

EXTENDED LEARNING MODULE B

THE WORLD WIDE WEB AND THE INTERNET

Student Learning Outcomes

1. Define the relationships among Web site, Web site address, domain name, Web page, and uniform resource locator (URL).
2. Explain how to interpret the parts of an address on the Web.
3. Identify the major components and features of Web browser software.
4. Define Web 2.0 and its many technologies including wikis, social networking sites, blogs, RSS feeds, and podcasting.
5. Describe the various technologies that make up the Internet.
6. Identify key considerations in choosing an Internet service provider (ISP).
7. Describe the communications software and telecommunications hardware you need to connect to the Internet.

Introduction

The most visible and explosive information technology tool is the Internet, and with it the World Wide Web (Web). No matter where you look or what you read, someone always seems to be referring to one of the two. On television commercials, you find Web site addresses displayed (such as www.ibm.com for an IBM commercial or www.toyota.com for a Toyota commercial). In almost every magazine, you find articles about the Internet because of its growing significance in our society. Most major business publications, such as *Fortune*, *Forbes*, and *BusinessWeek*, devote entire issues each year to the Internet and how to use it for electronic commerce. Of course, many such publications have been carrying articles detailing how and why so many dot-coms failed in recent years (now affectionately referred to as *dot-bombs*).

The Internet really is everywhere—and it's here to stay. What's really great about the Internet is that it takes only a couple of hours to learn. Once you've read the text for this module, you should try your hand at the Internet scavenger hunts in the Assignments and Exercises at the end of this module. You'll be surprised to learn how easy it is to find information on the Internet.



World Wide Web

The *World Wide Web*, or *Web*, as you probably know it, is a multimedia-based collection of information, services, and Web sites supported by the Internet. The *Internet* is a vast network of computers that connects millions of people all over the world. Schools, businesses, government agencies, and many others have all connected their internal networks to the Internet. The Internet and all its technological infrastructure are what make the Web possible. People tend to consider the Web and the Internet to be the same. (Although they are not.)

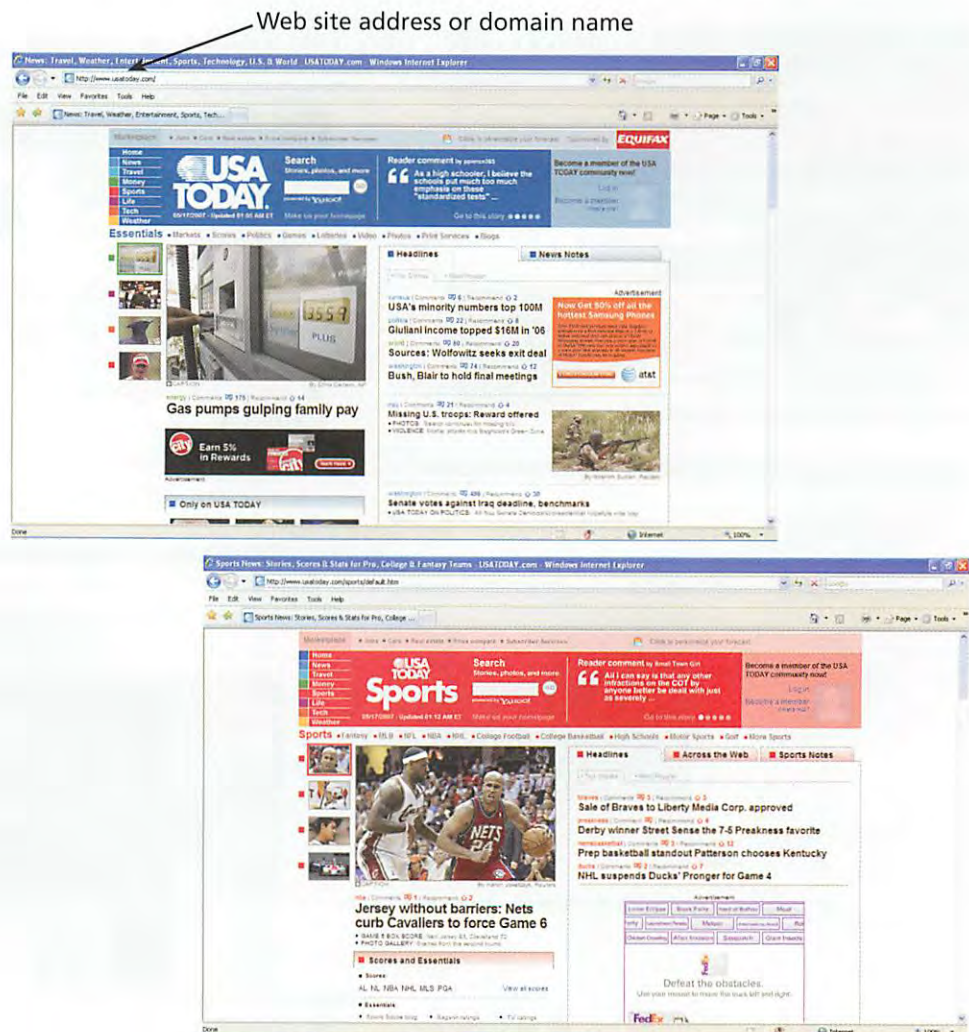
LEARNING OUTCOME 1

WEB SITES, ADDRESSES, AND PAGES

As you use the Web, you'll most often be accessing Web sites. A *Web site* is a specific location on the Web where you visit, gather information, and perhaps even order products. Each Web site has a specific Web site address. A *Web site address* is a unique name that identifies a specific site on the Web. Technically, this address is called a domain name. A *domain name* identifies a specific computer on the Web and the main page of the entire site. Most people use the term *Web site address* instead of the technical term *domain name*. For example, the Web site address for *USA Today* is www.usatoday.com (see Figure B.1).

Figure B.1

The *USA Today* Web Site and Sports Web Page



Most Web sites include several and perhaps hundreds of Web pages. A **Web page** is a specific portion of a Web site that deals with a certain topic. The address for a specific Web page is called a URL. A **URL (uniform resource locator)** is an address for a specific Web page or document within a Web site. Most people opt for the common term of *Web page address* when referring to a URL. As you can see in Figure B.1, you can click on the link for **Sports** on the main page for *USA Today*. By clicking on that link, you will then be taken to a specific Web page within the *USA Today* Web site. The URL or Web page address for that page is www.usatoday.com/sports/default.htm. Links are important on the Web. A **link** (the technical name is **hyperlink**) is clickable text or an image that takes you to another site or page on the Web.

UNDERSTANDING ADDRESSES

When you access a certain Web site or page, you do so with its unique address, such as www.usatoday.com (for our *USA Today* example). Addresses, because they are unique, tell you some important information about the site or page. Let's consider two different examples (see Figure B.2): Yahoo! (www.yahoo.com) and the University of Technology in Sydney, Australia (www.uts.edu.au).

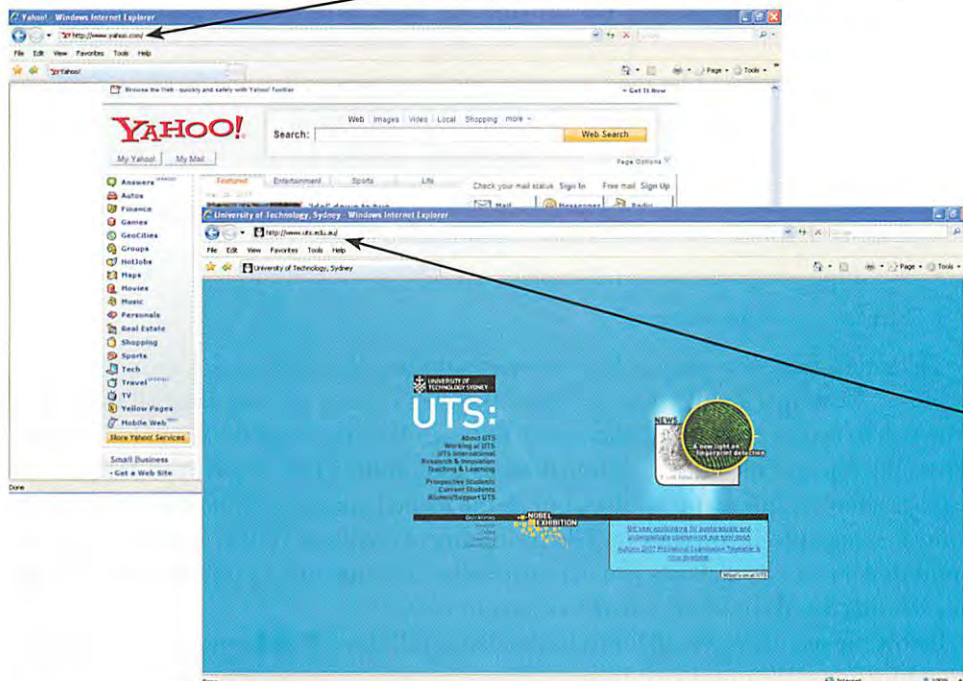
Most addresses start with <http://www>, which stands for *hypertext transfer protocol* (http) and *World Wide Web* (www). The http:// part is so common now that you don't even have to use it in most cases. The remaining portion of the address is unique for each site or page. If you consider www.yahoo.com, you know that it's the address for Yahoo!. You can also tell it's a commercial organization by the last three letters: com. This extension can take on many forms and is referred to as the **top-level domain (TLD)**. (See Figure B.3 on the following page for a complete list of TLDs.)

Some addresses have a two-character extension that follows the top-level domain. In this case, it's to identify the country location of the site. For example, the site address for the University of Technology in Sydney, Australia, is www.uts.edu.au. From that address, you can tell it's an educational institution (i.e., the TLD of edu) and that the site location is Australia (i.e., the country identifier of au).

LEARNING OUTCOME 2

The top-level domain ".com" identifies Yahoo! as a commercial or for-profit organization.

Figure B.2 Understanding Addresses



The ".au" after the top-level domain identifies the country of origin (Australia in this case).

Top-Level Domain	Description
.aero	Air-transport industry
.biz	Business
.catr	Catalan (language or related to Catalan culture)
.com	Commercial
.coop	Cooperative
.edu	Educational
.gov	Governmental
.info	Information
.int	International organization
.jobs	Companies with jobs to advertise
.mil	United States military
.mobi	Mobile device
.museum	Museum
.name	Individual, by name
.net	Network
.org	Organization
.pro	Profession
.travel	Travel or travel-agency related

Figure B.3
Top-Level Domains

For Further explanation of these TLDs, see http://en.wikipedia.org/wiki/List_of_Internet_top-level_domains

LEARNING OUTCOME 3

USING WEB BROWSER SOFTWARE

Web browser software enables you to surf the Web. When we viewed the sites for *USA Today*, Yahoo!, and University of Technology in Sydney, Australia, we were using Web browser software. The most popular Web browsers today are Internet Explorer (by Microsoft), Netscape 8.1.3, and Firefox 2.0.0.3 or simply 2 (by Mozilla). Internet Explorer comes standard on most computers; all are free for you to use and you can download them at the following sites:

- Internet Explorer—www.microsoft.com/downloads
- Netscape—<http://browser.netscape.com/ns8>
- Firefox—www.mozilla.org/

To demonstrate how you use Web browser software, let's take a quick tour of Internet Explorer, Netscape, and Firefox. In Figure B.4, you can see we have used all three Web browsers to access eBay (www.ebay.com). For each Web browser, the menu bar appears across the top and includes such functions as **File**, **Edit**, **View**, **Tools**, and **Help**. Each also has a few unique menu options, but all the menu bars support the same basic functions. For example, if you click on **File** (using any of the three Web browsers), you'll see a pull-down menu that allows you to initiate other actions such as printing the Web site and sending the Web site via e-mail to someone else.

Below the menu bar, you'll find a button bar on all three Web browsers that supports more functions. We won't go into any of those in detail here; you can play with them at

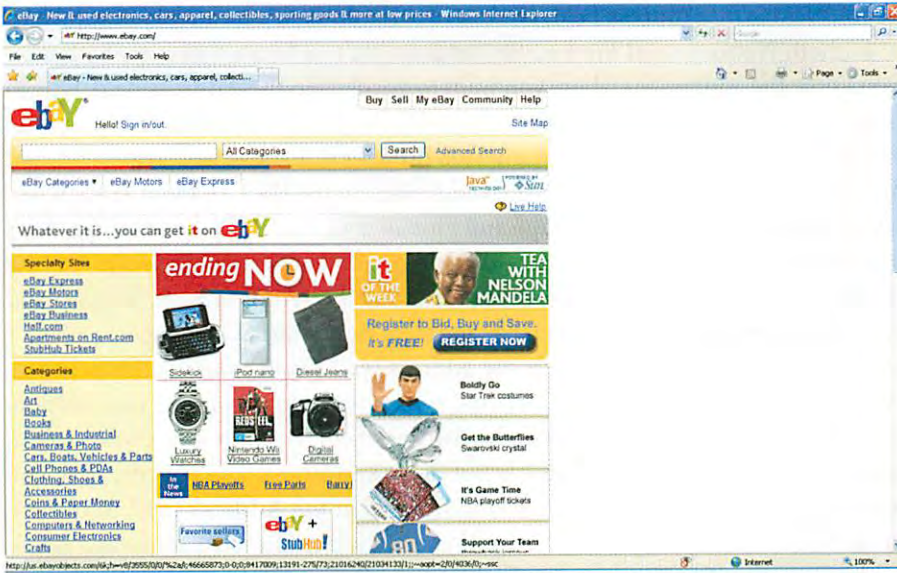


Figure B.4
Internet Explorer,
Netscape, and Firefox



your leisure. Next is the **Address** field. On Internet Explorer, it's located below the button bar; on both Netscape and Firefox, the **Address** field is located next to the button bar. If you know the address for where you want to go, click in the **Address** field, type in the address, and then hit **Enter**.

One of the most important features of any Web browser is that you can create, edit, and maintain a list of your most commonly visited addresses on the Web. In Internet Explorer, it's called a **Favorites list**, and in Netscape and Firefox it's called a **Bookmarks list**. So, if you frequently visit eBay, you can save the address in one of these lists while you're viewing it. In Internet Explorer, click on the **Favorites** button and then **Add**. In both Netscape and Firefox, click on **Bookmarks** in the menu bar and then **Bookmark This Page**.

If you're not precisely sure of a Web site address, you begin to search for it in one of two ways. The first is to use a search engine, which we'll discuss in the next section. The second is to type in a logical name in the **Address** field. For example, if you want to download tax forms from the IRS Web site but don't know the address of the IRS, you can simply type in "IRS" or "internal revenue service" in the **Address** field. Your Web browser will automatically begin a search for Web sites related to those terms and hopefully will find the right site for you. (In the instance of searching for the IRS, all three Web browsers do take you to the site you need.)

Search Engines

There will definitely be occasions when you want to find information and services on the Web, but you don't know exactly which site to visit. In this case, you can type in a logical name as we just demonstrated (with the Internal Revenue Service), or you can use a search engine. A *search engine* is a facility on the Web that helps you find sites with the information and/or services you want. There are many search engines on the Web, and although there are some subtle differences in using some of them, most will help you find what you're looking for.

Let's look at Yahoo! (www.yahoo.com) and Google (www.google.com), two very popular search engines, and find information about the list of winners for the 2007 Academy Awards. In Figure B.5, you can see the results of our typing **2007 Academy Award Winners** in the **Search** field and clicking on the **Web Search** button in Yahoo!. In that same figure, you can see the results of our typing **2007 Academy Award Winners** and clicking on the **Google Search** button in Google. The results are quite similar. In fact, if you were to peruse through the top 20 results from each search, about 15 or so are the same.

When you type in multiple terms for a search (such as **2007 Academy Award Winners**), most search engines will return sites that have all the terms appearing in them, although not necessarily in the order in which you typed them. If you want to further refine your search and exclude a certain term, then you would also type in the term to exclude preceded by a minus sign (**-**). For example, if you want information about the Miami Dolphins NFL football team, you could search on **Miami Dolphins**. That would probably yield a list of suitable sites, but it might also include sites that contain information about watching dolphins (the aquatic version) in the Miami area. To eliminate those sites, you could search using **Miami Dolphins - aquatic - mammal**. That search will eliminate any sites that contain either the term aquatic or mammal.

The minus sign is referred to as a *Boolean operator* and can be used (along with other operators such as parenthetical marks, quote marks, and the plus sign) to help refine the list of Web sites you receive from a search. To learn more about using these, you should reference the searching options of the particular search engine you're using.

Our question

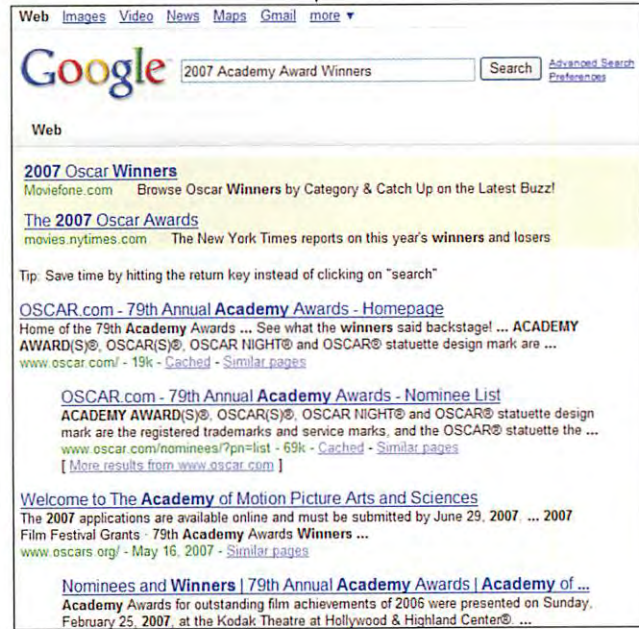
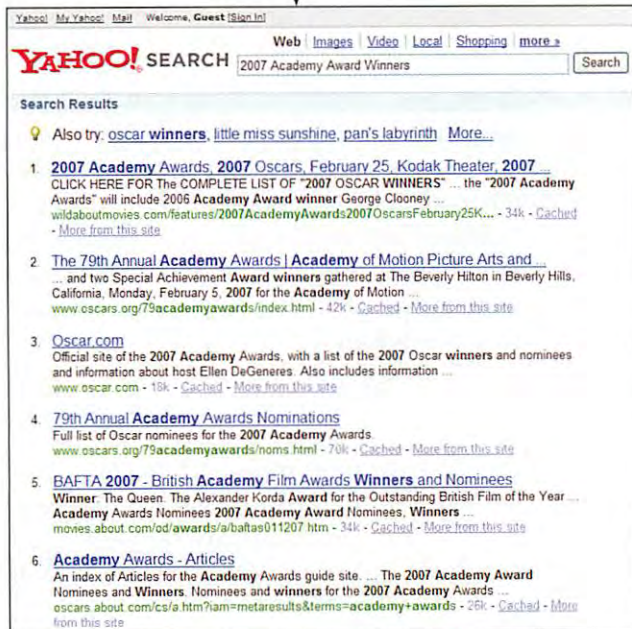
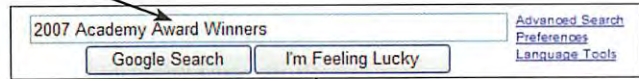
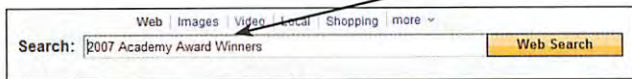


Figure B.5
Search Engines

Web 2.0

In the past several years, the Web has evolved from a platform of pull technologies and static information to a more interactive one with constantly changing and dynamic information. The *Web 2.0 (Live Web)* is this so-called second generation of the Web and focuses on online collaboration, users as both creators and modifiers of content, dynamic and customized information feeds, and many other engaging Web-based services.

From a purely technical perspective, there are a number of interesting and emerging technologies that make the Web 2.0 possible. If you dive into the technical side, you'll learn about technologies such as XML, Ajax, CSS, Webservice APIs, and SOAP. On the user side, everyone is interested in the dynamic applications of the Web 2.0 including:

- Wikis
- Social networking sites
- Blogs
- RSS feeds
- Podcasting
- Many, many others

WIKIS

A *Wiki* is a Web site that allows you—as a visitor—to create, edit, change, and often eliminate content. Wikipedia (www.wikipedia.org) is the most popular Wiki in existence today,

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boasting almost 2 million articles. Wikipedia is a free-content encyclopedia covering just about any topic you can think of, and any volunteer with access to the Web can create and edit content. Wiki, as a term, can refer either to the engine that makes Wiki sites possible or to a specific Wiki Web site such as Wikipedia, Wiktionary, Wikibooks, and Wikiquote.

SOCIAL NETWORKING SITES

A *social networking site* is a site on which you post information about yourself, create a network of friends, read about other people, share content such as photos and videos, and communicate with other people. “People” is a general term within social networking sites that includes actual people, music bands, organizations, and so on. The most popular social networking site is Myspace with almost 200 million users (see Figure B.6). Others include Facebook (creates networks of people based on organization, region, school, etc.), Facebox (mainly for European young people), orkut (owned and operated by Google), and Cyworld (originally started in South Korea).

BLOGS

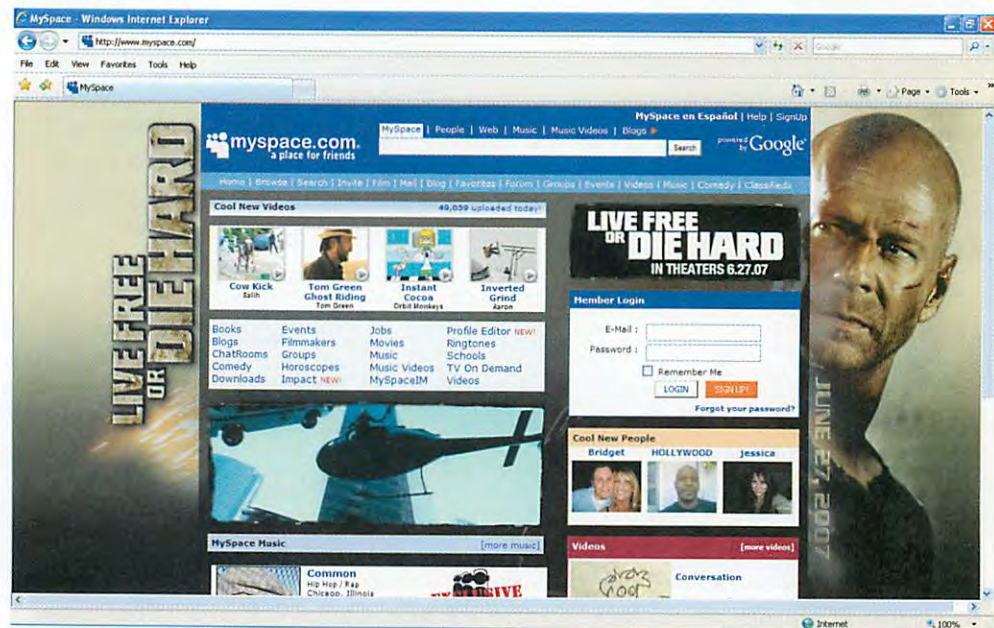
A *blog* is a Web site in the form of a journal in which you post entries in chronological order and often includes the capabilities for other viewers to add comments to your journal entries. Blogs cover a wide range of topics including news commentary, personal online diaries, travel, and so on. You can create your own blog at many different blogging Web sites including blog.com (www.blog.com).

RSS FEEDS

An *RSS feed* is a technology that provides frequently published and updated digital content on the Web. You subscribe to an RSS feed and then provide what content you want in your RSS feed. With some RSS feeds, you click on a link to review updated content; with other RSS feeds, you can actually integrate them into your Web browser and have constantly updated information—such as stock quotes—stream across your Web browser interface.

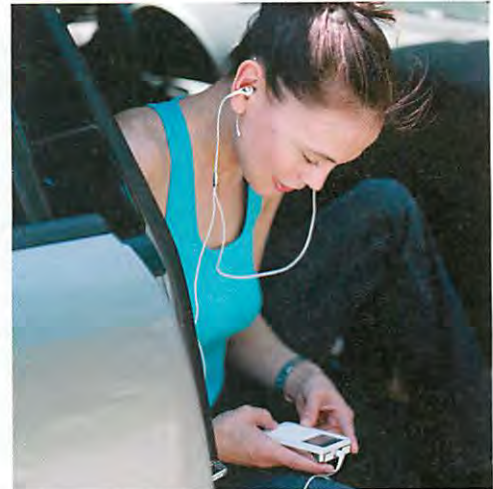
Figure B.6

The Social Networking Site Myspace



PODCASTING

Podcasting is a term derived from **iPod** and **broadcasting** and generally refers to your ability at any time to download audio and video files for viewing and listening using portable listening devices and personal computers. Podcasting is perhaps one of the most visible and widely used of all the Web 2.0 technologies. We performed a search of Google on April 7, 2007, and found 119 million hits for podcast and 36.7 million hits for podcasting. Apple's iTunes really gave birth to podcasting a few years ago, and many other digital content publishers have followed, such as syndicated TV shows which provide short videos of shows called *mobisodes*.



Internet Technologies

To best take advantage of everything the Web has to offer, it often helps to understand what's going on behind the Web, that is, the Internet. The Internet is really the enabling structure that makes the Web possible. Without the Web, the Internet still exists and you can still use it. But the reverse is not true. The Internet is the set of underlying technologies that makes the Web possible. The Web is somewhat of a graphical user interface (GUI) that sits on top of the Internet. The Web allows you to click on links to go to other sites, and it allows you to view information in multiple forms of media.

LEARNING OUTCOME 5

THE INTERNET BACKBONE

The **Internet backbone** is the major set of connections for computers on the Internet (see Figure B.7). 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 another (much like an airport where you switch planes to your final destination). These NAPs are owned and maintained by network service providers. 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 B.7, you can see that Dallas is a NAP, with lines converging from Atlanta, Phoenix, Kansas City, and Austin.

At any given NAP, an Internet service provider may connect its computer or computers to the Internet. An **Internet service provider (ISP)** is a company that provides



Figure B.7

The Internet Backbone in the United States

individuals, organizations, and businesses access to the Internet. ISPs include AOL, Juno, and perhaps even your school. In turn, you “dial up” or connect your computer to an ISP computer. So, your ISP provides you access to the Internet (and thus the Web) by allowing you to connect your computer to its computer (which is already connected to the Internet).

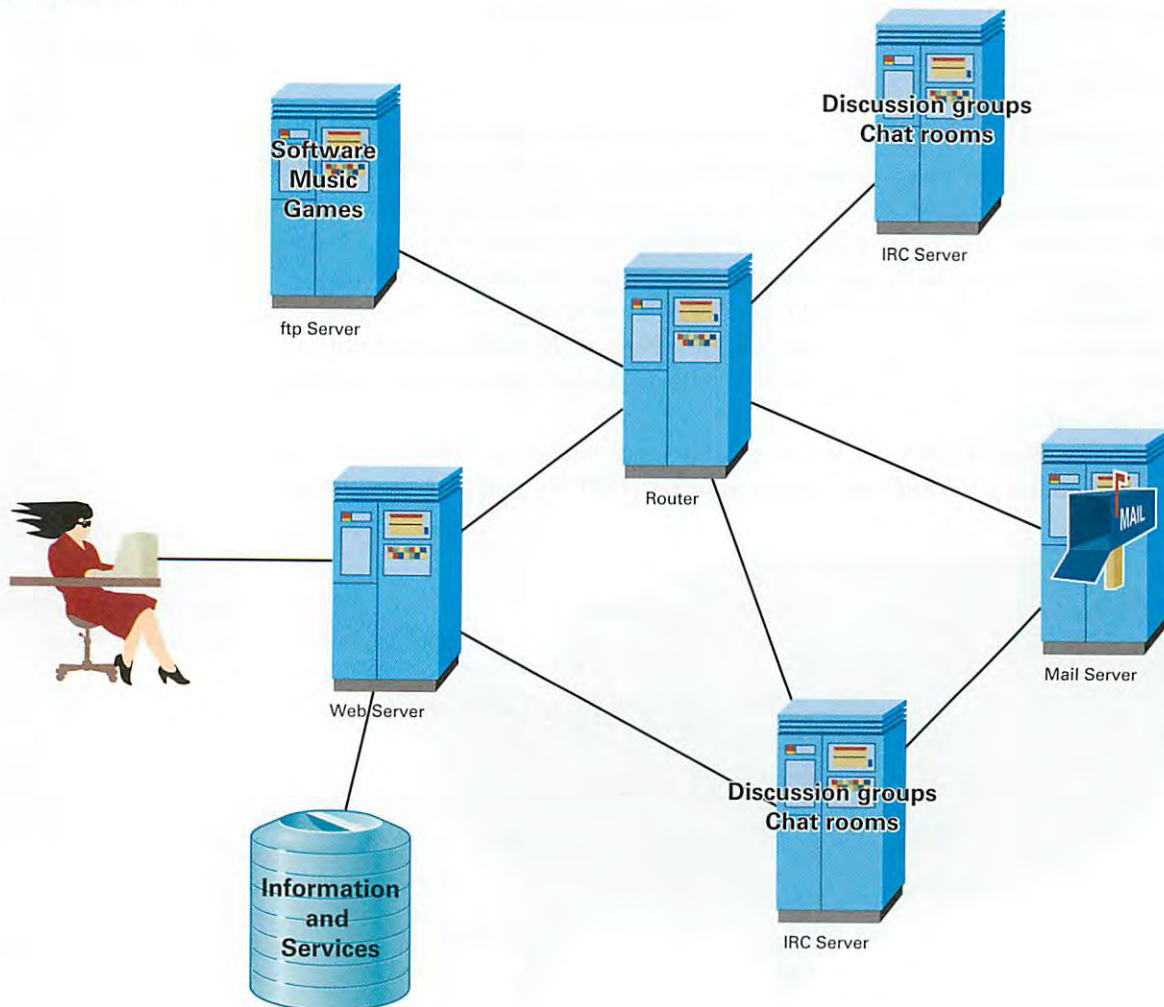
If you live in the San Francisco area and send an e-mail to someone living near Boston, your e-mail message might travel from San Francisco to Salt Lake City, then to Minneapolis, and finally to Boston. Of course, your e-mail message may very well travel the route of San Francisco, Phoenix, Dallas, Atlanta, Nashville, Pittsburgh, Orlando, New York, and then Boston. But, no matter—your message will get there. Can you imagine the route that your e-mail message would travel if you were in San Francisco sending it to someone in Venice, Italy? One time, it might go west around the world through Australia. The next time, it might go east around the world through New York and then on to London.

INTERNET SERVERS

There are many types of computers on the Internet, namely, router (which we’ve already discussed), client, and server computers (see Figure B.8). The computer that you use to access the Internet and surf the Web is called a *client computer*. Your client computer can

Figure B.8

Servers on the Internet



be a traditional desktop or notebook computer, a Web or Internet appliance, a PDA, or perhaps even a cell phone.

Internet server computers are computers that provide information and services on the Internet. There are four main types of server computers on the Internet: Web, mail, ftp, and IRC servers. A **Web server** provides information and services to Web surfers. So, when you access www.ebay.com, you're accessing a Web server (for eBay) with your client computer. Most often, you'll be accessing and using the services of a Web server.

A **mail server** provides e-mail services and accounts. Many times, mail servers are presented to you as a part of a Web server. For example, Hotmail is a free e-mail server and service provided by MSN. An **ftp (file transfer protocol) server** maintains a collection of files that you can download. These files can include software, screen savers, music files (many in MP3 format), 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. There, you can share your opinions about various products and services, and you can also read the reviews written by other people.

COMMUNICATIONS PROTOCOLS

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. The most widely used protocols on the Internet include TCP/IP, http, and ftp (and a few others such as PPP, Point-to-Point Protocol, and POP, Post Office Protocol).

TCP/IP, or **transport control protocol/Internet protocol**, is the primary protocol for transmitting information over the Internet. Whenever any type of information moves over the Internet, it does so according to TCP/IP. **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://." Most Web 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.

File transfer protocol (ftp) is the communications protocol that allows you to transfer files of information from one computer to another. When you download a file from an ftp server (using ftp), you're using both TCP/IP (the primary protocol for the Internet) and ftp (the protocol that allows you to download the file). Likewise, when you access a Web site, you're using both TCP/IP and http (because the information you want is Web based).

Connecting to the Internet

LEARNING OUTCOME 6

To access the Web (via the Internet), you need an Internet service provider (ISP), as we discussed earlier. ISPs can include your school, your place of work, commercial ISPs such as AOL, and free ISPs such as NetZero. Which you choose is a function of many things.

One of the nice benefits of going to school or being employed is that you often get free Web access through school or your work. All you have to do is connect your home computer to your school's or work's computer (we'll talk about this process in a moment) and you're ready to surf. However, some schools and places of business may restrict where you can go on the Web. And they may even monitor your surfing.

Commercial ISPs charge you a monthly fee, just as your telephone company charges you a monthly fee for phone service. This fee usually ranges from a few dollars a month to about \$20. Popular worldwide commercial ISPs include Microsoft (MSN), AOL, CompuServe, and AT&T WorldNet, just to name a few.

Free ISPs are absolutely free, as their names suggest—you don't pay a setup fee, you don't pay a monthly fee, and some offer unlimited access to the Web. But there are some catches. Many free ISPs do not offer you Web space, as opposed to most commercial ISPs which do. *Web space* is a storage area where you keep your Web site. So, if you want to create and maintain a Web site, you may have to choose a commercial ISP over a free ISP (your school probably also offers you Web space). Also when using a free ISP, you will often see banner ads that you can't get rid of. You can move them around and from side to side, but you can't remove them completely from your screen. 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.

In spite of those drawbacks, many people do choose free ISPs over commercial ISPs, mainly because of cost (remember, \$20 per month equals \$240 per year). Popular free ISPs include NetZero (www.netzero.net, see Figure B.9). To decide which type of ISP is best for you, ask these questions:

- *Do you need Web space?* If yes, a free ISP may not be the right choice.
- *Is great technical support important?* If yes, then a commercial ISP may be the right choice.
- *Is money a serious consideration?* If yes, then a commercial ISP may not be the right choice.
- *Is privacy important to you?* If yes, then your school or work may not be the right choice.

LEARNING OUTCOME 7

COMMUNICATIONS SOFTWARE

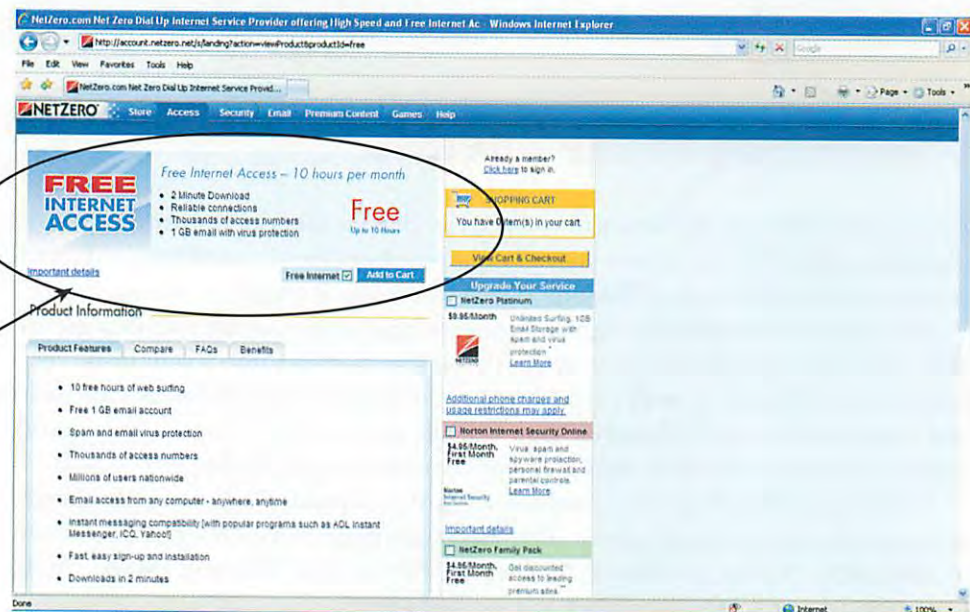
To access and use the Web, you need communications software, namely,

- **Connectivity software**—Enables you to use your computer to dial up or connect to another computer.
- **Web browser software**—Enables you to surf the Web.
- **E-mail software** (short for *electronic mail software*)—Enables you to electronically communicate with other people by sending and receiving e-mail.

Figure B.9

NetZero Is a Popular Free ISP

NetZero free Internet access is for up to 10 hours per month.



Connectivity software is the first and most important. With connectivity software, while using a standard telephone modem, you essentially use your computer (and a phone line) to call up and connect to the server computer of your ISP. Connectivity software is standard on most personal computers today. To use connectivity software, you really only need to know the number to call. Then it's a relatively easy process: Within Microsoft Windows, click on **Start, All Programs, Accessories, Communications, Network Connections**, and then select **Create a new connection** (your exact sequence may vary slightly according to which version of Windows you're using).

Alternatively, if you're using connectivity software in conjunction with a high-speed modem connection such as a cable, DSL, or satellite modem (we'll discuss these further in a moment), you don't really "make a call" to connect to your ISP. Instead, you probably have an "always-on" high-speed Internet connection. So, when you turn on your computer, it goes through the process of connecting you to your ISP.

Web browser software and e-mail software are also standard software today. If your school or work is your ISP, then you'll most often be using commercially available Web browser software such as Internet Explorer, Netscape, or Firefox, and the e-mail software you use will vary according to your school's or work's preference. If you're using a commercial or free ISP, then your choice of Web browser software and e-mail software will depend on that particular organization.

Regardless of your choice of ISP, the unique Web browser software and e-mail software provided work in similar fashion. So, if you're used to using Internet Explorer and then choose AOL as your ISP, you will see that AOL has its own Web browser software. It will look different on the screen, but it supports the same functionality (favorites list, moving forward and backward through your list of visited Web sites, and so on). All you have to do is get used to a new interface. Different e-mail software will also look different but support the same functionality.

TELECOMMUNICATIONS HARDWARE

In addition to communications software, you also need some telecommunications hardware to access the Web (again, via the Internet). If you're at school or work, you'll probably be able to connect your computer directly to a network that is then connected to the Internet. This often amounts to simply plugging a network line into your computer and starting your preferred Web browser or e-mail software. We discuss this type of connection to the Internet in more detail in *Extended Learning Module E*.

If you're connecting from home, you'll need some sort of modem. There are many types of modems, including

- A **telephone modem (modem)**—A device that connects your computer to your phone line so that you can access another computer or network.
- **Digital Subscriber Line (DSL)**—A high-speed Internet connection using phone lines, which allows you to use your phone line for voice communication at the same time.
- A **cable modem**—A device that uses your TV cable to deliver an Internet connection.
- A **satellite modem**—A modem that allows you to get Internet access from your satellite dish.

DSL, cable, and satellite modems are among the newest, most expensive, and fastest. They also don't tie up your phone line. If, for example, you're using a basic telephone modem, you can't use your telephone line for voice communications at the same time. A DSL modem on the other hand, for example, basically splits your telephone line so that you can use it simultaneously for voice communications and for connecting to the

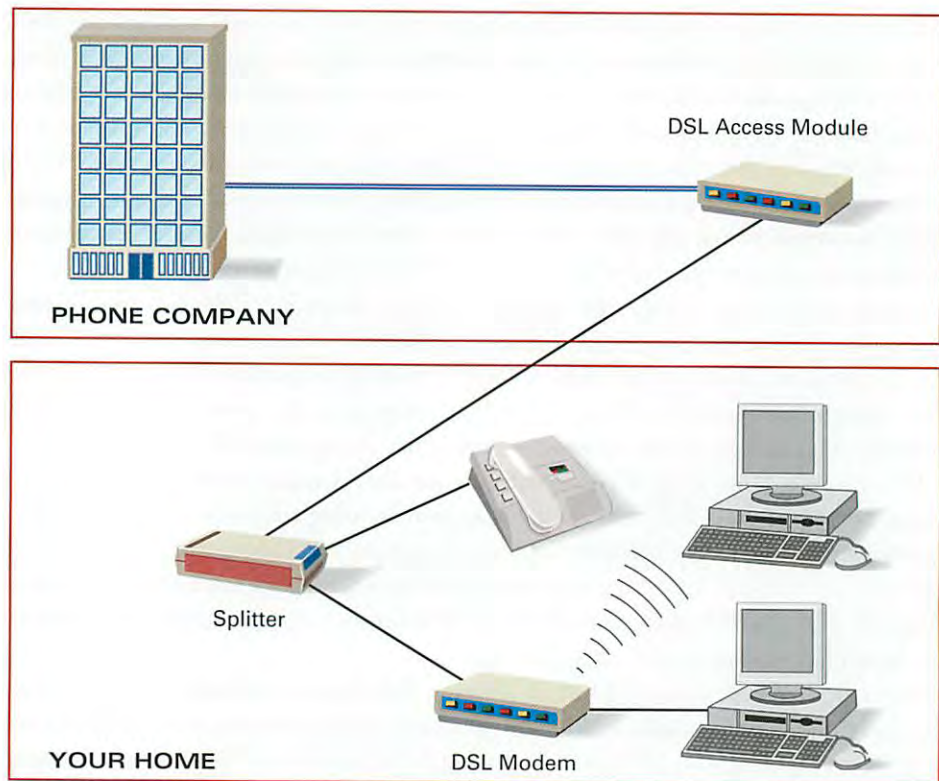


Figure B.10
DSL Modem Connection

Internet (see Figure B.10). Even more so, DSL, cable, and satellite modems offer you an “always-on” Internet connection.

With these high-speed Internet connection options, you may also have the ability to connect wirelessly to the modem using a router or other piece of equipment. As you can see in Figure B.10, the DSL modem is wired directly to one computer and wirelessly connected to another computer. This gives you the ability to connect multiple computers to the DSL modem. Again, we’ll cover both wired and wireless connections to the Internet in *Extended Learning Module E*.

The biggest factor in determining your choice of telecommunications hardware (beyond price) may be that of availability. In many areas of the country, phone companies and cable TV service providers do not yet support the use of DSL, cable, and satellite modems. So, you may be limited to just using a basic telephone modem. If some of the other options are available to you, we definitely recommend that you research them.

Summary: Student Learning Outcomes Revisited

1. Define the relationships among Web site, Web site address, domain name, Web page, and uniform resource locator (URL). A *Web site* (such as www.usatoday.com for *USA Today*) is a specific location on the Web where you visit, gather information, order products and so on. A *Web site address* (www.usatoday.com) is a

unique name that identifies a specific site on the Web. Technically, a Web site address is called a *domain name*. A *Web page* is a specific portion of a Web site that deals with a certain topic. Technically, the address for a specific Web page is called a *URL (uniform resource locator)*.

2. **Explain how to interpret the parts of an address on the Web.** Most Web site addresses start with <http://www>. Beyond that, the address is unique. The first part (using www.uts.edu.au as an example) provides the name of the organization or Web site (UTS or University of Technology in Sydney). The next part tells the type of organization and is called the *top-level domain*. For UTS, it is “edu,” describing it as an educational institution. If something follows after that, it usually provides a country of origin (“au” for UTS, which identifies its country of origin as Australia).
3. **Identify the major components and features of Web browser software.** The three most popular Web browsers are Internet Explorer, Netscape, and Firefox. Each includes a menu bar (with functions such as **File**, **Edit**, and **View**), a button bar (for commonly performed tasks such as printing), and an address or location field into which you can type a Web site address. Web browsers also include capabilities for maintaining a list of commonly visited sites. In Internet Explorer, this is called a **Favorites list**, while Netscape 7.2 and Firefox 1.0.2 call this a **Bookmarks list**.
4. **Define Web 2.0 and its many technologies including Wikis, social networking sites, blogs, RSS feeds, and podcasting.** The *Web 2.0* is the second generation of the Web and focuses on online collaboration, users as both creators and modifiers of content, dynamic and customized information feeds, and many other engaging Web-based services. The Web 2.0 includes:
 - **Wikis**—Web sites that allow you to create, edit, change, and often eliminate content
 - **Social networking sites**—sites on which you post information about yourself, create a network of friends, read about other people, share content such as photos and videos, and communicate with other people
 - **Blogs**—Web sites in the form of journals in which you post entries in chronological order and often include the capabilities for other viewers to add comments to your journal entries
 - **RSS feeds**—provide frequently published and updated digital content
 - **Podcasting**—your ability to download audio and video files to portable listening devices and personal computers
5. **Describe the various technologies that make up the Internet.** At the heart of the Internet is the *Internet backbone*, the major set of connections for computers on the Internet. A *network access point (NAP)* is a point on the Internet where several connections converge. *Network service providers (NSPs)*, such as MCI or AT&T, own and maintain routing computers at NAPs and even the lines that connect the NAPs to each other. Besides your computer (called a client computer) which you use to access the Internet, there are also four types of *Internet server computers* that provide information and services on the Internet. These include *Web servers* (providing information and services to Web surfers), *mail servers* (providing e-mail services and accounts), *ftp servers* (maintaining a collection of files that you can download), and *IRC servers* (supporting your use of discussion groups and chat rooms). As information travels from these servers to you, it follows a set of *communications protocols*—sets of rules that every computer follows to transfer information. The most common protocols include *TCP/IP* (the primary protocol for transmitting information), *http* (for supporting the movement of information over the Web), and *ftp* (for allowing you to transfer files of information from one computer to another).
6. **Identify key considerations in choosing an Internet service provider (ISP).** When choosing an ISP—whether it is a commercial ISP, a free ISP, your school, or your work—you need to consider the following:
 - **Web space**—If you want to publish a Web site, then your ISP must provide you with Web space
 - **Technical support**—Which can be in the form of e-mail, 24-hour toll-free assistance, or perhaps none at all
 - **Money**—Commercial ISPs are the most expensive, while free ISPs, your school, and your work are free
 - **Privacy**—Your school or work may monitor your surfing activities
7. **Describe the communications software and telecommunications hardware you need to connect to the Internet.** Communications software for connecting to the Internet includes *connectivity software* (for dialing up another computer), *Web browser software* (for actually surfing the Web), and *e-mail software* (for electronically communicating

with other people). Telecommunications hardware includes the device that you use to physically connect your computer to a network, which may connect through a phone line or cable line. These

devices are called modems and include *telephone modem*, *DSL*, *cable modem*, and *satellite modem*.

Key Terms and Concepts

- Blog, 98
- Cable modem, 103
- Communications protocol (protocol), 101
- Connectivity software, 102
- Digital Subscriber Line (DSL), 103
- Domain name, 92
- E-mail (electronic mail) software, 102
- File transfer protocol (ftp), 101
- Ftp (file transfer protocol) server, 101
- Hypertext transfer protocol (http), 101
- Internet, 92
- Internet backbone, 99
- Internet server computer, 101
- Internet service provider (ISP), 99
- IRC (Internet Relay Chat) server, 101
- Link (hyperlink), 93
- Mail server, 101
- Mobisode, 99
- Network access point (NAP), 99
- Network service provider (NSP), 99
- Podcasting, 99
- RSS feed, 98
- Satellite modem, 103
- Search engine, 96
- Social networking site, 98
- TCP/IP (transport control protocol/Internet protocol), 101
- Telephone modem (modem), 103
- Top-level domain (TLD), 93
- Uniform resource locator (URL), 93
- Web 2.0 (Live Web), 97
- Web browser software, 94
- Web page, 93
- Web server, 101
- Web site, 92
- Web site address, 92
- Web space, 102
- Wiki, 97
- World Wide Web (Web), 92

Short-Answer Questions

1. How do the Web and Internet differ?
2. What is the relationship between a Web site and a Web page?
3. What are some of the technologies associated with the Web 2.0?
4. What is the relationship between the Internet backbone, a network access point, and a network service provider?
5. What is the role of an ISP?
6. What are the four major types of servers on the Internet?
7. What are the advantages and disadvantages of choosing a commercial ISP?
8. What communications software do you need to use the Web?
9. What are the four main types of modems you can use to access the Internet while at home?

Assignments and Exercises

For each of the following Internet scavenger hunts, find the answer on the Web. When you do, write down the answer as well as the address where you found it. One restriction: You are not allowed to use encyclopedia sites such as *Encyclopedia Britannica*.

1. What is the weight of the moon?

Answer: _____

Address: _____

2. Who was the first U.S. billionaire?

Answer: _____

Address: _____

3. Who is Olive Oyl's brother?

Answer: _____

Address: _____

4. Who wrote "It was the worst of times . . .?"

Answer: _____

Address: _____

5. What does the Seine River empty into?

Answer: _____

Address: _____

6. What is a lacrosse ball made of?

Answer: _____

Address: _____

7. Who lives at 39 Stone Canyon Drive?

Answer: _____

Address: _____

8. What is the color of Mr. Spock's blood?

Answer: _____

Address: _____

9. At what number did the Nasdaq stock market close yesterday?

Answer: _____

Address: _____

10. Which is the most frequently broken bone in the human body?

Answer: _____

Address: _____

11. What is a pregnant goldfish called?

Answer: _____

Address: _____

12. Who was the first pope to visit Africa?

Answer: _____

Address: _____

13. How many tusks does an Indian rhinoceros have?

Answer: _____

Address: _____

14. What does a pluviometer measure?

Answer: _____

Address: _____

15. What is the fear of the number 13 called?

Answer: _____

Address: _____

16. Which ear can most people hear best with?

Answer: _____

Address: _____

17. Who is the patron saint of England?

Answer: _____

Address: _____

18. Which boxer's life story was told in the movie *Raging Bull*?

Answer: _____

Address: _____

19. Which was the first domesticated bird?

Answer: _____

Address: _____

20. What is the population of the United States right now?

Answer: _____

Address: _____

21. What is the capital of Bermuda?

Answer: _____

Address: _____

22. Who Wrote *The Ugly Duckling*?

Answer: _____

Address: _____

23. Which Hollywood actress was nicknamed *The Legs*?

Answer: _____

Address: _____

24. What, translated literally, is the ninth month?

Answer: _____

Address: _____

25. What is the national airline of Australia?

Answer: _____

Address: _____

26. Who was Napoleon's first wife?

Answer: _____

Address: _____

27. What is another name for the Aurora Australis?

Answer: _____

Address: _____

28. How many pieces does each player start with in a game of checkers?

Answer: _____

Address: _____

29. Which writer was nicknamed "Papa"?

Answer: _____

Address: _____

30. What term does the computer word *bit* derive from?

Answer: _____

Address: _____

31. Which island was the jungle home of King Kong in the 1933 film?

Answer: _____

Address: _____

32. Which planet travels around the sun every 248 years?

Answer: _____

Address: _____

33. Who was the founder of Islam?

Answer: _____

Address: _____

34. How many sides does a nonagon have?

Answer: _____

Address: _____

35. What was Elvis Presley's middle name?

Answer: _____

Address: _____

36. What's the U.S. southern dish made from pigs' small intestines?

Answer: _____

Address: _____

37. Which French impressionist is famed for his paintings of ballet dancers?

Answer: _____

Address: _____

38. What did Clarence Birdseye perfect in 1924?

Answer: _____

Address: _____

39. What's a young female racehorse called?

Answer: _____

Address: _____

40. What is inside popcorn that makes it pop?

Answer: _____

Address: _____

