Computers Are Your Future
Tenth Edition

Chapter 2: The Internet & the World Wide Web

What You Will Learn

- Explain how the Internet works
- Describe methods for accessing the Internet
- Define and differentiate the Internet and the World Wide Web
- Explain the concept of hypertext

What You Will Learn

- Contrast Web browsers and Web servers
- Explain the parts of a URL and how to access Web pages
- Contrast Web subject guides and search engines
What You Will Learn

- Explain how search operators can improve Web search results
- Evaluate the reliability of information on a Web page
- List the most popular Internet services and explain what they do

The Internet & the World Wide Web

How the Internet Works

- The Internet is a universal system of computers and networks.
- Cyberspace, a term used to refer to the Internet, is accessible only with computers.
How the Internet Works

- The networks that make up the infrastructure of the Internet are maintained by a variety of private and public entities.

Interoperability is the ability to work with computers regardless of brand or model.

Interoperability is a key to the Internet's success.

Accessing the Internet: Going Online

- Internet service providers (ISPs)
  - Supply and sustain user connections to the Internet
  - Maintain the hardware and software required for those connections
  - Protect both their sites and networks from outside threats
Accessing the Internet: Going Online

There are a number of methods to access the Internet.

- **Dial-up access** connects users to the Internet through a modem and a telephone line.
- **Digital subscriber line (DSL)** is a high-speed online connection that requires the use of a special external modem with telephone lines.
- **Cable access** provides a high-speed Internet connection using a cable modem, not a phone line.

Satellite access requires a satellite dish in addition to a phone line and modem for an Internet connection.
- Satellite for high-speed downloading
- Phone line and modem for uploading

**Fiber-optic service (FiOS)** provides extremely fast Internet access through fiber-optic lines that run directly to users’ homes. No modems are required.

<table>
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<th>Speed of Internet</th>
<th>Amenities</th>
<th>Disamenities</th>
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<td>Average 1.5 Mbps</td>
<td>Available</td>
<td>High cost</td>
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<tr>
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<td>$51 to $80</td>
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The Internet and the Web: What’s the Difference?

- The **World Wide Web** (Web or **WWW**) is an information resource that uses the Internet as a means to transport that information.
- It is a separate entity from the Internet.
- The Web uses the Internet.

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The Internet and the Web: What’s the Difference?

- **A Web site** is the location on the Internet that makes **Web pages** available.
- **A Web page** is a document found on a Web site and can include text, graphics, sound, animation, and video.
- The default page on a Web site is called the **home page** or **index**.

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Hyperlinks or links are words and images that bring other documents into view when clicked.

Hypertext uses links to move to additional related information.

Dead links, also known as broken links, are links to documents that have been deleted from the Web.

The program that displays a Web document and permits access to linked documents is known as a Web browser.

Software programs used by browsers for extra features, such as sound or video, are plug-ins.

Web sites and their associated information are stored on computers called Web servers.

Web servers are used to recognize information requests, process the requests, and send the requested documents.
The Internet and the Web: What’s the Difference?

- Every device connected to the Internet, including PCs and servers, is given a unique network identifier called an Internet Protocol (IP) address.
- The identification of an Internet resource’s type and location is performed through its Uniform Resource Locator (URL).

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The Internet and the Web: What’s the Difference?

- The complete URL is made up of the Hypertext Transfer Protocol (HTTP), domain name, path, and resource name.

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The Internet and the Web: What’s the Difference?

- All of the following are methods to access a Web page:
  - Type a URL into the address bar
  - Click a tab in the browser window
  - Click a hyperlink
- The history list compiles a list of the Web pages that the user has visited.
**The Internet and the Web: What's the Difference?**

- **Downloading** is the process of transferring a file or document from one computer to the user's computer.
- **Uploading** is the process of transferring a file or document from the user's computer to another computer.

**Finding Information on the Web**

- A **subject guide**, where Web pages are grouped under specific headings, is offered by some search sites.
Finding Information on the Web

- **Search engines** index databases of Web pages, which enables fast information searches.
- Google, Yahoo!, Microsoft, AOL, and Ask are frequently used search engines.

Finding Information on the Web

- Search engines typically do not index specialized information. In those instances, a **specialized search engine** is required.
- Specialized search engines index subjects such as job advertisements or addresses.

Finding Information on the Web

- Some Web site home pages include **portals**, which provide organized subject guide links to topics such as the news, local weather, and e-mail.
Finding Information on the Web

- **Search operators** are used to perform complex searches.
- **Inclusion operators**, generally a plus sign (+), are used to ensure that only Web pages that include those criteria are retrieved.
- **Exclusion operators**, generally a minus sign (-), are used to ensure that only Web pages that exclude those criteria are retrieved.

Wildcard symbols, such as ? and *, replace the zero or additional characters in search words to improve search accuracy.

In **phrase searching**, the user places quotation marks around a phrase to make it a complete unit for search purposes. This results in search engines retrieving only those sites that contain the exact phrase.

**Boolean searches** link search words by using logical operators such as AND, OR, and NOT.

Using the AND, OR, and NOT logical operators provides additional criteria for a search engine to use when retrieving documents.
Finding Information on the Web

Evaluate information obtained through the Web carefully for accuracy and validity.

Fact-checking standards are not applied to many Web pages.

Careful evaluation prevents use of biased or inaccurate information.

Students can use information found on the Web to:
- Access authoritative online sources
- Locate published works
- Learn how to cite references
- Be sure to provide appropriate online and offline reference citations in your work.
Exploring Internet Services

- An **Internet service** is a set of standards or protocols. These standards or protocols identify how computers communicate through the Internet.

Exploring Internet Services

- **Electronic mail (e-mail)** is a type of application software that makes sending and receiving messages through computer networks possible.
- An **e-mail attachment** is a computer file that is included in an e-mail message.

Exploring Internet Services

- An **e-mail address**, a unique cyberspace address for each individual, is required to send an e-mail to a recipient.
- E-mail is a fast, easy, and inexpensive method of communication.
- Unsolicited e-mails received by users, usually from advertisers, are called **spam**.
Instant messaging (IM) systems allow immediate, real-time communication with contacts.
- Requires additional software
- Notifies users when a contact is connected to the Internet
- May be susceptible to **spimming**—spam for instant messaging
Exploring Internet Services

- **Internet relay chat (IRC)** is a special type of Internet service that gives users the ability to join chat groups known as **channels**.
- **Social networking** helps people connect. Social networking sites like MySpace provide the ability to create large communities online.

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Exploring Internet Services

- **File Transfer Protocol (FTP)** is a method used to transfer files over the Internet, especially when files are too large to attach to e-mails.

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Exploring Internet Services

- **Usenet** is an international discussion system available through the Internet.
  - It is made up of many **newsgroups**—discussion groups that are dedicated to one topic.
  - Discussions within newsgroups are in **threads**, groupings of commentaries on a particular subject.

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Exploring Internet Services

- Usenet newsgroups are categorized in the following groups:
  - Standard newsgroups of high-quality discussions
  - Alt newsgroups devoted to anyone wishing to create a newsgroup
  - Biz newsgroups devoted to commercial use

Netiquette is a series of guidelines for good manners when using an Internet service.

Flames are angry messages sent by other users.

Electronic mailing lists are similar to newsgroups and forums. However:
- Only subscribers can receive and view messages.
- Messages posted to the mailing list are automatically sent to everyone on the list.

Majordomo is a common freeware electronic mailing list manager.
What You’ve Learned

- The Internet is a global computer network.
- The Internet enables computers connected to it to exchange data.
- Public or private Internet service providers supply users with access to the Internet.

What You’ve Learned

- The World Wide Web, which is made up of billions of hypertext documents, uses the Internet.
- Web browsers display Web documents and give users the ability to use linked documents.
- A URL is made up of a protocol, domain, path, and resource name.

What You’ve Learned

- Search engines permit users to search the databases of the Web.
- Web subject guides provide limited search results based on indexes.
- The use of search operators and/or Boolean operators improves the efficiency of a search.
What You’ve Learned

- Information found on the Web should be critically evaluated for being reputable and accurate.
- Some of the most widely used Internet services are instant messaging, internet relay chats, File Transfer Protocols, Usenet, and electronic mailing lists.