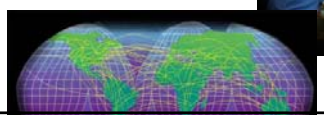
SHELLY CASHMAN SERIES

Discovering Computers 2003

Concepts for a Digital World

Web and XP Enhanced

Chapter 2
The Internet and World Wide Web



Chapter 2 Objectives

- Discuss how the Internet works
- Understand ways to access the Internet
- Identify a URL
- Search for information on the Web
- Describe the types of Web pages
- Recognize how Web pages use graphics, animation, audio, video, and virtual reality
- Define Webcasting
- Describe the uses of electronic commerce (e-commerce)
- Identify the tools required for Web publishing
- Explain how e-mail, FTP, newsgroups and message boards, mailing lists, chat rooms and instant messaging work
- Identify the rules of netiquette

Next

p. 2.2

The Internet

What are some services found on the Internet?

- ❑ e-mail (1)
- ❑ Web (2)
- ❑ file transfer (3)
- ❑ chat (4)
- ❑ message board (5)
- ❑ instant messaging (6)

Next

p. 2.2 Fig. 2

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

p. 2.3

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History of the Internet

Who provides the Internet's structure today?

- Networks from corporations, commercial firms, and other companies
- Telephone companies
- Cable companies
- Satellite companies
- Government

Next

p. 2.4

History of the Internet

How has the Internet grown?

Today

More than 100 million host nodes

1984

More than 1,000 host nodes

1969

Four host nodes

Next

p. 2.4

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History of the Internet

Who controls the Internet?

- Nobody; it is public, cooperative, and an 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
p. 2.4

How the Internet Works

What are ways to access the Internet?

1 Regional ISP
2 National ISP
3 OSP (Ex. AOL)
4 Wireless Internet Service Provider

Next
p. 2.5 Fig. 2-2

How the Internet Works

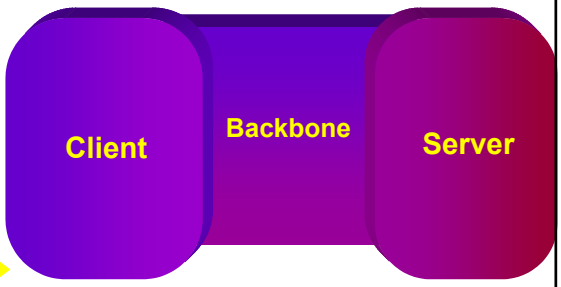
How can you connect to the Internet?

- Very high-speed connection
- Digital subscriber line (DSL) and cable modem
- Dial-up access

Next
p. 2.6

How the Internet Works

What are three parts of an Internet connection?



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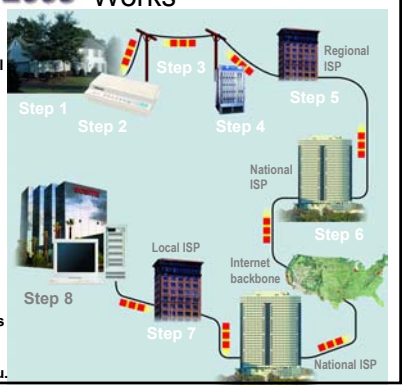
How the Internet Works

1: Request data from the a server on Internet.
2: Modem converts digital to analog signals.
3: Data travels through telephone lines to a local ISP.
4: Data passes through routers.
5: Regional ISP uses leased lines to send data to a national ISP.
6: National ISP routes data across the country.
7: National ISP passes data to local ISP.
8: Server sends data back to you.



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p. 2.7 Fig. 2-3

How the Internet Works

What is an Internet protocol (IP) address?

- Number that uniquely identifies each computer or device connected to Internet

IP address → 199.95.72.10

first part identifies network

last part identifies specific computer

Next
p. 2.8 Fig. 2-4

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How the Internet Works

What is a domain name?

- Text version of IP address

IP address → 199.95.72.10

Domain name → scsite.com

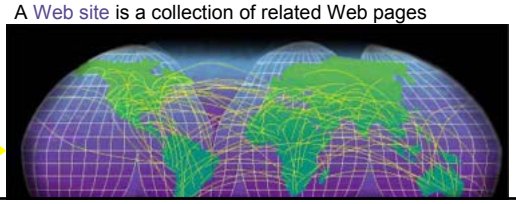
Next

p. 2.8 Fig. 2-4

The World Wide Web

What is the World Wide Web (WWW) ?

- A worldwide collection of electronic documents
- Also called the Web
- Each document is called a Web page
- Can contain text, graphics, sound, video, and links to other Web pages
- A Web site is a collection of related Web pages



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p. 2.9

The World Wide Web

What is a Web browser?

- Program that allows you to view Web pages
  - Netscape
  - Internet Explorer

Next

p. 2.9 Fig. 2-6

The World Wide Web

How can you establish a connection and start the Web browser?

1: Click the Web browser program name

2: If necessary, connect to Internet

3: Connection to the Internet occurs and a home page displays

Web browser program name

Next

p. 2.10 Fig. 2-7

The World Wide Web

How do handheld computers and cellular telephones access the Web?

- Must be Web-enabled
- Uses a microbrowser that displays Web pages that contain mostly text

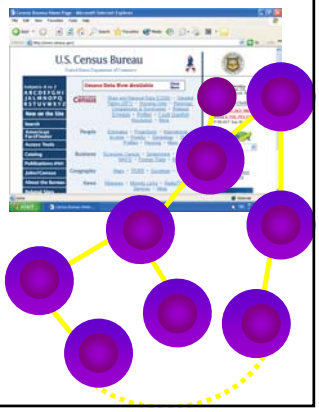
Next

p. 2.11 Fig. 2-8

The World Wide Web

What is a hyperlink?

- Text or graphic that displays a related Web page
- Also called a link



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p. 2.12

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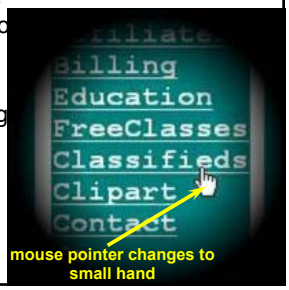
The World Wide Web

How can you identify a hyperlink (link) on a Web page?

- Mouse pointer changes to a small hand when yo point to a link
- Click the link to display the associated Web pag
- Link can be a word, phrase, or image



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p. 2.12

The World Wide Web

How do you recognize links?

1. Some links display a different color when you point to them
2. Some links are underlined
3. Some links are graphical images

Next
p. 2.12 Fig. 2-9

The World Wide Web

What can links display?

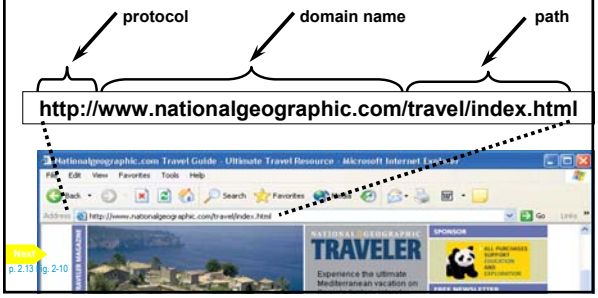
- Item found elsewhere on same Web page
- Different Web page at same Web site
- Web page at a different Web site

Next
p. 2.12

The World Wide Web

What is a URL?

- Unique address for Web page located on Web server



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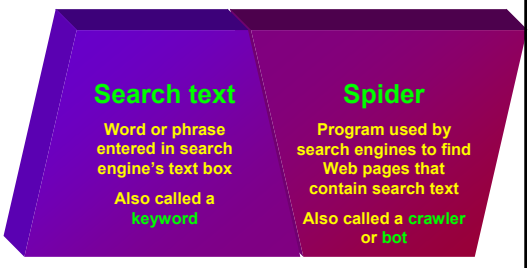
p. 2.13 Fig. 2-10

The World Wide Web

What is a search engine?

- Program used to find Web pages pertaining to a specific topic



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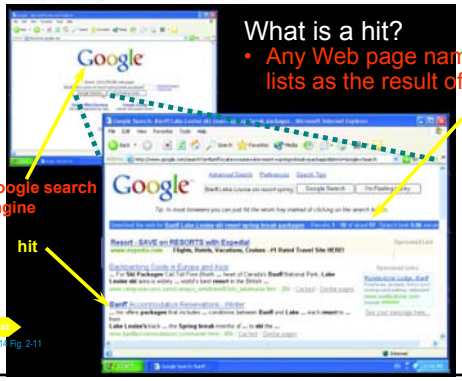
The World Wide Web

What is a hit?

- Any Web page name that lists as the result of a search



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p. 2.14 Fig. 2-11

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The World Wide Web

What are some widely used search engines?

AltaVista	altavista.com
Excite	excite.com
Google	google.com
GoTo.com	goto.com
HotBot	hotbot.com
Lycos	lycos.com
WebCrawler	webcrawler.com
Yahoo!	yahoo.com

Next

p. 2.15 Fig. 2-12

The World Wide Web

What is a directory?

- Search tool with organized set of topics and subtopics
- Lets you find information by clicking links rather than entering keywords

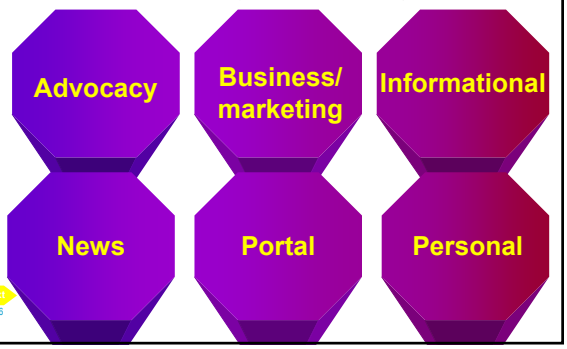
organized topics from which you select

Next

p. 2.15 Fig. 2-13

The World Wide Web

What are the six basic types of Web pages?



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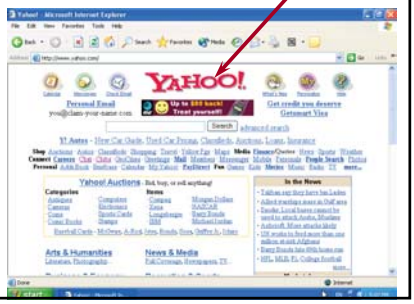
p. 2.16

The World Wide Web

What is a portal Web page?

- Offers a variety of Internet services from a single, convenient location
- Often called a portal

Yahoo! is a portal



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p. 2.16 Fig. 2-14a

The World Wide Web

What is a news Web page?

- Contains newsworthy material
- Stories and articles relating to current events, life, money, sports, and weather

ESPN.com is a sports news page

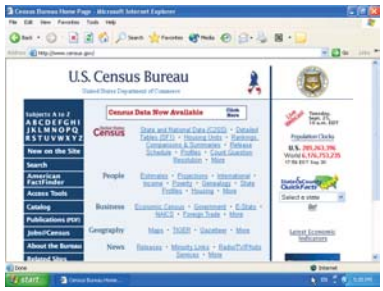
Next

p. 2.16 Fig. 2-14b

The World Wide Web

What is an informational Web page?

- Contains facts
- Created by organizations and governments



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p. 2.16 Fig. 2-14c

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The World Wide Web

What is a business/marketing Web page?

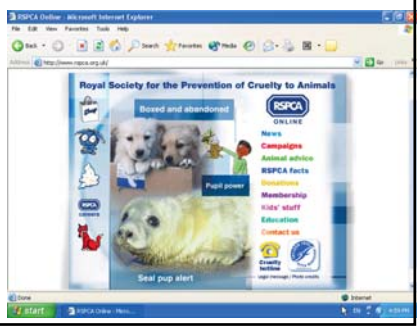
- Contains content that promotes products
- Allows you to purchase products online

Next
p. 2.16 Fig. 2-14d

The World Wide Web

What is an advocacy Web page?

- Contains content that describes a cause, opinion, or idea



Next
p. 2.16 Fig. 2-14e

The World Wide Web

What is a personal Web page?

- Web page maintained by private individual
- Reasons: sharing life experience with the world

Next
p. 2.17 Fig. 2-14f

The World Wide Web

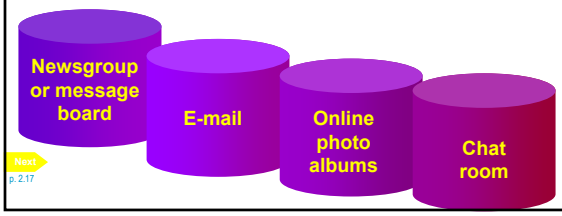
What services are often found on a portal?

Next
p. 2.17

The World Wide Web

What is a Web community?

- Web site joining specific group of people with similar interests or relationships



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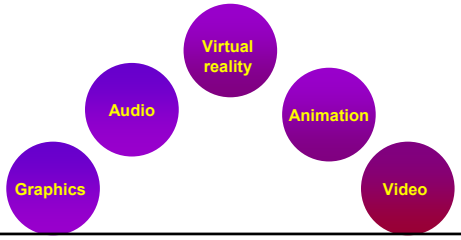
The World Wide Web

What is multimedia?

- Application integrating text with other media elements
  - Often used on Web pages to add appeal



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The World Wide Web

What are graphic file formats?

GRAPHICS FORMATS USED ON THE INTERNET

Acronym	Name	File Extension
BMP	Bit Map	.bmp
GIF (pronounced JIFF)	Graphics Interchange Format	.gif
JPEG (pronounced JAY-peg)	Joint Photographic Experts Group	.jpg
PCX	PC Paintbrush	.pcx
PNG (pronounced ping)	Portable Network Graphics	.png
TIFF	Tagged Image File Format	.tif

Next
p. 2.18 Fig. 2-16

The World Wide Web

What is a thumbnail?

- Small version of a larger graphical image
- Usually click thumbnail on Web page to display full-sized image

Next
p. 2.19 Fig. 2-17

The World Wide Web

What is animation?

- Appearance of motion created by displaying a series of still images in rapid sequence

Next
p. 2.19

The World Wide Web

What is audio?

- Music, speech, or any other sound
- Individual sound files that you download to your computer

Next
p. 2.20

The World Wide Web

What are MP3 files?

- Compresses audio to one-tenth of original size while preserving quality of sound
- Allows for transfer of music over Web

Next
p. 2.20 Fig. 2-18

The World Wide Web

What is streaming audio?

- Enables you to listen to the sound as it downloads to your computer
- Radio stations use streaming audio to broadcast over the Web

Next
p. 2.21 Fig. 2-19

The World Wide Web

What is video?

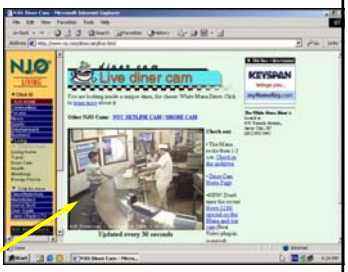
- Consists of full-motion images with sound played back at various speeds
- MPEG is popular video compression standard

Next
p. 2.22 Fig. 2-20

The World Wide Web

What is a Web cam?

- Combined video camera and software that outputs video to a Web page



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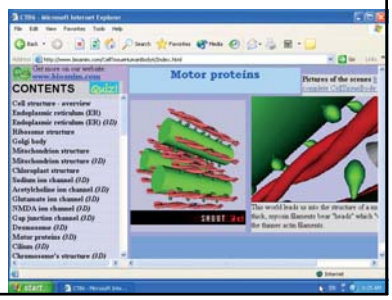
The World Wide Web

What is virtual reality (VR)?

- Use of computers to simulate real or imagined environment
  - Used for games and many practical applications



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p. 2.22 Fig. 2-21

The World Wide Web

What is Webcasting?

- Delivers information via the Web at regular intervals without user making a request
- Also called push technology

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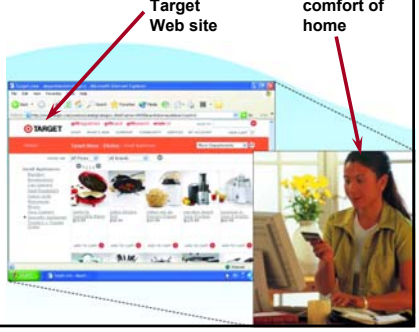
p. 2.23

Electronic Commerce

What is e-commerce?

- Financial business transaction that occurs over an electronic network such as the Internet



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p. 2.24 Fig. 2-23

Electronic Commerce

What are the three types of e-commerce?

Next
p. 2.25

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Electronic Commerce

What are e-commerce features?

- Electronic storefront
- Shopping cart
- Online auction

Next
p. 2.25

Web Publishing

What is Web publishing?

- Development and maintenance of Web pages

1 Plan
2 Analyze and design
3 Create the Web site
4 Deploy the Web site
5 Maintain the Web site

Next
p. 2.26 Fig. 2-24

Web Publishing

How do you deploy a Web site?

Next
p. 2.28

Other Internet Services

What is an e-mail address?

- Combination of user name and domain name that identifies user so he or she can receive e-mail

User name or user-ID — A unique combination of characters that identifies you

at

Domain name — Identifies the mail server

Next
p. 2.31 Fig. 2-27

Other Internet Services

How can you get e-mail?

- Obtain e-mail address from school or ISP
- Some Web sites, such as hotmail.com, provide e-mail services free of charge
- Basic components include:

Address Book
Allows you to store list of names and e-mail addresses

Mail Server
Server that contains mailboxes

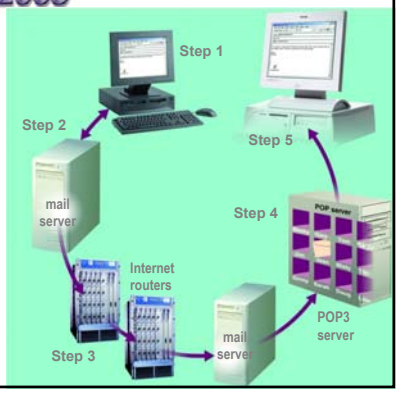
Mailbox
Storage location usually residing on computer that connects you to Internet

Next
p. 2.31

Other Internet Services

How does an e-mail message travel?

1 Create & send message
2 Your software contacts ISP mail server
3 Mail server determines best route
4 Mail server transfers message to POP3 server
5 When e-mail software checks for e-mail messages, message transfers from POP3 server to recipient's computer



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p. 2.32 Fig. 2-28

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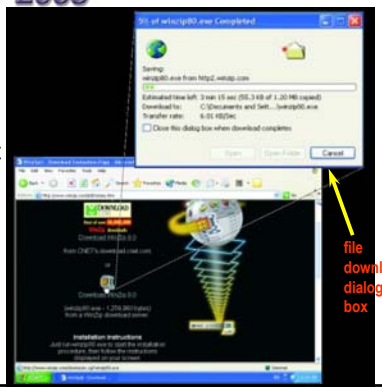
Other Internet Services

What is FTP?

- **File Transfer Protocol**
  - Internet standard that allows you to upload and download files with other computers on Internet



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p. 2.33 Fig. 2-29

Other Internet Services

What is a newsgroup?

- Online area where users conduct written discussions about particular subject
- User sends message to newsgroup
- Other users in newsgroup read and reply to message

Usenet
Entire collection of Internet newsgroups

News server
Computer that stores and distributes newsgroup messages

Next

p. 2.33

Other Internet Services

What is a message board?

- Type of discussion group that does not require newsreader
  - **Also called a discussion board**

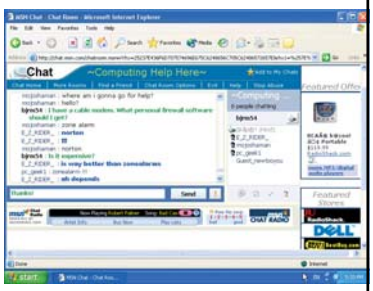
Next

p. 2.34 Fig. 2-30

Other Internet Services

What is a chat?

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



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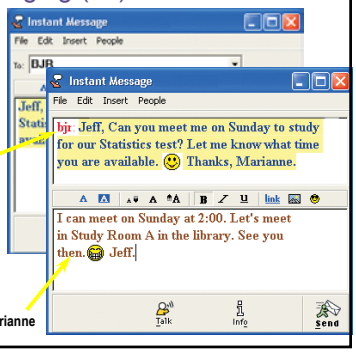
p. 2.35 Fig. 2-32

Other Internet Services

What is instant messaging (IM)?

- A real-time Internet communications service



Marianne's message immediately displays on Jeff's computer screen because she is online

Jeff's response to Marianne

Next

p. 2.36 Fig. 2-33

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

p. 2.37 Fig. 2-34

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Summary of the Internet and World Wide Web

- History of the Internet
- How the Internet works
- The World Wide Web
- Electronic commerce
- Web publishing
- Other Internet services
- Netiquette

Chapter 2 Complete

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