Discovering Computers
2006 A GATEWAY TO INFORMATION

Chapter 2
The Internet and World Wide Web

Chapter 2 Objectives

Discuss the history of the Internet

Describe the types of Web sites

Explain how to access and connect to the Internet

Recognize how Web pages use graphics, animation, audio, video, virtual reality, and plug-ins

Analyze an IP address

Identify the steps required for Web publishing

Identify the components of a Web address

Describe the types of e-commerce

Explain the purpose of a Web browser

Explain how e-mail, FTP, newsgroups and message boards, mailing lists, chat rooms, Instant messaging, and Internet telephony work

Search for information on the Web

Identify the rules of netiquette

Next ▶

The Internet

What are some services found on the Internet?

Next ▶

History of the Internet

How did the Internet originate?

ARPANET
Networking project by Pentagon's Advanced Research Projects Agency (ARPA)

Goal:
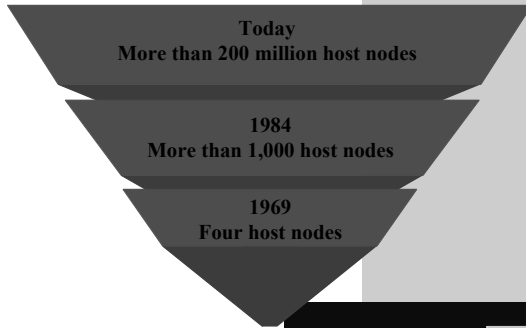To allow scientists at different locations to share information

Goal:
To function if part of network were disabled

Became functional September 1969

Next ▶

History of the Internet

How has the Internet grown?

Today
More than 200 million host nodes

1984
More than 1,000 host nodes

1969
Four host nodes

Next ▶

History of the Internet

Who controls the Internet?
- ➤ **No one—it is a public, cooperative, and independent network**
- ➤ **Several organizations set standards**

World Wide Web Consortium (W3C)
- ▪ **Oversees research, sets standards and guidelines**
- ▪ **Tim Berners-Lee, director**

Internet2 (I2)
- ▪ **Internet-related research and development project**
- ▪ **Develops and tests advanced Internet technologies**

Next ▶

How the Internet Works

How can you connect to the Internet?

Slow-speed technology

Dial-up access modem in your computer uses a standard telephone line to connect to the Internet

Connection must be established each time you log on. Slow but inexpensive

High-speed connection

Digital subscriber line **(DSL)**, cable telephone Internet services (CATV), **cable modem**, fixed wireless, and satellite modems
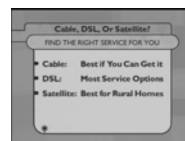
Connection is always on— whenever the computer is running

Next ▶

Video: Choosing a Broadband Provider

Choose the broadband connection that will best meet your Internet connection needs

Cable, DSL, Or Satellite?
FIND THE RIGHT SERVICE FOR YOU
- Cable: Best if You Can Get it
- DSL: Most Service Options
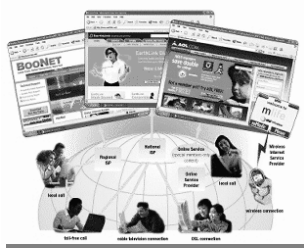- Satellite: Best for Rural Homes

low quality
(click to start)

high quality
(click to start)

Next ▶

How the Internet Works

What are ways to access the Internet?

1. ISP, Regional or National
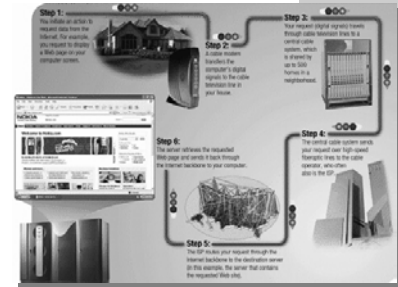2. OSP (AOL and MSN, for example)
3. Wireless Internet Service Provider

How the Internet Works

How might data travel the Internet using a cable modem connection?

How the Internet Works

What is a domain name?

➢ **Text version of Internet protocol (IP) address**
  ▪ Number that uniquely identifies each computer or device connected to Internet

IP address ⟶ 63.123.44.192

Domain name ⟶ www.scsite.com

top-level domain

TOP-LEVEL DOMAINS	
Original Top-Level Domains	Type of Domain
com	Commercial organizations, businesses, and companies
edu	Educational institutions
gov	Government agencies
mil	Military organizations
net	Network providers
org	Nonprofit organizations
Newer Top-Level Domains	Type of Domain
museum	Accredited museums
biz	Businesses of all sizes
info	Businesses, organizations, or individuals providing general information
name	Individuals or families
pro	Certified professionals such as doctors, lawyers, and accountants
aero	Aviation community members
coop	Business cooperatives such as credit unions and rural electric coops

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The World Wide Web

What is the World Wide Web (WWW)?

A worldwide collection of electronic documents

Also called the **Web**

Each electronic document is called a **Web page**

Can contain text, graphics, sound, video, and built-in connections

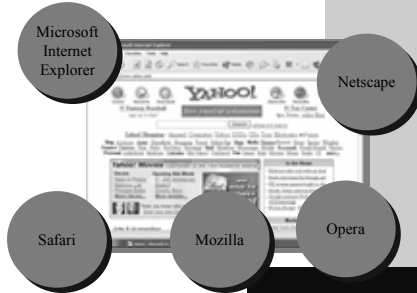A **Web site** is a collection of related Web pages

The World Wide Web

What is a Web browser?
- ➤ **Program that allows you to view Web pages**

Microsoft Internet Explorer

Netscape

Safari

Mozilla

Opera

Next ▷

The World Wide Web

How does a Web browser display a home page?

Step 2.
If necessary, connect to the Internet

Step 1.
Click the Web browser program name

Step 3.
Connection to the Internet occurs, and a home page displays

Next ▷

The World Wide Web

What is a home page?
- ➤ **The first page that a Web site presents**
- ➤ **Often provides connections to other Web pages**

Next ▷

The World Wide Web

How do handheld computers and cellular telephones access the Web?

- ➤ **Use a microbrowser that displays Web pages that contain mostly text**
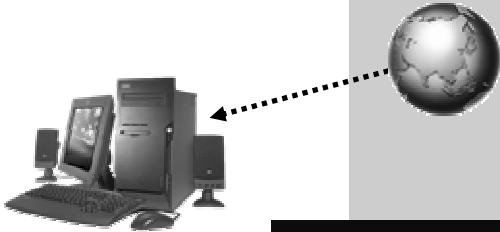
- ➤ **Must be Web-enabled**

Next ▷

The World Wide Web

What is downloading?

- ➢ **The process of a computer receiving information**
- ➢ **Depending upon connection speed, downloading can take from a few seconds to several minutes**

Next ▷

The World Wide Web

What is a URL?

Unique address for a Web page

A **web server** delivers the Web page to your computer

Click to view Web Link,
click Chapter 2, Click Web Link
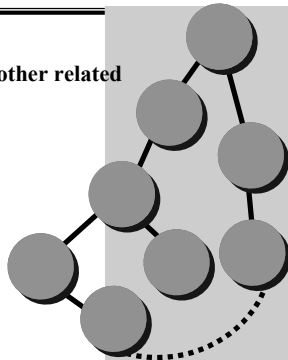from left navigation,
then click Web Addresses below
Chapter 2

Next ▷

The World Wide Web

What is a link?

- ➢ **Built-in connection to another related Web page location**
  - ▪ Item found elsewhere on same Web page
  - ▪ Different Web page at same Web site
  - ▪ Web page at a different Web site

Next ▷

The World Wide Web

How can you recognize links?

- ➢ **Pointer changes to a small hand when you point to a link**
- ➢ **A link can be text or an image**
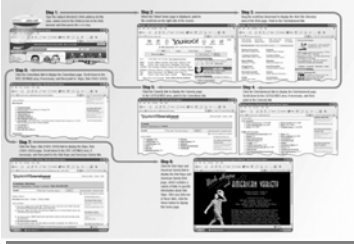- ➢ **Text links are usually underlined and in a different color**

Next ▷

The World Wide Web

What is a subject directory?
- ➢ **Search tool with organized set of topics and subtopics**
- ➢ **Lets you find information by clicking links rather than entering keywords**

Next ▷

The World Wide Web

What is a search engine?
- ➢ **Program used to find Web sites and Web pages by entering words or phrases called search text**
  - ▪ Also called a keyword

WIDELY USED SEARCH TOOLS		Subject Directory	Search Engine
Search Tool	Web Address		
A9.com	a9.com		X
AlltheWeb	alltheweb.com		X
Alta Vista	altavista.com	X	X
AOL Search	search.aol.com		X
AOMI	aomi.com		X
Ask Jeeves	askjeeves.com	X	X
Excite	excite.com	X	X
Gigablast	gigablast.com		X
Google	google.com	X	X
HotBot	hotbot.com		X
LookSmart	looksmart.com	X	X
Lycos	lycos.com	X	X
MSN Search	search.msn.com	X	X
Netscape Search	search.netscape.com	X	X
Open Directory Project	dmoz.org	X	X
Overture	overture.com		X
Teoma	teoma.com		X
WebCrawler	webcrawler.com		X
Yahoo!	yahoo.com	X	X

Next ▷

The World Wide Web

What is a hit?
- ➢ **Any Web site name that is listed as the result of a search**

Step 1. Go to search engine

Step 2. Select type of search you want to run

Step 3. View hits

Step 4. Click link to view Web site
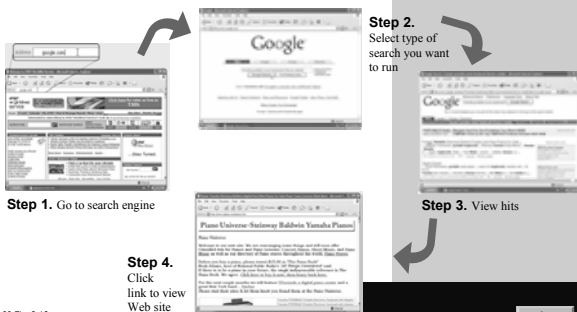
Next ▷

The World Wide Web

What are the nine basic types of Web sites?
- ➢ **Portal**
- ➢ **News**
- ➢ **Informational**
- ➢ **Business/Marketing**
- ➢ **Educational**
- ➢ **Entertainment**
- ➢ **Advocacy**
- ➢ **Blog**
- ➢ **Personal**

Next ▷

The World Wide Web

What is a portal?

➤ **A Web site that offers a variety of services from one, convenient location, usually for free**

- Searching, sports, e-mail, news, weather, auctions, Web communities (Web sites that join people with similar interests)

p. 82 Fig. 2-14a

Next ▶

The World Wide Web

What is a news Web site?

➤ **Contains newsworthy material**

➤ **Stories and articles relating to current events, life, money, sports, and the weather**

p. 82 Fig. 2-14b

Next ▶

The World Wide Web

What is an informational Web site?

➤ **Contains factual information**

➤ **Created by organizations and government agencies**

p. 82 Fig. 2-14c

Next ▶

The World Wide Web

What is a business/marketing Web site?

➤ **Contains content that promotes products or services**

➤ **Allows you to purchase products or services online**

p. 82 Fig. 2-14d

Next ▶

The World Wide Web

What is an educational Web site?

➢ **Offers avenues for formal and informal teaching and learning**

  ▪ Some companies offer online training for employees

  ▪ Some colleges offer online classes and degrees

Next ▷

The World Wide Web

What is an entertainment Web site?

➢ **Offers an interactive and engaging environment featuring music, video, sports, games, and more**

Next ▷

The World Wide Web

What is an advocacy Web site?

➢ **Contains content that describes a cause, opinion, or idea**

Next ▷

The World Wide Web

What is a blog?

➢ **Uses a regularly updated journal format to reflect the interests, opinions, and personalities of the author and sometimes site visitors**

Next ▷

The World Wide Web

What is a personal Web site?
- ➢ **Web page maintained by private individual**
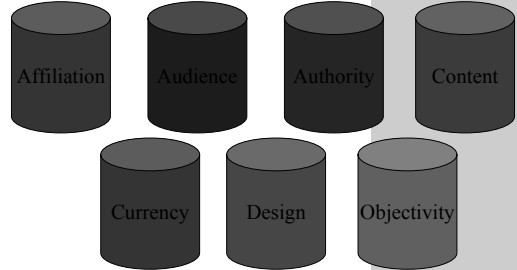- ➢ **Reasons: sharing life experience with the world or job hunting**

Next ▷

The World Wide Web

What are the guidelines for evaluating the value of a Web site?

Affiliation   Audience   Authority   Content

Currency   Design   Objectivity

Next ▷

The World Wide Web

What is multimedia?
- ➢ **Application integrating text with other media elements**
    - ▪ **Graphics**
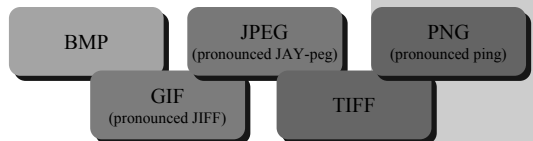   - ▪ Animation
    - ▪ Audio
    - ▪ Video
    - ▪ Virtual reality

Next ▷

The World Wide Web

What graphics formats are used on the Web?

BMP

JPEG
(pronounced JAY-peg)

PNG
(pronounced ping)

GIF
(pronounced JIFF)

TIFF

Next ▷

The World Wide Web

What is a thumbnail?

➢ **Small version of a larger graphic—used to improve Web page display time**

 ▪ Usually click on thumbnail to display larger graphic

The World Wide Web

What is animation?

➢ **Appearance of motion created by displaying a series of still images in sequence**

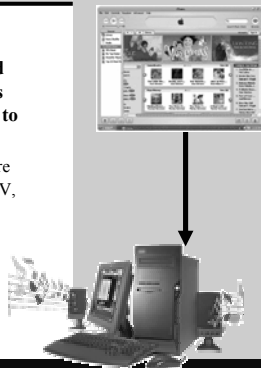
The World Wide Web

What is audio?

➢ **Music, speech, or any other sound**
➢ **Individual compressed sound files that you download from the Web to your computer**

 ▪ Common Web audio file formats are AA, AAC, AIFF, ASF, **MP3**, WAV, WMA, RA, and QT

➢ **Once downloaded, you can play (listen to) the contents of the files**

The World Wide Web

What is streaming audio?

The process of transferring audio in a continuous and even flow

Enables you to listen to music as it downloads to your computer

Click to view Web Link,
click Chapter 2, Click Web Link
from left navigation,
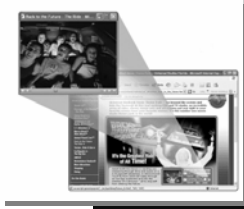then click Streaming Media
below Chapter 2

The World Wide Web

What is video?
- **Consists of full-motion images that are played back at various speeds**
- **MPEG (Moving Pictures Experts Group) is popular video compression standard**

Next ▷

The World Wide Web

What is virtual reality (VR)?
- **Use of computers to simulate real or imagined environment**
- **Appears as a three dimensional (3-D) space**
  - Used for games and many practical applications

Next ▷

The World Wide Web

What are plug-ins?
- **Programs that extend the capability of a browser**
- **You can download many plug-ins at no cost from various Web sites**

POPULAR PLUG-IN APPLICATIONS

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

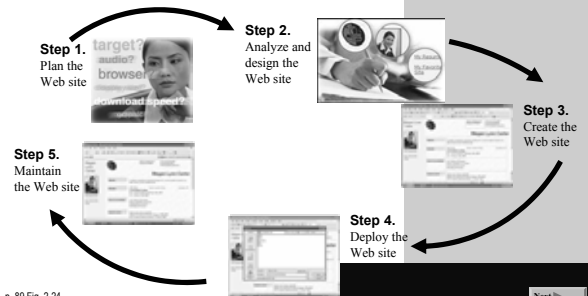Click to view Web Link, click Chapter 2, Click Web Link from left navigation, then click Plug-Ins below Chapter 2

Next ▷

Web Publishing

What is Web publishing?
- **Development and maintenance of Web pages**

Step 1. Plan the Web site

Step 2. Analyze and design the Web site

Step 3. Create the Web site

Step 4. Deploy the Web site

Step 5. Maintain the Web site

Next ▷

E-Commerce

What is E-commerce?

➢ **Short for electronic commerce**

➢ **Business transaction that occurs over the Internet**

> **Business to consumer (B2C)**
> Sale of goods to general public

> **Consumer to consumer (C2C)**
> One consumer sells directly to another

> **Business to business (B2B)**
> Business providing goods and services to other businesses

Next ▶

Other Internet Services

What is E-mail?

➢ **Short for electronic mail**

➢ **The transmission of messages and files via a computer network**

- Messages can consist of simple text or can contain attachments, such as documents, graphics, or audio/video clips
- Internet access providers usually provide an e-mail program
- Some Web sites—such as MSN Hotmail and Yahoo!—provide free e-mail services
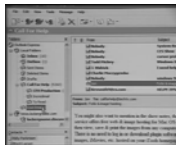
➢ **One of the original services on the Internet**

Next ▶

Video: E-mail Basics

Learn how to use e-mail quickly and efficiently

low quality
(click to start)

high quality
(click to start)

Next ▶

Other Internet Services

How do you send an e-mail message?

Step 1.
Start an e-mail program (Microsoft Outlook, for example)

Step 2.
Click the New Mail Message button

Step 3.
Enter the recipient's e-mail address, the subject, and the message

Step 5.
The recipient opens the message

Step 4.
Click the Insert file button if you want to attach a picture, for example, and click Send

Next ▶

Other Internet Services

What is an e-mail address?

➢ **Unique name that consists of a user name and domain name that identifies the user**
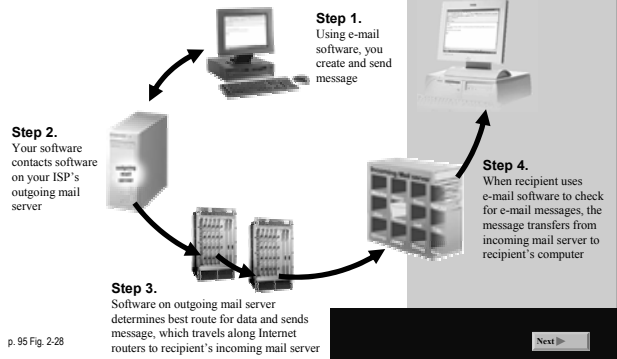
SamJohnson@scsite.com

Next ▶

Other Internet Services

How does an e-mail message travel?

Step 1.
Using e-mail software, you create and send message

Step 2.
Your software contacts software on your ISP's outgoing mail server

Step 3.
Software on outgoing mail server determines best route for data and sends message, which travels along Internet routers to recipient's incoming mail server

Step 4.
When recipient uses e-mail software to check for e-mail messages, the message transfers from incoming mail server to recipient's computer

Next ▶

Other Internet Services

What is FTP?

➢ **File Transfer Protocol—Internet standard that allows you to upload and download files with other computers on the Internet**
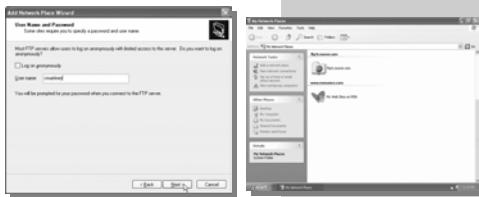
Click to view Web Link,
click Chapter 2, Click Web Link
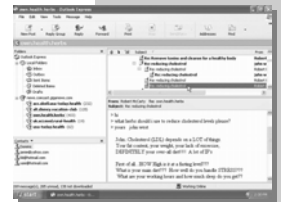from left navigation,
then click FTP
below Chapter 2

Next ▶

Other Internet Services

What are newsgroups and message boards?

➢ **Newsgroup**
  ▪ Online area where users discuss a particular subject
➢ **Message board**
  ▪ Type of discussion group
  ▪ Many Web sites use message boards because they are easier to use

Click to view Web Link,
click Chapter 2, Click Web Link
from left navigation,
then click Newsgroups and
Message Boards
below Chapter 2

Next ▶

Other Internet Services

What is a mailing list?
- **Group of e-mail addresses given a single name**
- **When a message is sent to the mailing list, everyone on the list receives the message**
- **To add your name to a mailing list you must subscribe to it; to remove your name you must unsubscribe**

Click to view Web Link,
click Chapter 2, Click Web Link
from left navigation,
then click Mailing Lists
below Chapter 2

Next ▷

Other Internet Services

What is a chat?
- **Real-time typed conversation that takes place on a computer**
- **Chat room is location on server that permits users to discuss topics of interest**

Click to view Web Link,
click Chapter 2, Click Web Link
from left navigation,
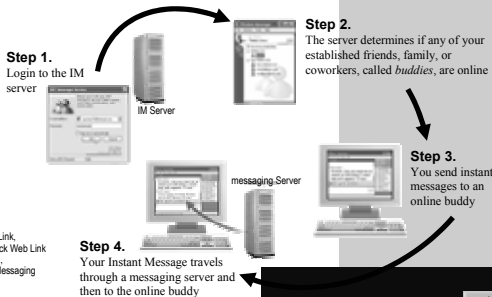then click Chat Rooms
below Chapter 2

Next ▷

Other Internet Services

What is instant messaging (IM)?
- **A real-time Internet communications service that notifies you when one or more people are online and allows you to exchange messages or files**

Step 1.
Login to the IM server

IM Server

Step 2.
The server determines if any of your established friends, family, or coworkers, called *buddies*, are online

messaging Server

Step 3.
You send instant messages to an online buddy

Step 4.
Your Instant Message travels through a messaging server and then to the online buddy

Click to view Web Link,
click Chapter 2, Click Web Link
from left navigation,
then click Instant Messaging
below Chapter 2

Next ▷

Other Internet Services

What is internet telephony?
- **Enables users to speak to other users over the Internet using their computer**

cable/DSL modem

Internet

telephone adapter

personal computer

telephone

Next ▷

Netiquette

What is netiquette?

➢ **Code of acceptable behaviors users should follow while on the Internet**

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

Next ▷

Summary of the Internet and World Wide Web

History and structure of the Internet	Electronic commerce
The World Wide Web	Other Internet services
Web Publishing	Netiquette

Chapter 2 Complete