weather reports, sports scores, and news. This information will come to you primarily in text form (we expect that to change soon).

Pagers

Pager services these days do more than just deliver phone numbers and short text messages—they also give you Web access. The most popular Web-accessing pager today is the Blackberry. While providing basic e-mail services, the Blackberry also delivers content from Bloomberg News, StockSmart Stock Quote, Hollywood.com, and a variety of other Web sites.

Personal Digital Assistants (PDAs)

Many of today's personal digital assistants also provide you with access to the Web. Using a small antenna that neatly folds away, you can dial the Web and access specific Web sites (just as with a Web phone) and receive "Web clippings" from other sites that include *The Wall Street Journal,* ABC News, and Etrade (just as with a Blackberry pager).

We believe that accessing the Web wirelessly with various devices, especially PDAs, is the wave of the future. This will definitely lead to an explosion of m-commerce, or mobile commerce, which we'll discuss in Chapter 4.

did you

know?

Every *possible 2-, 3-, 4-, 5-, and 6-letter combination is now a domain name.*

Special cell phones called Web phones give you access to the Web. But don't expect great graphics or color.

Some high-end pagers such as a Blackberry offer you paging capabilities, e-mail capabilities, and Web access.

Many PDAs today come equipped with a wireless modem and antenna that allow you to access the Web.

F I G U R E   2.11

Web phones, pagers, and PDAs now bring the Web to you wherever you are.

SOFTWARE FOR WEB SURFING

What Software Do I Need for Surfing the Web?

Almost any computer you buy today comes with the software that you need to surf the Web—connectivity software and a Web browser. You're already familiar with Internet Explorer, Microsoft's popular Web browser software. Another popular Web browser is Netscape Communicator. Web browser software is probably the easiest software to learn and use, even on your own with no book or instructions.

Connectivity Software

Connectivity software enables you to use your computer to "dial up" or connect to another computer. When you want to access the Web from home, you must connect your computer to another computer that's already connected to the Web. These computers that are already connected to the Web are owned and maintained by companies such as AOL or Netzero and perhaps even your school.

Let's consider using your school to connect to the Web. When you start your connectivity software (which comes standard on today's computer systems and is usually an icon on your Windows desktop screen), you'll see a box similar to that in Figure 2.12. All you have to do is enter your user name and password, enter a phone number or verify that the existing phone number is correct (contact your school's IT support department for the correct phone number), and click once on the **Dial** button. Your connectivity software will then take over, make a phone call to your school's computer through your modem, and establish a connection between your computer and your school's computer. Then, you simply start your Web browser and you're on the Web.

No matter which Internet service provider you choose, you'll follow a similar process to access the Web. In the next section, we'll explore some of the more popular Internet service provider options.

F I G U R E 2.12

Connectivity software allows you to "dial up" another computer so you can access the Web.
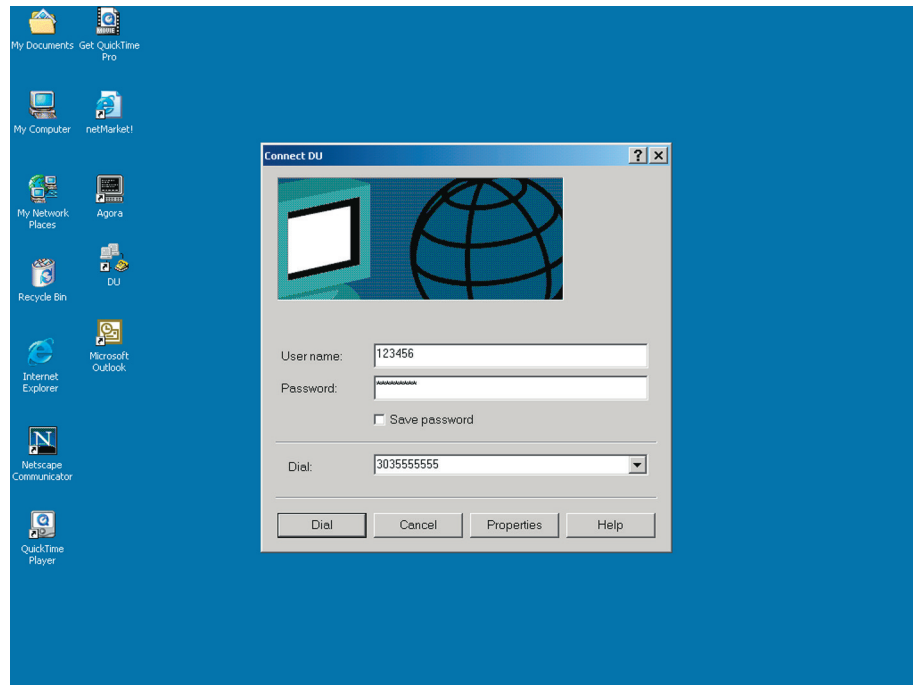
We should also point out that accessing the Web through a telephone line and modem is not the only way to do so. As we've already discussed, you can access the Web wirelessly with a PDA, pager, or cell phone. You also have several other "wired" and "wireless" options that we'll discuss in Chapter 6.

Making Your Decision

For software, your choices are pretty straightforward and simple. The connectivity software you need is already on your computer, so there's no decision to make. For Web browser software, it depends. If you're using AOL to connect to the Web, it provides its own Web browser for you to use, as do most other Internet service providers. If you're using your school to connect to the Web or an Internet service provider that doesn't offer a Web browser, then your choice is either Microsoft's Internet Explorer or Netscape Communicator. The choice is really up to you.

S E C T I O N B : / /   *making the grade*

1. A _____ is a device that connects your computer through a phone line to a network of other computers.
2. A _____ is a scaled-down version of today's typical computer system that provides Web access at about half the price.
3. A popular television-based Web surfing system is _____.
4. A _____ is Web browser software for Web phones that can display text information in a small amount of space.
5. A _____ is a popular Web-accessing pager.

C://INTERNET SERVICE PROVIDERS

To access the Web, you need an Internet service provider. An ***Internet service provider (ISP)*** is a company that provides individuals, organizations, and businesses access to the Internet. ISPs can include your school (you probably have access to the Internet from your school's computer lab), your place of work, and typical for-profit companies such as AOL and Juno. Which you choose is an important decision.

COMMERCIAL INTERNET SERVICE PROVIDERS
Do Some ISPs Offer More than Just Internet Access?

Commercial ISPs charge you a monthly fee, just as your telephone company charges you a monthly fee for phone service. This ISP fee can range from just a few dollars to about $20 per month. Some commercial ISPs may also place a limit on the amount of time you can spend connected to the Internet. If you exceed that time limit, you may have to pay extra by the minute or hour.

Popular worldwide commercial ISPs include Microsoft (MSN), AOL, CompuServe, and AT&T WorldNet, just to name a few (see Figure 2.13). You can also find regional commercial ISPs that serve just your local area. If want to find these, just look in the business listings of your phone book.

In addition to providing access to the Internet, commercial ISPs offer a number of other features and services. For example, most commercial ISPs provide you with Web space. ***Web space*** is a storage area where you keep your Web site. You can't actually keep your Web site on your home computer and have people access it. So, you need Web space to publish your Web site for everyone to see.

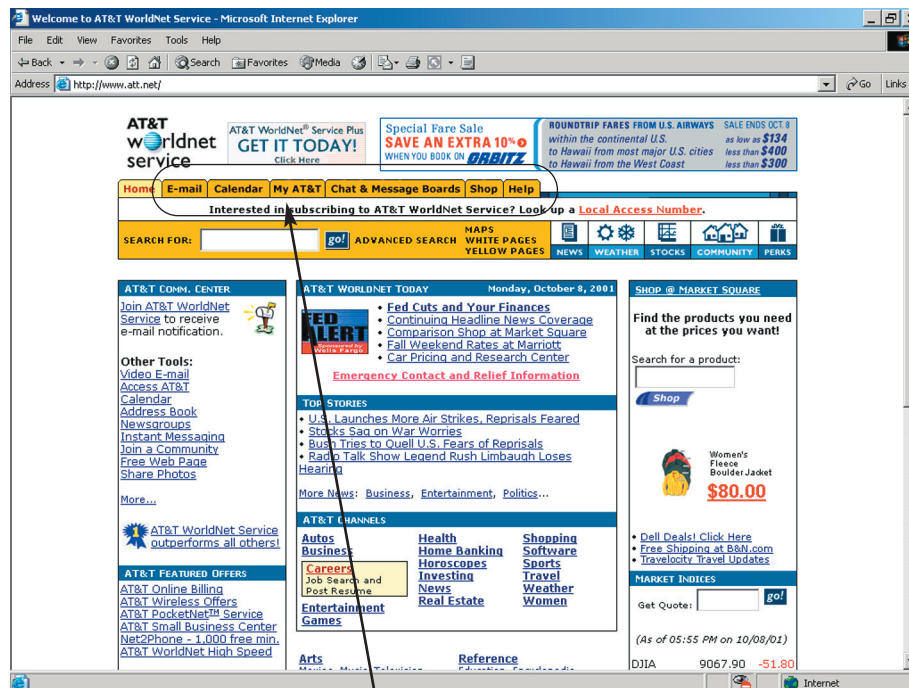**As with most commercial ISPs, AT&T WorldNet provides you with e-mail, chat rooms, customized pages, and many other features.**

F I G U R E   2.13

AT&T WorldNet is a commercial ISP that provides you with a number of features and customization capabilities.

Commercial ISPs also offer free e-mail, chat rooms, and instant messaging. With instant messaging, someone can send you a message and it will immediately appear on your screen as opposed to going to your e-mail box. Most commercial ISPs also offer very good 24-hour technical support in case you have any problems. If you want to shop around and find the right ISP (commercial, or free, which we discuss in a moment), we recommend that you visit internet.com (thelist.internet.com), FindAnISP (www.findanisp.com), or ISP Finder (www.ispfinder.com).

FREE INTERNET SERVICE PROVIDERS

Can I Find an ISP That's Basically Free?

Although commercial ISPs don't cost too much, many people opt for free ISPs. Free ISPs are absolutely free, as their names suggest—you don't pay a setup fee, you don't pay a monthly fee, and you may have unlimited access to the Web. But there are some catches. When you use a free ISP, a banner ad will almost always appear on your screen (see Figure 2.14). You can move it around and from side to side, but you can't get rid of it.

Technical support is often limited with a free ISP. Some offer only e-mail support, while others do offer phone support but no toll-free number. Finally, free ISPs offer you limited Web space, if any at all. And you need Web space if you want to put up a Web site.

Popular free ISPs include FreeLane (www.freelane.excite.com), FreeInternet.com (www.freei.com), Ifreedom.com (www.ifreedom.com), Juno (www.juno.com), and NetZero (www.netzero.com).

F I G U R E   2.14

Juno is a popular free ISP.

Even if you sign up for Juno's platinum service, you will still see banner ads.

YOUR SCHOOL OR WORK

Can I Access the Internet through School or Work?

One of the nice side benefits of going to school or being employed is that you often get free Web access through school or your work. While in school, you can have access to the Web in a lab and often from home. All you have to do is connect to your school's computer with connectivity software and you're ready to surf.

Most work environments with offices offer Web access to their employees. And most places allow you to have Web access while at work and while at home. Again, all you have to do is dial in to your place of work's computer with connectivity software and you're ready to surf.

Something important to consider while using your school or work as an ISP is that many schools and places of work monitor your movements on the Web, and they have the right to do so. Some even restrict where you can go on the Web. That's definitely a downside. The upside is that the service is probably free.

MAKING YOUR DECISION

What Are the Guidelines for Choosing an ISP?

So, which type of ISP is right for you? We can't answer that question but we can offer you some guidelines.

- **Do you need Web space?** If you want to publish your own Web site, free ISPs may not be for you. Your employer may not let you publish your own site.
- **Is great technical support important?** If you want a no-hassle Web experience with solid support, definitely choose a commercial ISP.
- **Is money a serious consideration?** If saving money is the way to go for you, choose a free ISP, your school, or your work.
- **Is privacy important to you?** All ISPs track who's doing what and going where. However, your school and place of work may be the nosiest.

You might also want to consider looking for a package deal with a new computer you buy. Many new systems come with several hundred dollars in rebates as long as you're willing to subscribe to the services of a commercial ISP for a year or more. So, you can buy a computer at the regular price and get commercial ISP service essentially for free, for a period of time.

---

making the grade   **SECTION C://**

1. An _____ is a company that provides individuals, organizations, and businesses access to the Internet.
2. _____ ISPs charge you a monthly fee to access the Internet.
3. _____ is a storage area where you keep your Web site.
4. Juno is a _____ ISP.
5. If you want free access, you can choose from among a free ISP, your school, or your _____.

D://THE INTERNET BEHIND THE WEB

So far, we have been exploring the Web and some of the many great sites to visit. Underneath or behind the Web are the Internet and all its technologies. Let's pop the hood and see what it looks like.

THE STRUCTURE OF THE INTERNET

What Exactly Is the Internet?

The Internet is what makes the Web possible. While surfing the Web, using technologies such as a Web browser, a keyboard, a mouse, a monitor, perhaps a modem for connecting over a phone line to an ISP, and so on, you're relying on and taking advantage of the Internet—the vast network of computers that connects millions of people all over the world.

Internet Technologies

The Internet is a collection of hardware and software in the form of a worldwide network. A *network* is simply a collection of computers that support the sharing of information and hardware devices. The *Internet backbone* is the major set of connections for computers on the Internet (see Figure 2.15). A *network access point (NAP)* is a point on the Internet where several connections converge. At each NAP is at least one computer that simply routes Internet traffic from one place to the next. These NAPs are owned and maintained by a network service provider. A *network service provider (NSP),* such as MCI or AT&T, owns and maintains routing computers at NAPs and even the lines that connect the NAPs to each other. (In Figure 2.15, you can see that Dallas is a NAP, with lines converging from Atlanta, Los Angeles, Kansas City, Houston, and Austin.)

At any given NAP, an ISP such as AOL may connect its computers to the Internet. In turn, you connect your computer to an AOL computer (by dialing it up with connectivity software). So, your ISP provides you access to the Web by allowing you to connect your computer to the Internet through its computer.

F I G U R E   2.15

The Internet backbone is the major set of connections for computers that make up the Internet.

http://www.usatoday.com/sports/sfront.htm

Computer name
or starting page
for the Web site

Folder
name

Document
or file name

Some site addresses have two characters that follow
the top-level domain. In this case, it's identifying the
country location of the site. The site address below is
for the University of Technology in Sydney, Australia.

http://www.uts.edu.au

The "au" stands for Australia.

F I G U R E   2.16

The anatomy of a URL is very
similar to the path name for a file
located on your computer.

Internet Addresses and Domain Names

When you access a certain site, you do so with its address, such as
www.usatoday.com (for the *USA Today*). Technically, this address is a do-
main name. A ***domain name*** identifies a specific computer on the Inter-
net and the main page for an entire site. If you visit a particular Web page
within the *USA Today* such as Sports, its address is www.usatoday.com/
sports/sfront.htm. The technical name for this address is a URL (see Fig-
ure 2.16). A ***URL (uniform resource locator)*** is an address for a specific
Web page or document within a Web site. Again, domain name and URL
are the technical terms. Almost everyone today uses the terms *Web site,
Web page,* and *address* instead of "domain name" and "URL."

Domain names tell you a lot about the site you're visiting, as
www.etrade.com tells you the site name (Etrade) and that it's a commer-
cial organization by the last three letters—"com." This last three-letter ex-
tension can take on other forms—edu, gov, mil, and many others—and is
referred to as the ***top-level domain*** (see Figure 2.17). Thus, www.ucla.edu
is the site address for UCLA, an educational institution.

Domains	Description
Com	Commercial or for-profit business
Edu	Educational institution
Gov	U.S. government agency
Mil	U.S. military organization
Net	Internet administrative organization
Org	Professional or non-profit organization
Int	International treaties organization

F I G U R E   2.17

Top-level domains are three-
character extensions that tell
you what type of organization
you're accessing.

practically speaking

How Old Is the Internet?

You may send e-mail and surf the Web almost every day and take them for granted. Have you ever stopped to realize that not long ago neither of them existed? What was merely an idea 50 years ago today is a vast collection of computers and applications such as the World Wide Web criss-crossing the planet.

It all began in 1957 when the U.S. government formed a military research agency to keep up with its cold war enemy the Soviet Union, which had launched the first satellite, called Sputnik 1. The United States wanted to remain technologically ahead of the Soviets so it formed DARPA (Defense Advanced Research Projects Agency) whose scientists investigated new technologies.

With new knowledge came new vulnerabilities. Worried about having to keep what they were investigating and learning all in one location, DARPA sought to protect the nation's information by linking together computers so as to guard against losing all the information should a key computer fail. These connected computers formed the ARPANet (Advanced Research Projects Agency Network), which scientists also used to talk to one another and share files. This was the grandparent of the Internet as we know it today. The ARPANet started with only four computers in 1969. Today over 95 million across the world form our Internet. That's a pretty phenomenal spurt of growth for just over 30 years, don't you think? Of course the Internet is still growing.

The World Wide Web is even younger than the Internet. It is *very* recent. In 1991, a computer scientist named Tim Berners-Lee created a program that worked on his employer's computer system enabling people to link their documents and files together. Future Web surfers, however, still lacked one thing: software. It wasn't until a couple of years later that Marc Andreessen released *Mosaic for X,* a graphical Web browser. He went on to cofound Netscape and a Web browser called Netscape Navigator. Soon companies such as Microsoft were making Web browsers as well. The Web

caught on. In 1993 there were only 130 Web sites. Think of it—less than 10 years ago few people had ever heard of the Web. Today you can visit more than 25 million Web sites.

To learn more about the history and growth of the Internet, visit our Web site at www.mhhe.com/i-series.
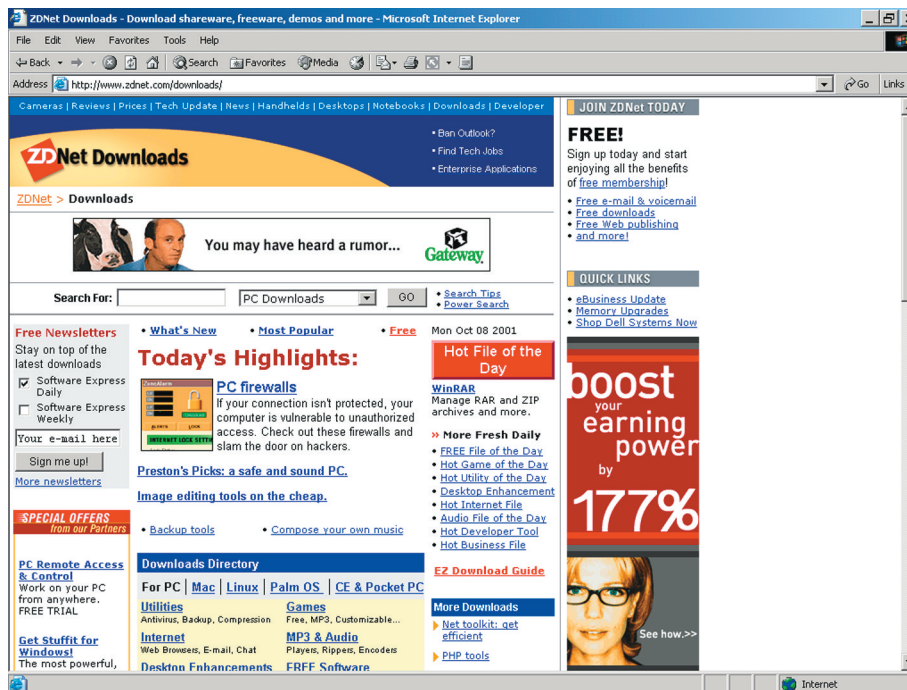
1969
ARPANet

Today's
Internet

F I G U R E   2.18

FTP servers such as
Zdnet.com/downloads maintain
many files that you can
download to your computer.

COMPUTERS ON THE INTERNET

Are There Different Types of Computers on the Internet Performing Different Functions?

There are two basic types of computers on the Internet—servers and clients. A ***server computer*** (also called a ***host computer***) is a computer on the Internet that provides information and services to other computers and Internet users such as you. Server computers can be high-end work-stations, minicomputers, and even mainframe computers. A ***client computer*** is essentially the computer you use to move around the Internet and access the information and services on a server computer. So, a client computer can be your desktop or notebook, your cell phone, or even your TV-based computer system.

There are many types of server computers on the Internet. The one we've focused on is a Web server. A ***Web server*** provides information and services to Web surfers. So, when you access www.census.gov to obtain government census data, you're accessing a Web server with your client computer. Most often, you'll be accessing and using the services of a Web server.

Other servers on the Internet include mail servers, FTP servers, and IRC servers. A ***mail server*** provides e-mail services and accounts. An ***FTP server*** maintains a collection of files that you can download (see Figure 2.18). These files can include software, music files, and games. An ***IRC (Internet relay chat) server*** supports your use of discussion groups and chat rooms. IRC servers are popular hosting computers for sites such as www.epinions.com (which you visited in Chapter 1).

INFORMATION ON THE INTERNET
How Does Information Move from Computer to Computer on the Internet?

As information moves around the Internet, bouncing among network access points until it finally reaches you, it does so according to various communications protocols. A ***communications protocol (protocol)*** is a set of rules that every computer follows to transfer information.

Protocols are very necessary in a network environment because different types of computers handle information internally in different forms, and there are many types of computers on the Internet—server computers that can be minicomputers, perhaps hand-held computers such as your cell phone, everybody's desktops. If we want them all to communicate effectively, computers must have common protocols for moving information among themselves on the Internet.

TCP/IP

TCP/IP (Transport Control Protocol/Internet Protocol) is the basic communications protocol that makes the Internet work. It defines the rules that allow various computers to communicate across the Internet. It doesn't matter if you're viewing a multimedia presentation from a Web server, transferring a file from an FTP server, or chatting across an IRC server, TCP/IP is the foundation for the movement of the information.

Hypertext Transfer Protocol (http)

Hypertext transfer protocol (http) is the communications protocol that supports the movement of information over the Web, essentially from a Web server to you. That's why Web site addresses start with "http://." That beginning portion of the address informs all the Internet technologies that you want to access something on the Web. For example, it tells your browser software that you want to access a Web site. Most browser software today assumes that you want to access a Web site on the Internet. So, you don't even have to type in the "http://" if you don't want to. Essentially, http://www.whitehouse.gov is the same thing as www.whitehouse.gov.

If you recall, the Web is the Internet in multimedia form. So, when you access a Web site, your computer is using both TCP/IP (to transfer any type of information over the Internet) and http (because the information you want is Web-based).

File Transfer Protocol (FTP)

File transfer protocol (FTP) is the communications protocol that allows you to transfer files of information from one computer to another. FTP servers are popular stops for Web surfers who want to download a variety of different types of files—software such as games and music are the most common. When you download a file from an FTP site, you're using both TCP/IP (the basic Internet protocol) and FTP (the protocol that allows you to download the file).

If you'd like to read more about the technical Internet, we've provided a list of books and resources on the Web site for this text at www.mhhe.com/i-series. You can also visit the Interactive Companion Labs and choose "Internet Overview."

did you know?

An *Audi TT two-door coupe sells for $35,650 on the Web. A local dealership quoted $35,800 for the car.*

making the grade

1. A _____ computer (also called a host computer) is a computer on the Internet that provides information and services to other computers and Internet users such as you.

2. A _____ is a point on the Internet where several connections converge.

3. A _____ is the technical term of an address on the Internet.

4. A _____ is a set of rules that every computer follows to transfer information.

5. _____ is the communications protocol that supports the movement of information over the Web, essentially from a Web server to you.

E://CONSUMER ISSUES

E-MAIL

How Can I Use E-Mail to Communicate with Other People?

E-mail (short for *electronic mail*) is software you use to electronically communicate with other people. You send an e-mail message instead of writing a letter and sending it through the postal system. Using e-mail is almost as simple as using a Web browser. To receive e-mail messages, you need an e-mail address. An *e-mail address* is a unique address for a person using an e-mail system. Consider Stephen Green, a student at UCLA. His e-mail address could appear as stephen_green@ucla.edu. Not all e-mail systems use a person's full first and last name; some will simply use the first initial with the last name such as sgreen@ucla.edu.
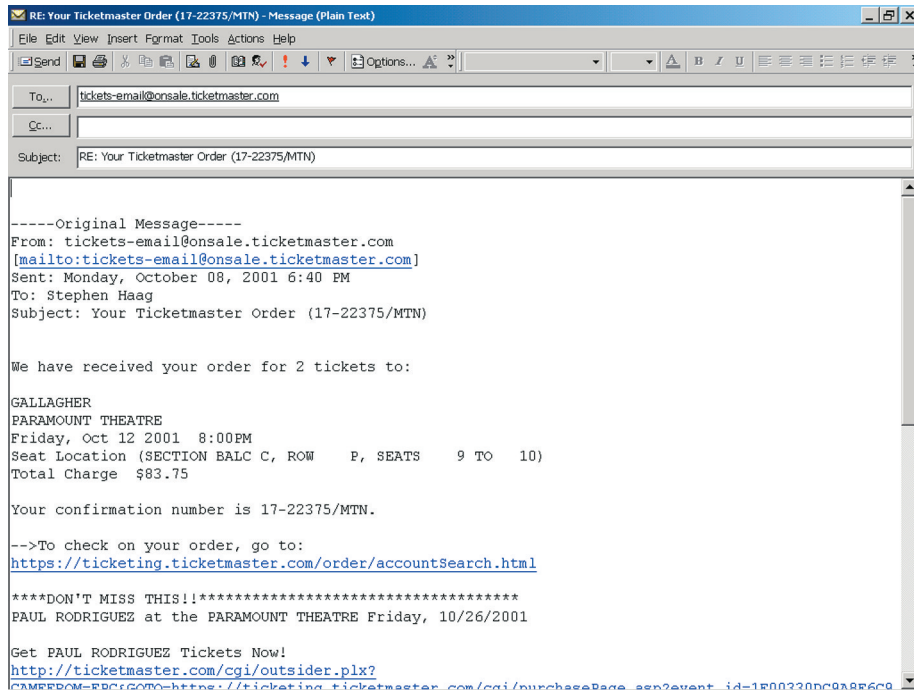
To give you a short demonstration of e-mail, we'll use Microsoft Outlook, a Microsoft product (most e-mail software looks and acts very similar to Outlook). In Figure 2.19, you can see a sample of an electronic mailbox. An open envelope beside a message indicates mail you've already
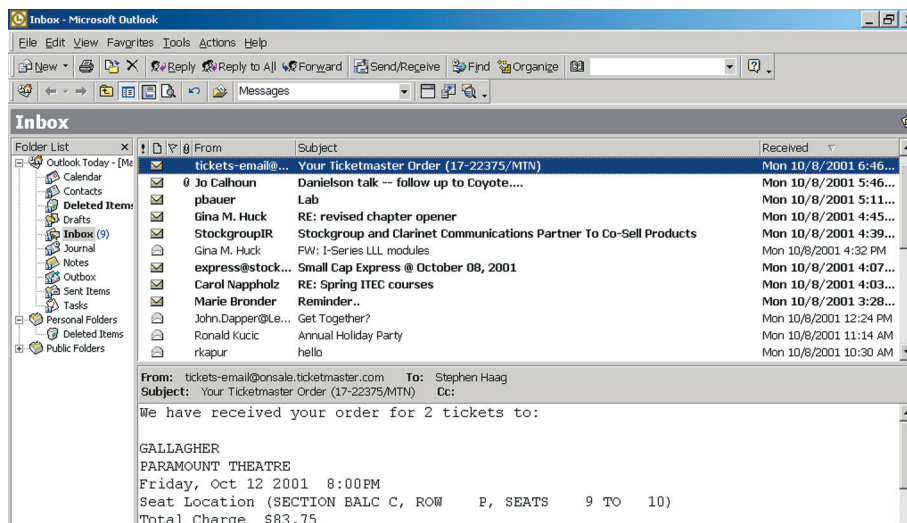
FIGURE 2.19

A Microsoft Outlook mailbox shows you your received messages.

When you reply to a message, a "reply to" form like this one makes it easy for you to respond to an e-mail.


```
RE: Your Ticketmaster Order (17-22375/MTN) - Message (Plain Text)                    _ 8 X
File  Edit  View  Insert  Format  Tools  Actions  Help

Send

To...      tickets-email@onsale.ticketmaster.com
Cc...
Subject:   RE: Your Ticketmaster Order (17-22375/MTN)


-----Original Message-----
From: tickets-email@onsale.ticketmaster.com
[mailto:tickets-email@onsale.ticketmaster.com]
Sent: Monday, October 08, 2001 6:40 PM
To: Stephen Haag
Subject: Your Ticketmaster Order (17-22375/MTN)


We have received your order for 2 tickets to:

GALLAGHER
PARAMOUNT THEATRE
Friday, Oct 12 2001  8:00PM
Seat Location (SECTION BALC C, ROW     P, SEATS     9 TO   10)
Total Charge  $83.75

Your confirmation number is 17-22375/MTN.

-->To check on your order, go to:
https://ticketing.ticketmaster.com/order/accountSearch.html

****DON'T MISS THIS!!************************************
PAUL RODRIGUEZ at the PARAMOUNT THEATRE Friday, 10/26/2001

Get PAUL RODRIGUEZ Tickets Now!
http://ticketmaster.com/cgi/outsider.plx?
CAMEFROM=EBC&GOTO=https://ticketing.ticketmaster.com/cgi/purchasePage.asp?event_id=1F00330DC9A8F6C9
```

read; an unopened envelope indicates new mail you haven't read. You can easily read any message by double-clicking on it.

You can respond to a message by simply clicking on the **Reply** button. Outlook will display a "reply to" form and automatically fill in the **From, To,** and **Subject** fields (see Figure 2.20). Outlook also includes the message you originally received. All you have to do is type in your response and click on **Send.** It's that easy.

You can also send someone an e-mail message without first receiving one from them. In this case, you click on the **New** button. Outlook will display a form similar to the "reply to" form. In this instance, you have to enter information in the **To** and **Subject** fields, compose your message, and click on **Send.**

As we said, e-mail is easy to use, and you can learn it in a short time. To learn more about e-mail, visit the Interactive Companion Labs and choose "E-mail Essentials."
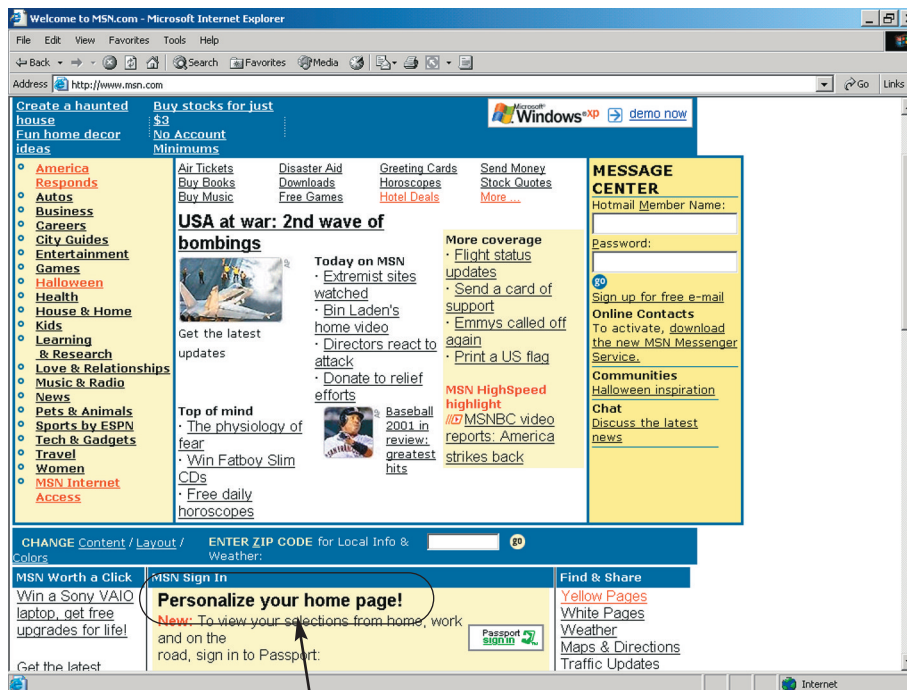
WEB PORTALS

Where Do I Start on the Web?

Most Web browser software is already configured to take you to a certain Web site when you start surfing. For example, Internet Explorer usually starts at the Microsoft Network site (MSN at www.msn.com). Sites such as MSN (see Figure 2.21), Yahoo! (www.yahoo.com), and The Go Network (www.go.com) are Web portals. A *Web portal* is a site that provides a wide range of services, including search engines, free e-mail, chat rooms, discussion boards, and links to hundreds of different sites.

The nice thing about Web portals is that they often let you customize the first page you see. So, you can request a ticker of your favorite stocks, the weather forecast for your area over the next three days, and a list of the sites you most commonly visit.

Web portals such as MSN.com offer many services and most often allow you to customize your home page.

Personalize your home page here at MSN.com.

QUESTIONS AND ANSWERS

1. How Fast Can I Surf the Web?

Speed, as far as surfing the Web is concerned, means how fast you can access and load Web sites into your Web browser. In your school's computer lab, it may seem very fast. At home, however, it may be another story. What determines this speed is bandwidth. *Bandwidth* is the amount of information that can travel from one place to another in a given amount of time. We most often measure bandwidth in terms of bytes per second. So, if you have a 56k modem, your computer can receive information at a rate of 56 kilobytes per second. So in general, the faster your modem the faster you can surf the Web.

2. Can I Spend Too Much Time Surfing the Web?

Yes, you can. This is a real problem for many people, and this problem is a mental health issue. Some people become so addicted to the Web that they stay up all night to surf the Web, miss classes or work, and even eat their meals right in front of their computer. Too much of anything is not good. If you need to check your e-mail every 30 minutes or can't seem to stay out of chat rooms, you need some time away from the Web.

3. Will the Web Ever Go Away?

Definitely not. The Web is not the "technology fad of the month." Businesses and individuals alike are becoming increasingly dependent on the Web. Millions of people couldn't do without it. And that's okay. We would have a difficult time surviving without electricity. It, too, is just a technology, and it was also once "new."

i·*witness*

An Up-Close Look at Web Sites

Images

One of the fastest and easiest ways to make your Web site sizzle is to incorporate images. Images are simply artwork or photos that enhance the visual appeal of your Web site. Of course, you need to be careful not to add too many images to your Web site. Images can be fairly large, requiring a longer time for them to load. If the viewer can't load your Web site quickly, he or she may move on.

We've provided three Web sites for you to review. One Web site includes good use of images and loads fairly quickly. The second Web site includes too many images and takes too long to load. Finally, the third Web site has no images. These three sites are:
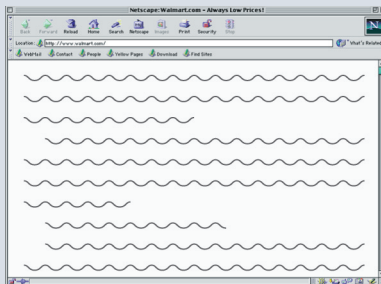
www.mhhe.com/i-series/I-Witness/2-A.html

www.mhhe.com/i-series/I-Witness/2-B.html

www.mhhe.com/i-series/I-Witness/2-C.html

Which makes the best use of images and loads quickly? Which

has too many images and takes too long to load? Which has no images at all?

For the Web site with no images, make some recommendations concerning what images might be appropriate and where they would appear. You can connect to the site for this text and download these Web sites to your computer. You can then make the changes yourself. If you'd like a list of Web sites that offer free images, connect to www.mhhe.com/i-series.
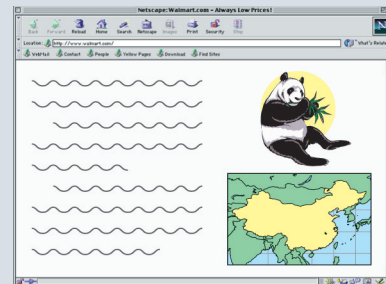
As a final note, Web sites can usually only display images in formats that include JPG, JPEG, or GIF.

HTML Reference:

- Insert an image
  <IMG SRC="filename.ext">

- Center an image
  <CENTER><IMG SRC="filename.ext"></CENTER>

- Right justify an image
  <IMG SRC="filename.ext" ALIGN=RIGHT>

SECTION E:// *making the grade*

1. _____ is software you use to electronically communicate with other people.
2. An _____ is a unique address for a person using an e-mail system.
3. A _____ is a site that provides a wide range of services, including search engines, free e-mail, chat rooms, discussion boards, and links to hundreds of different sites.
4. _____ is the amount of information that can travel from one place to another in a given amount of time.

F://SUMMARY AND KEY TERMS

The **World Wide Web (Web)** is the Internet in multimedia form. On the Web, you can enjoy sound, animation, images, photos, and even video. A **Web site** is a specific location on the Web where you visit, gather information, and perhaps order products. Most Web sites are composed of **Web pages,** a specific portion of a Web site that deals with certain topics. Most Web sites include numerous—if not hundreds of—Web pages.

If you need to find information on the Web but don't know where to go, you can use a **search engine.** There are two types of search engines— a **directory search engine** and a **true search engine.** Both use a key word or words to classify Web sites.

Hardware and software for surfing the Web include:

Hardware

- Today's typical computer systems which have everything you need.
- **Web computers** that are scaled down versions of typical computers systems at about half the price.
- Television-based Web surfing machines such as WebTV.
- **Web phones,** a special type of cell phone that allows you to surf the Web.
- Pagers such as a Blackberry that deliver content from specific sites.
- Personal digital assistants (PDAs) that deliver "Web clippings" from certain sites.

Software

- **Connectivity software** that enables you to use your computer to "dial up" or connect to another computer.
- Web browser software that allows you to surf the Web. Web browsers for cell phones are **microbrowsers.**

To connect to the Web, you need an **Internet service provider (ISP),** a company that provides individuals, organizations, and businesses access to the Internet. ISPs can be commercial such as AOL, free such as Juno, and perhaps even your school or place of work.

Behind the Web is the **Internet,** a vast network of computers that connects millions of people all over the world. Much of the **Internet backbone** is owned and operated by **network service providers (NSPs).** These NSPs maintain **network access points (NAPs),** places on the Internet where several connections converge and ISPs can connect their computers.

A **domain name** is the technical term for a server computer and Web site and identifies the main page for an entire site. **URL** is the technical term for a Web page or document within a Web site. You access these server computers and Web sites with your **client computer.** Popular servers include **Web servers, mail servers, FTP servers,** and **IRC servers.**

Communications protocols are sets of rules that every computer follows to transfer information on the Internet. **TCP/IP** is the communications protocol that all information transfers on the Internet follow. If

you're visiting a Web site, you're also using the ***hypertext transfer protocol (http).*** If you're downloading information from an FTP server, you're also using the ***file transfer protocol (FTP).***

Finally, we've provided a great deal of support for this chapter on the Web site for this text at www.mhhe.com/i-series. That supports includes:

- Career sites.
- Search engines.
- Web computers.
- Technical Internet resources.

KEY TERMS

bandwidth (p. 2.25)

client computer (p. 2.21)

communications protocol (protocol) (p. 2.22)

connectivity software (p. 2.13)

directory search engine (p. 2.7)

domain name (p. 2.19)

e-mail (electronic mail) (p. 2.23)

e-mail address (p. 2.23)

file transfer protocol (FTP) (p. 2.22)

FTP server (p. 2.21)

hypertext transfer protocol (http) (p. 2.22)

Internet (p. 2.2)

Internet backbone (p. 2.18)

Internet service provider (ISP) (p. 2.15)

IRC (Internet relay chat) server (p. 2.21)

mail server (p. 2.21)

microbrowser (p. 2.12)

modem (p. 2.11)

network (p. 2.18)

network access point (NAP) (p. 2.18)

network service provider (NSP) (p. 2.18)

search engine (p. 2.7)

server computer (host computer) (p. 2.21)

TCP/IP (Transport Control Protocol/Internet Protocol) (p. 2.22)

top-level domain (p. 2.19)

true search engine (p. 2.7)

URL (uniform resource locator) (p. 2.19)

Web computer (p. 2.11)

Web page (p. 2.3)

Web phone (p. 2.11)

Web portal (p. 2.24)

Web server (p. 2.21)

Web space (p. 2.15)

World Wide Web (Web) (p. 2.2)
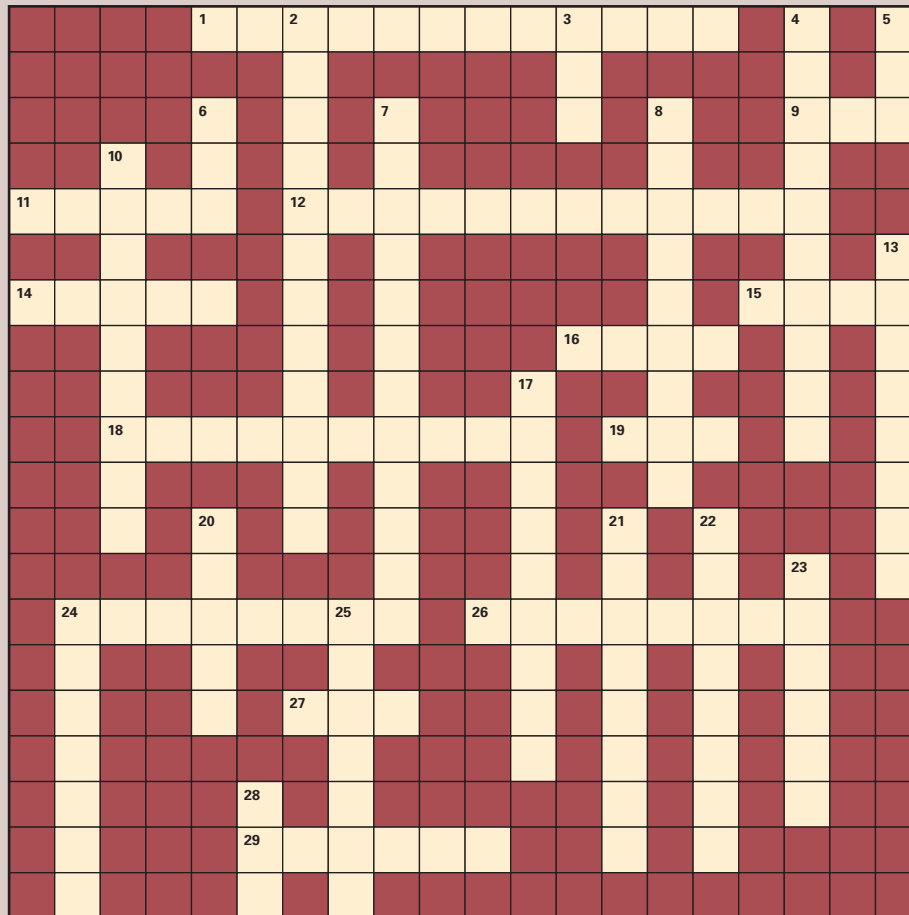
chapter two

review of *terminology*

CROSSWORD PUZZLE

Across

1. Web browser for cell phones
9. Connects businesses and people to the Internet
11. No more snail mail
12. Unique for you in e-mail
14. Device for connecting your computer to an ISP
15. Not a directory search engine
16. Hypertext transfer protocol
18. Same as URL
19. Server that supports chat rooms
24. Cell phone for accessing the Web
26. Standards by which computers communicate
27. For transferring files among computers
29. Provides services to you

Down

2. Software to connecting your computer to another computer
3. The Internet to you
4. Server that supports e-mail
5. Connection point on the Internet
6. Same as domain name
7. For finding Web sites by key words
8. Search engine that creates hierarchical lists
10. What determines speed on the Internet
13. Where you keep your Web site
17. Personalized Web starting point
20. The basic communications protocol of the Internet
21. Biggest network there is
22. Supporting structure of the Internet
23. Your computer on the Internet
24. Portion of a Web site
25. Two or more computers connected together
28. Business that supports the Internet

 # review of terminology

chapter two

LEVEL ONE

QUESTIONS AND EXERCISES

Multiple Choice

1. A specific portion of a Web site that deals with a certain topic is a
a. Web server.
b. Web page.
c. Web site address.
d. Web page address.
e. URL.

2. The Internet is an example of a
a. network service provider.
b. network access point.
c. network.
d. Web.
e. communications protocol.

3. You use your client computer to access a _____ computer on the Internet.
a. modem
b. Web browser
c. search engine
d. server
e. cookie

4. A _____ is a site that provides a wide range of services, including search engines, free e-mail, chat rooms, discussion boards, and links to hundreds of different sites.
a. Web computer
b. Web portal
c. Blackberry
d. communications protocol
e. Web phone

5. _____ is the amount of information that can travel from one place to another in a given amount of time.
a. Bandwidth
b. Communications protocol
c. ISP
d. NAP
e. NSP

6. An example of a television-based Web surfing machine is
a. a Web portal.
b. a server computer.
c. a client computer.
d. a search engine.
e. WebTV.

7. Web browser software for Web phones is a
a. microbrowser.
b. search engine.
c. Web portal.
d. cookie.
e. modem.

8. _____ software enables you to use your computer to "dial up" or connect to another computer.
a. http
b. Connectivity
c. Communications
d. Web browser
e. Microbrowser

9. A(n) _____ is a company that provides individuals, organizations, and businesses access to the Internet.
a. NAP
b. NSP
c. cookie
d. ISP
e. Internet backbone

10. Most commercial ISPs provide you with
a. a cookie.
b. Web space.
c. a Web phone.
d. a microbrowser.
e. a Blackberry.

True/False

11. ____ The Internet is a vast network of computers that connects millions of people in the United States.

12. ____ A network access point is a point on the Internet where several connections converge.

13. ____ A network service provider provides you with free e-mail and Web space.

14. ____ Technically, a Web site address is a domain name.

15. ____ Technically, a Web page address is an NRL.

www.mhhe.com/i-series

2.30

review of *concepts*

QUESTIONS AND EXERCISES

1. In the real world, you can find many equivalents to the Internet and all its technologies. For each real world concept below, provide the Internet equivalent.

1234 Main Street _____

1234 Main Street Apt #12A _____

Stop light _____

Interstate _____

Yellow pages _____

Motorcycle _____

Telephone company _____

1-800 number _____

Post office box _____

State, such as Maine _____

Handshake _____

Application form _____

Water hose _____

2. For each of the following answers, create the question:

ANSWER	QUESTION
A. Most of the time, http://.	_____
B. A collection of Web pages.	_____
C. 4 million.	_____
D. Your frequently visited Web sites.	_____
E. Connects your computer through a phone line to a network of other computers.	_____
F. About half the price of today's typical computer systems.	_____
G. Web browser software for a cell phone.	_____
H. Partner to connectivity software.	_____
I. NSP.	_____
J. Where you keep your Web site.	_____
K. Juno.	_____
L. What your school can be.	_____
M. Major set of connections for computers on the Internet.	_____
N. For hosting discussion groups or chat rooms.	_____
O. The basic communications protocol for all Internet traffic.	_____

hands-on *projects*

LEVEL THREE

e-commerce

1. Games

Some of the most popular sites on the Web are those where you can buy, sell, and trade games and even play games online. Of course, many sites even offer free games (called freeware and shareware, which we cover in the next chapter).

Below, we've provided four sites where you can buy, sell, and trade games. Connect to a couple of these and let's see what's there.

- GamEscapes—www.gamelover.com
- GameSpot—gamespot.com
- GameStop.com—www.funcoland.com
- Blockbuster—www.blockbuster.com

For the two sites you visit, answer the following questions:

a. How can you search for games—by title, publisher, category, etc.?

b. Can you buy both new and used games?

c. Are chat rooms present so you can talk to other gamers?

d. Are product reviews provided?

e. Are tips provided concerning how to play certain games and achieve really high scores?

f. Can you demo video games or perhaps watch short clips of them on your screen?

g. What's the return policy for a game you buy but would rather not keep?

2. Books

Buying books on the Web is a simple process. Just connect to any one of hundreds of sites selling books, find the ones you want, pay for them (usually by credit card), and wait for them to arrive in the mail. Let's see how this process works. Below, we've provided four sites that sell books. Connect to two of them.

- Amazon—www.amazon.com
- Barnes & Noble—www.barnesandnoble.com
- Borders—www.borders.com
- Fat Brain—www.fatbrain.com

Now, think of a book that you'd like to buy (it can be one you already own or perhaps even a textbook like this one). For that book, perform the following tasks and answer the following questions:

a. How can you search for that book—by author, title, category, or perhaps some other way?

b. Can you buy the book in either soft-cover or hard-cover format?

c. Does the site recommend other books you might be interested in based on the one you're looking for?

d. Is there a shipping fee? If so, what is it?

e. How can you pay for the book? Do you have to use a credit card?

Now, armed with that information, visit a local bookstore and find the same book. Is it cheaper in the local bookstore or on the Web?

Finally, what steps are brick-and-mortar bookstores taking to keep people from shopping on the Web? Do they offer extra services? Can any of those services be duplicated by click-and-mortar bookstores?

3. Auctions

One of the truly great things about the Web is that it has brought together people from all over the world with common interests. You can discuss issues in chat rooms, join fan clubs, and buy and sell items in auction houses. If you have a particular hobby or enjoy collecting memorabilia, auction houses will probably be a place you'll want to visit. Below, we've listed several popular auction houses on the Web.

- eBay—www.ebay.com
- Haggle Online—www.boxlot.com
- AuctionAddict.com—www.auctionaddict.com
- AuctionUS—www.auctionus.com

All of these auction houses offer similar features. So, let's just visit one and do some fact finding. Pick one that interests you and answer the following questions:

a. What process do you go through to register as a buyer or seller?

e-commerce

b. Can you search for items without registering first?

c. Does the auction house guarantee the quality and authenticity of items being sold?

d. What sort of mechanism is used to rank the quality of buyers and sellers?

e. What search capabilities can you use to find items that might interest you?

f. How does the auction house make money by simply letting other people buy and sell products?

Auction houses are one of the most popular stops on the Web, with eBay leading the way. Why do you think this is true? Are people getting good deals on items they buy or sell? If people are selling items for a high price (getting a good deal), then aren't buyers paying too high a price?

4. Finding an Internet Service Provider (ISP)

Finding an ISP is certainly not a difficult task. There are many to choose from and most have similar fees and features. The two major categories of ISPs are free and commercial, with commercial ISPs charging fees but offering more features and services.

Below, we've provided four Web sites that will help you find the right ISP. Visit a couple of these and find at least two ISPs that might interest you.

- Internet.com—thelist.internet.com
- FindAnISP—www.findanisp.com
- ISP Finder—www.ispfinder.com
- Netscape ISP Locator—home.netscape.com/computing/isp_locator/index.html

For the two ISPs you're interested in, answer the following questions:

a. What is the monthly subscription rate?

b. For how long must you sign an agreement?

c. Is an e-mail service provided?

d. Is Web space provided?

e. How fast can you surf the Web? That is, what's the bandwidth speed?

f. Do you have to download and install any software?

g. What sort of technical support is provided?

h. Based on your answers to the questions above, which ISP would you choose? Why?

hands-on *projects*

on the web

1. Your School's Web Site Structure

At the beginning of this chapter, we took a brief look at the *USA Today* Web site and how it creates a well-organized hierarchy of Web pages. This is key to developing a good Web site. Visit your school's Web site (its address is probably www.schoolname.edu where schoolname is your school's actual name or abbreviation). As you click on various links, draw the hierarchy of your school's Web site, just as we did in Figure 2.2 on page 2.3. Is your school's Web site well organized and easy to follow? How easily can you find a list of classes for the upcoming term? A list of faculty members by department? A list of majors and minors? How would you reorganize your school's Web site from a student point of view?

2. Free E-Mail

If all you want is e-mail, you certainly don't need to pay for it. Many Web portal sites such as Microsoft Network (MSN at www.msn.com) and The Go Network (www.go.com) offer free e-mail to anyone who wants it (you don't even have to use these sites as your ISP). Connect to one of those sites and subscribe to a free e-mail service. What information do you have to provide? How do you get to pick your e-mail address? Did you find perhaps that someone had already chosen the e-mail address you wanted? After a few days, connect to your new free e-mail again. Do you have any e-mail messages? Whom are they from?

3. Library Resources

The Web can certainly help you write your term papers. You no longer need to spend endless hours in the library trying to find past issues of magazines. You can simply connect to any one of several library resource sites and find almost everything you need. Connect to a couple of sites we've listed below.

- IFLA—www.ifla.org
- Library of Congress—www.loc.gov
- Internet Public Library—www.ipl.org
- Cline Library (Northern Arizona University)—www.nau.edu/~cline/

While you're there, try to look up some information for a term paper you have to write. Can you find information in books, magazines, or other periodicals? Can you print information you want or request that it be sent to you? Do you have to pay any fees to obtain information? Can the Web really help you gather information for a term paper?

4. Humor on the Web

As we've stated many times, you can find almost anything on the Web. Often, it's fun and entertaining just to see what's out there. Explore the Web for humor. That's right—humor. You can connect to any search engine site and type in such words as "humor," "jokes," and even "cartoons." In fact, you might want to start at:

- CartoonBank—www.cartoonbank.com
- Comics.com—www.comics.com
- The Onion—www.theonion.com

Some of these sites will even let you e-mail a cartoon to a friend. You can also register and have cartoons sent to your e-mail on a daily basis. How are these sites making money? Did you find any site that requires you to pay a monthly fee?

2.34

chapter two

hands-on **projects**
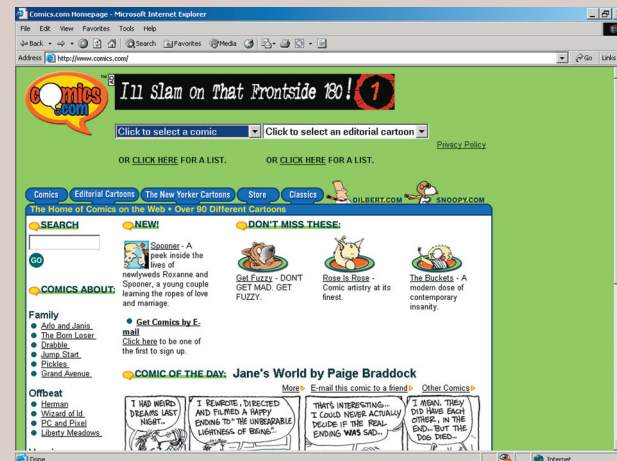
ethics, security & privacy

1. Finding Personal Information on the Web

Information about you is all over the Web. You may not have even given your permission, but it's there for everyone to see. Most commonly, you can find information about people by using people searches. We've listed a few below—access these and try to find yourself, a friend, or a family member and then answer the questions below.

- WhoWhere?—www.whowhere.lycos.com
- Netscape PeopleFinder—www.home.netscape. com/netcenter/whitepages.html
- Yahoo! PeopleSearch— www.people.yahoo.com

a. How easy was it to find someone?

b. What information were you able to find?

c. Do you like the fact that you can look up people on the Web?

d. Do you like the fact that people can look you up on the Web?

e. Young children today are growing up with the Web. In 10 years, will these people have any problems with their information being so easily available?

2. Government-Posted Information on the Web

Many government agencies also post information on the Web about you. At www.douglas.co.us/assessor (Douglas county in Colorado), for example, all you have to do is type in a street address and you can obtain owner name, sales history of the property, building characteristics, actual and assessed values, and much more.

a. Should this type of information be available on the Web for everyone to see?

b. How can someone use this information in a bad way?

c. How can someone use this information in a good way?

d. Should government agencies be required to receive your permission before letting everyone know what you paid for your house?

3. Finding E-Mail Addresses on the Web

At many schools (and yours may be one), you can easily look up people to find their e-mail addresses. All you have to do is type in a first name or last name. You don't even need to know the correct spelling. The school will tell you if that person is a registered student (or faculty member) and how to contact them by e-mail.

a. Is this good or bad? Why?

b. Did you know that your school might offer this type of service?

c. Should your school get your permission before making this type of information available to anyone who has access to the Web?

d. Does your school actually provide this type of service?

4. The Government's Role in Privacy in the Web

Let's talk about this whole issue of privacy and access to the information on the Web. Develop some answers for the questions below.

a. At what level of government should legislation be enacted to ensure your privacy of information on the Web?

b. For that matter, is your right to privacy an important consideration? Is it inevitable that all your information will someday be on the Web for everyone to see?

c. What is too much information? Maybe you think your name and address is okay, but what about your hair color, your shoe size, and perhaps even your grades?

hands-on projects

group activities

1. Finding a Regional ISP

In the e-commerce projects earlier, you explored finding an Internet service provider (ISP) through several Web sites. Now, let's focus on finding a regional ISP by using a phone book and phone. Flip back to the yellow pages of your phone book and find ISPs. Make a phone call to a couple of listed ISPs and determine their monthly fees and features. Did any seem to be better or cheaper than the ISPs you found while completing the e-commerce projects? Are the regional ISPs really located in your town or perhaps a town close by? Would you rather use a well-known commercial ISP such as AOL or a regional ISP you've never heard of?

2. Connecting to the Web through Your School

Contact your school's technical support group that can tell you how to use your school to connect to the Web. Answer the following questions:

a. What connectivity software must you have?

b. Is that connectivity software already on your own computer or do you have to download it?

c. What is the phone number you call to make a connection between your computer and your school's computer?

d. Is there a time limitation for staying connected to the Web through your school?

e. Does your school provide FTP software so you can download files from the Web?

f. Does your school provide Web space so you can publish your own Web site?

3. What Your School's Computer Lab Has to Offer

Visit one or more of your school's computer labs. While you're there, answer the following questions:

a. What Web browser software is on the computers?

b. What are the versions of the Web browser software?

c. Can you use FTP software to download files from the Web? If you can, can you download to the computer's hard disk or just a floppy disk you provide?

d. What sort of anti-virus software is present to keep you (and the computers) from getting a virus while surfing the Web?

e. Does your school restrict you from accessing certain types of Web sites?

4. Finding a Web-Accessing Cell Phone

Cell phones are certainly emerging as a way for you to connect to the Web while you're on the go. As a group, do some exploring of the latest and best cell phones that come equipped with micro-browsers and Web access. Prepare a report for your class that provides the following information.

a. At least two cell phones that provide Web access (their cost, manufacturer, and capabilities).

b. What process you go through to activate the cell phones for Web access (including the monthly fee).

c. What Web sites you can access with each cell phone.

d. What it takes to subscribe to an e-mail service with the cell phones.

e. The length of contract you must sign to have a cell phone with Web-accessing capabilities.

2.36

Looking Back/Looking Ahead

The Life and Times of a Dot-Com Entrepreneur

After having a good review of technology and briefly surfing the Web, Joann is now ready to specifically look at what she'll need to set up a Web shop. Joann knows her first priority is to decide on a _____, which will uniquely identify her Web site. She knows that the technical name for this is a _____. Within her Web site, Joann wants to create many well-organized and easy-to-navigate _____ that each deal with specific topics which will interest her visitors. The technical name for the address of each of these is a _____.

As she envisions her visitors, Joann understands that they'll be using a variety of hardware to access her site. Most will use today's typical computer systems, but some will also use _____, which cost about half the price of a typical computer system. Some will even want to use _____ software on a cell phone because they always seem to be on the go.

To create her site on the Web, Joann needs _____, a storage area where she can keep her Web site. Because she needs that, Joann has chosen AOL as her _____. She simply can't use many of the _____ because they don't provide her with 24-hour technical support.

When visitors arrive, Joann wants them to be able to access Web pages, download various types of information, and participate in chat rooms. Each of these capabilities requires that visitors use different types of communications protocols. No matter what they do, her visitors will always use _____, the basic communications protocol that makes the Internet work. Other protocols include _____ for downloading files, _____ for accessing her Web site, and _____ for participating in a chat room.

Armed with that knowledge, Joann is now ready to look toward her software needs, including the software she needs to run her business and make her more productive. She'll learn about that software in Chapter 3. Then, she must begin the process of actually building her Web site and Web pages. For this, she'll be writing html code, which she can learn about in Chapter 4.