

Discovering Computers

Technology in a World of Computers,
Mobile Devices, and the Internet

Chapter 2

The Internet



Objectives Overview

Discuss the evolution
of the Internet

Briefly describe
various broadband
Internet connections

Describe the purpose
of an IP address and
its relationship to a
domain name

Describe features of
browsers and identify
the components of a
web address

Describe ways to
enter effective search
text

Explain benefits and
risks of using social
networking sites

See Page 54
for Detailed Objectives

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Objectives Overview

Describe uses of various types of websites

Identify and briefly describe the steps required for web publishing

Explain how the web uses graphics, animation, audio, video, and virtual reality

Explain how email, email lists, instant messaging, chat rooms, discussion forums, VoIP, and FTP work

Identify the rules of netiquette

See Page 54 for Detailed Objectives

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The Internet

- The **Internet** is a worldwide collection of networks that links millions of businesses, government agencies, educational institutions, and individuals



Pages 54 - 55
Figure 2-1

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Evolution of the Internet

- The Internet originated as ARPANET in September 1969 and had two main goals:

Allow scientists at different physical locations to share information and work together

Function even if part of the network were disabled or destroyed by a disaster

Evolution of the Internet

1969 ARPANET becomes functional

Today Millions of hosts connect to the Internet

1984 ARPANET has more than 1,000 individual computers linked as hosts

Connecting to the Internet

- With wired connections, a computer or device physically attaches via a cable or wire to a communications device
- Computers without a communications device can use a wireless modem

Connecting to the Internet



Connecting to the Internet

Wired

- Cable Internet service
- DSL (digital subscriber line)
- Fiber to the Premises (FTTP)

Wireless

- Wi-Fi (wireless fidelity)
- Mobile broadband
- Fixed wireless
- Satellite Internet Service

Connecting to the Internet

- A **cybercafé** is a location that provides computers with Internet access, usually for a fee
- A hot spot is a wireless network that provides Internet connections to mobile computers and devices

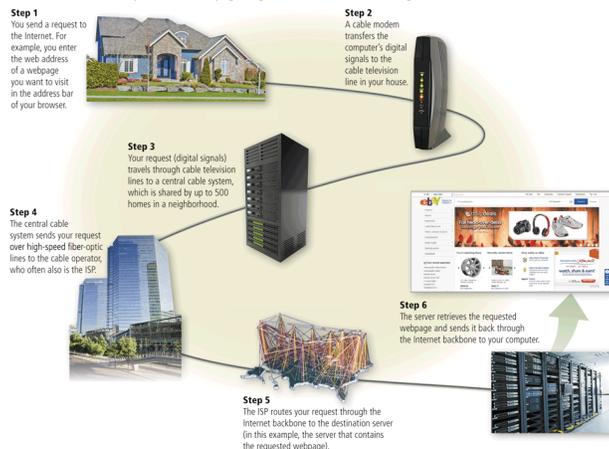


Connecting to the Internet

- An **Internet service provider (ISP)** is a business that provides individuals and organizations access to the Internet free or for a fee
- Bandwidth represents the amount of data that travels over a network
 - Megabyte (MB)
 - Gigabyte (GB)

Connecting to the Internet

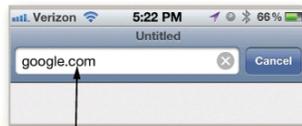
How a Home User's Request for a Webpage Might Travel the Internet Using Cable Internet Service



Connecting to the Internet

How a Browser Displays a Requested Webpage

Step 1
Run the browser and enter the web address in the browser's address bar.



web address contains domain name

Step 2

The browser communicates with a DNS server maintained by your ISP or another provider. The DNS server looks up the domain name portion of the web address, finds its associated IP address, and then sends the IP address to your computer or mobile device.



72.14.207.99
2001:4860:4860::8844

Step 3

The browser uses the IP address to contact the web server at the specified IP address to request the content of the desired webpage. The web server fulfills the user's request by sending the desired content to the user's browser, which formats the page for display on the screen.



The World Wide Web

- The **World Wide Web (WWW)**, or **web**, consists of a worldwide collection of electronic documents (**webpages**)
- A **website** is a collection of related webpages and associated items
- A **web server** is a computer that delivers requested webpages to your computer
- **Web 2.0** refers to websites that provide a means for users to share personal information, allow users to modify website content, and provide applications through a browser

The World Wide Web

- A **browser** is an application that enables users with an Internet connection to access and view webpages on a computer or mobile device
- A **home page** is the first page that a website displays
- Desktop browsers typically support **tabbed browsing**

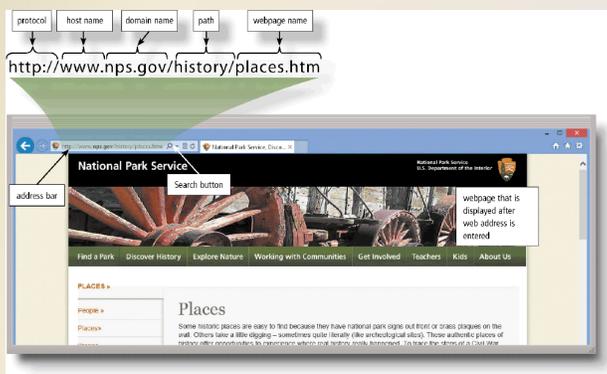


Pages 62 - 63
Figure 2-7

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The World Wide Web

- A webpage has a unique address called a **web address** or URL

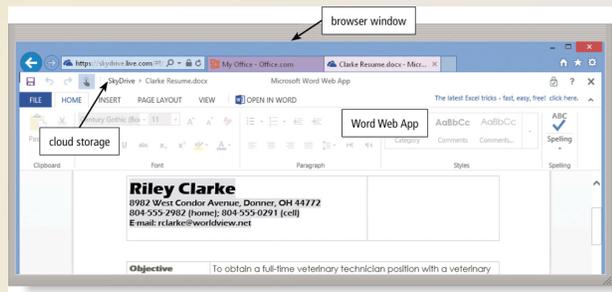


Pages 64 - 65
Figure 2-8

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The World Wide Web

- A web app is an application stored on a web server that you access through a browser
 - Web app hosts usually provide storage for users' data and information on their servers, known as cloud storage



Pages 65 – 66
Figure 2-10

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Types of Websites

- A **search engine** is software that finds websites, webpages, images, videos, news, maps, and other information related to a specific topic
- A subject directory classifies webpages in an organized set of categories, such as sports or shopping, and related subcategories

Pages 67 - 68

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Types of Websites

- Search operators can help to refine your search

Table 2-4 Search Engine Operators

Operator	Description	Examples	Explanation
Space or +	Display search results that include specific words.	art + music art music	Results have both words, art and music, in any order.
OR	Display search results that include only one word from a list.	dog OR puppy dog OR puppy OR canine	Results have either the word, dog, or the word, puppy. Results have the word, dog, or the word, puppy, or the word, canine.
()	Combine search results that include specific words with those that include only one word from a list.	Kalamazoo Michigan (pizza OR subs)	Results include both words, Kalamazoo Michigan, and either the word, pizza, or the word, subs.
-	Exclude a word from search results.	automobile -convertible	Results include the word, automobile, but do not include the word, convertible.
" "	Search for an exact phrase in a certain order.	"19th century literature"	Results include the exact phrase, 19th century literature.
*	Substitute characters in place of the asterisk.	writer*	Results include any word that begins with the text, writer (e.g., writer, writers, writer's)

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The World Wide Web

- There are thirteen types of Web sites

Online social network

Informational

Media sharing and bookmarking sites

News, weather, sports, and other mass media

Educational

Business, Governmental, and Organizational

The World Wide Web

Blogs

Wikis

Health and
Science

Entertainment

Financial

Travel and
Mapping

The World Wide Web

Shopping
and Auctions

Careers and
Employment

E-Commerce

Portals

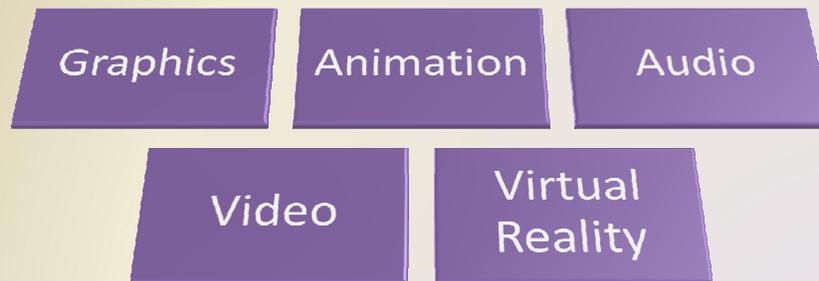
The World Wide Web

- **Web publishing** is the development and maintenance of websites



Media on the Web

- Multimedia refers to any application that combines text with:



Media on the Web

- A **graphic** is a digital representation of nontext information
- Graphic formats include BMP, GIF, JPEG, PNG, and TIFF

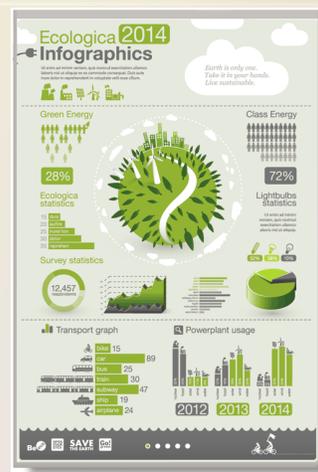


Pages 80 – 81
Figure 2-21

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Media on the Web

- An infographic is a visual representation of data and information, designed to communicate quickly, simplify complex concepts, or present patterns or trends



Pages 80 – 81
Figure 2-22

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Media on the Web

- **Animation** is the appearance of motion created by displaying a series of still images in sequence



Media on the Web

- Audio includes music, speech, or any other sound
 - Compressed to reduce file size
- You listen to audio on your computer using a media player



Media on the Web

- Video consists of images displayed in motion
- **Virtual reality (VR)** is the use of computers to simulate a real or imagined environment that appears as a three-dimensional space

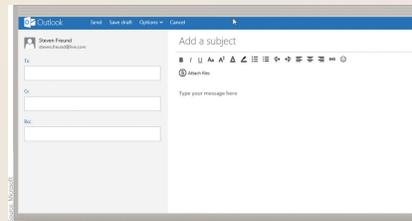


Media on the Web

A plug-in is a program that extends the capability of a Web browser

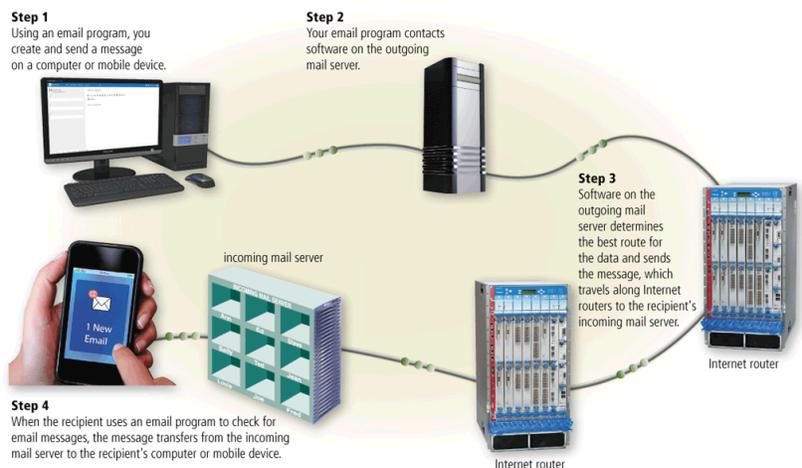
Other Internet Services

- **Email** is the transmission of messages and files via a computer network
- An **email program** allows you to create, send, receive, forward, store, print, and delete email messages



Other Internet Services

How an Email Message May Travel from a Sender to a Receiver



Other Internet Services

- An **email list** is a group of email addresses used for mass distribution of a message

Newsletters & Alerts

Your Email Address: rclaremont@esite.com

Preferred Newsletter Format: HTML Text

Submit Subscriptions

Your email address has been added!
Please choose your subscriptions below and click "Submit Subscriptions".

Choose Your Subscriptions...

ALERTS

FoxNews.com Breaking News Alerts Arrives: When news breaks
The latest news on politics, entertainment, global affairs & more -- right to your inbox!

FoxBusiness.com Breaking News Alerts Arrives: When news breaks
When the market moves, we're on it. Get breaking business news sent to your inbox.

NEWSLETTERS

Get More Alerts Arrives: ...

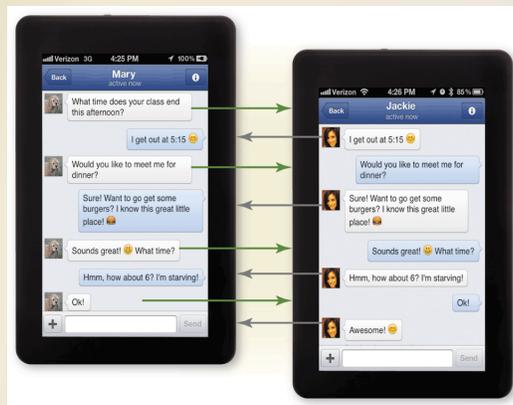
Top Headlines From FoxNews.com Arrives: ...

Page 86
Figure 2-26

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Other Internet Services

- **Instant messaging (IM)** is a real-time Internet communications service



Page 86
Figure 2-27

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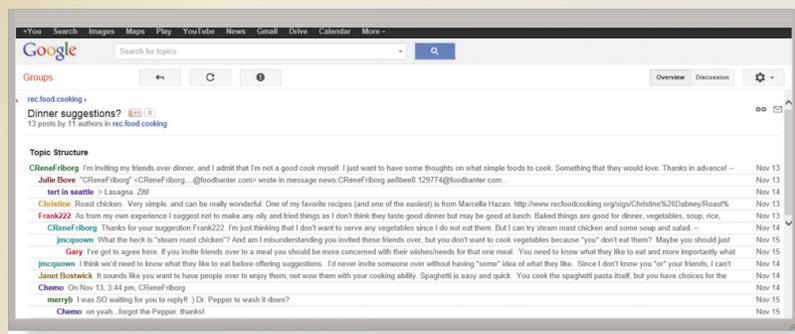
Other Internet Services

- A **chat** is a real-time typed conversation that takes place on a computer or mobile device
- A **chat room** is a website or application that permits users to chat with others who are online at the same time



Other Internet Services

- A **discussion forum** is an online area in which users have written discussions about a particular subject



Other Internet Services

- **VoIP** (Voice over IP) enables users to speak to other users over the Internet



Other Internet Services

- **FTP** (File Transfer Protocol) is an Internet standard that permits file uploading and downloading to and from other computers on the Internet
- Many operating systems include FTP capabilities
- An FTP server is a computer that allows users to upload and/or download files using FTP

Netiquette

- **Netiquette** is the code of acceptable Internet behavior

Netiquette Guidelines for Online Communications
Golden Rule: Treat others as you would like them to treat you.

Be polite. Avoid offensive language.

Avoid sending or posting *flames*, which are abusive or insulting messages. Do not participate in *flame wars*, which are exchanges of flames.

Be careful when using sarcasm and humor, as it might be misinterpreted.

Do not use all capital letters, which is the equivalent of SHOUTING!

Use **emoticons** to express emotion. Popular **emoticons** include:
:) Smile :| Indifference :o Surprised :(Frown :\ Undecided ;) Wink

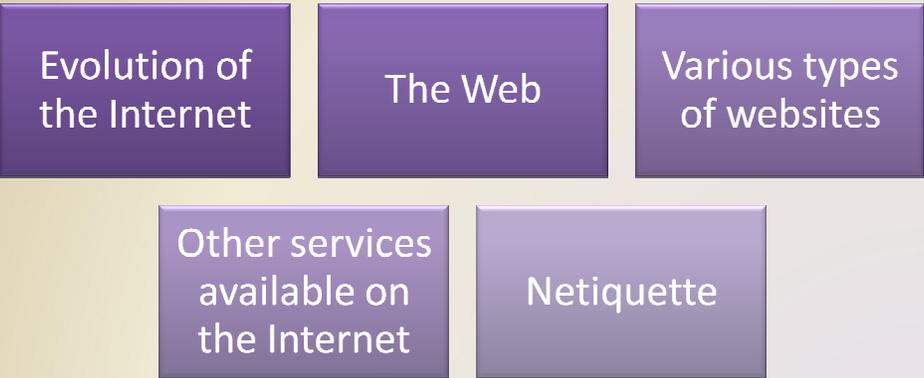
Use abbreviations and acronyms for phrases:
BTW by the way IMHO in my humble opinion FWIW for what it's worth
FYI for your information TTFN ta ta for now TYVM thank you very much

Clearly identify a spoiler, which is a message that reveals an outcome to a game or ending to a movie or program.

Be forgiving of other's mistakes.

Read the FAQ (frequently asked questions), if one exists.

Summary



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Chapter 2 Complete

