Discovering Computers

Tools, Apps, Devices, and the Impact of Technology

Chapter 2

Connecting and Communicating Online

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 compose effective search text

See Page 56
for Detailed Objectives

Objectives Overview

Explain benefits and risks of using online social networks

Describe uses of various types of websites

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

Explain how email, email lists, instant messaging, chat rooms, online discussions, VoIP, and FTP work

Identify the rules of netiquette

See Page 56
for Detailed Objectives

The Internet

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

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Figure 2-1

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

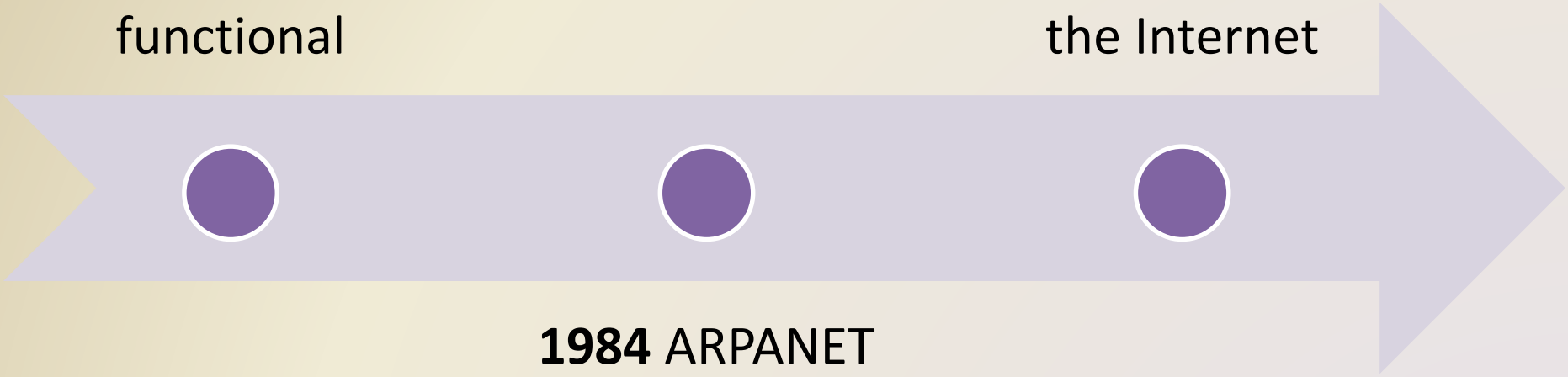
Function even if part of the network were disabled or destroyed by a disaster

The Internet

1969 ARPANET becomes functional

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

Today Millions of hosts connect to the Internet



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 or other communications device that enables wireless connectivity

Connecting to the Internet

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Figure 2-2

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 **hot spot** is a wireless network that provides Internet connections to mobile computers and devices

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Figure 2-3

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

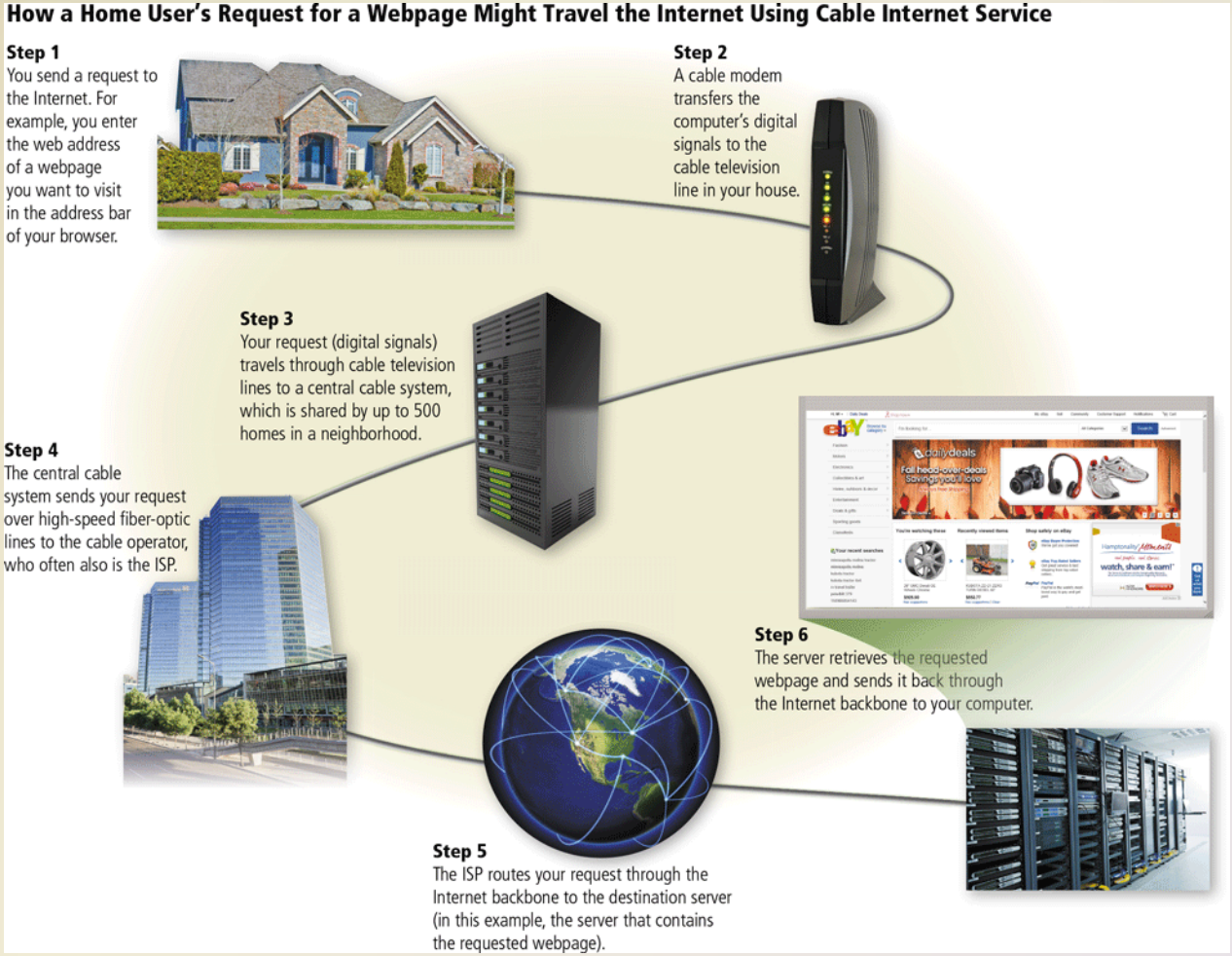

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Figure 2-4

Connecting to the Internet

- An **IP address** is a sequence of numbers that uniquely identifies each computer or device connected to the Internet
- A **domain name** is a text-based name that corresponds to the IP address
- A DNS server translates the domain name into its associated IP address

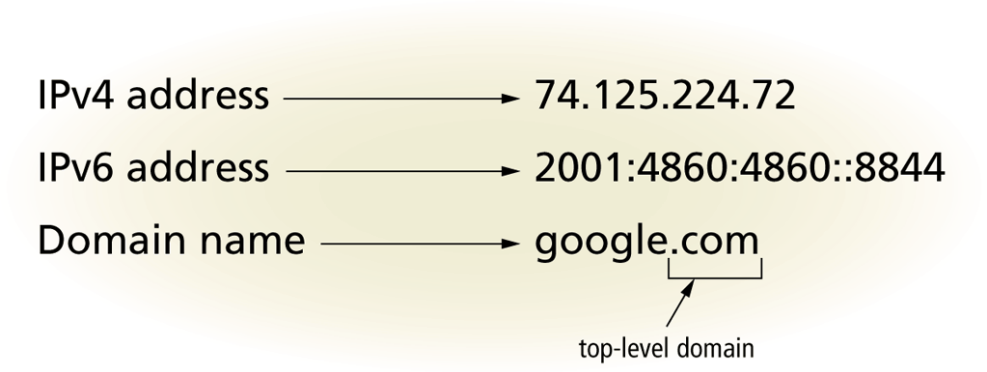

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Figure 2-5

Connecting to the Internet

Table 2-3 Original TLDs

TLD	Intended Purpose
.com	Commercial organizations, businesses, and companies
.edu	Educational institutions
.gov	Government agencies
.mil	Military organizations
.net	Network providers or commercial companies
.org	Nonprofit organizations

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Table 2-3

Connecting to the Internet

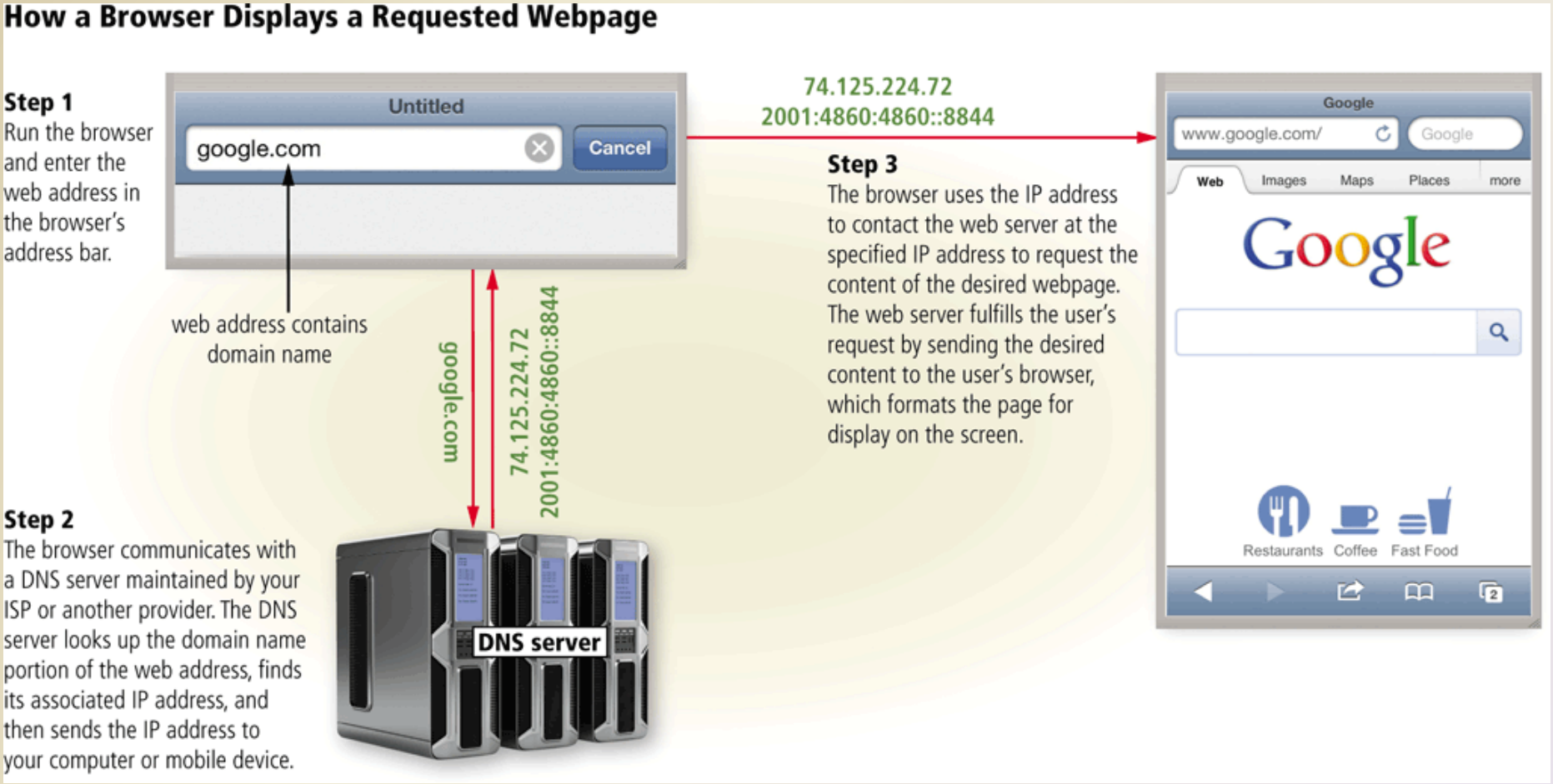

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Figure 2-6

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
- Current browsers typically support **tabbed browsing**

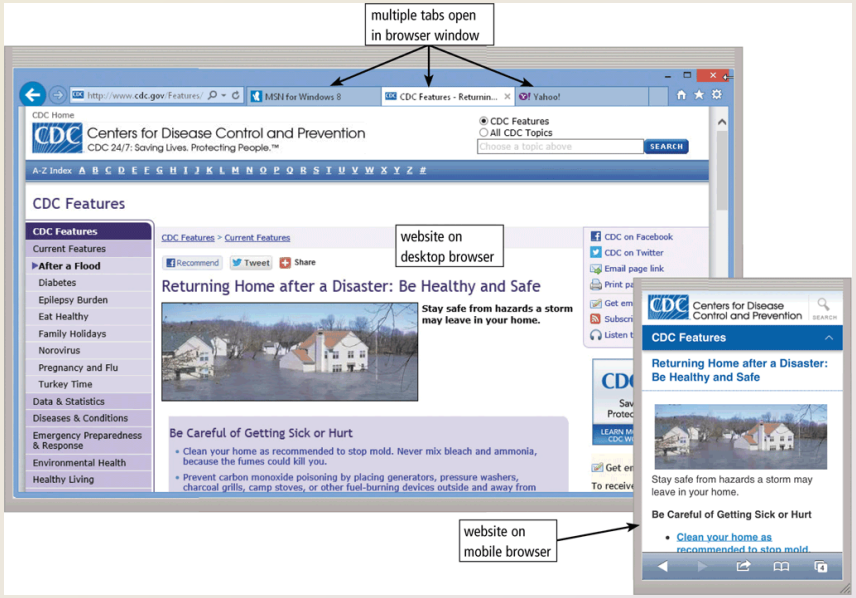

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Figure 2-7

The World Wide Web

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

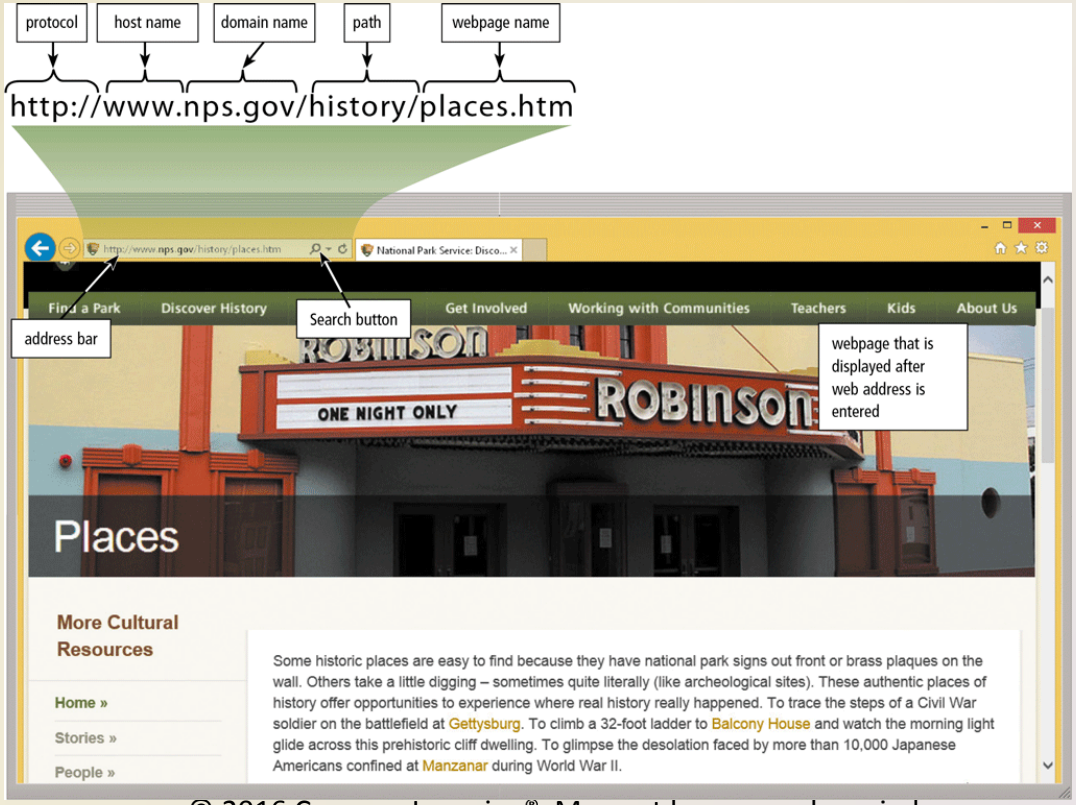

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Figure 2-8

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

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Figure 2-9

Types of Websites

- A web **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

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	Results have either the word, dog, or the word, puppy.
		dog OR puppy OR canine	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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Table 2-4

Types of Websites

- There are several types of websites

Search engine	**Online social network**	Informational and research
Media sharing	Bookmarking	News, weather, sports, and other mass media

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Types of Websites

Educational	Business, governmental, and organizational	**Blogs**
Wiki and collaboration	Health and fitness	Science

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Types of Websites

Entertainment

Banking and finance

Travel and tourism

Mapping

Retail and auctions

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Types of Websites

Careers and employment

E-commerce

Portals

Content aggregation

Website creation and management

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Types of Websites

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

Digital Media on the Web

- Multimedia refers to any application that combines text with media

Digital Media on the Web

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

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Figure 2-22

Digital 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

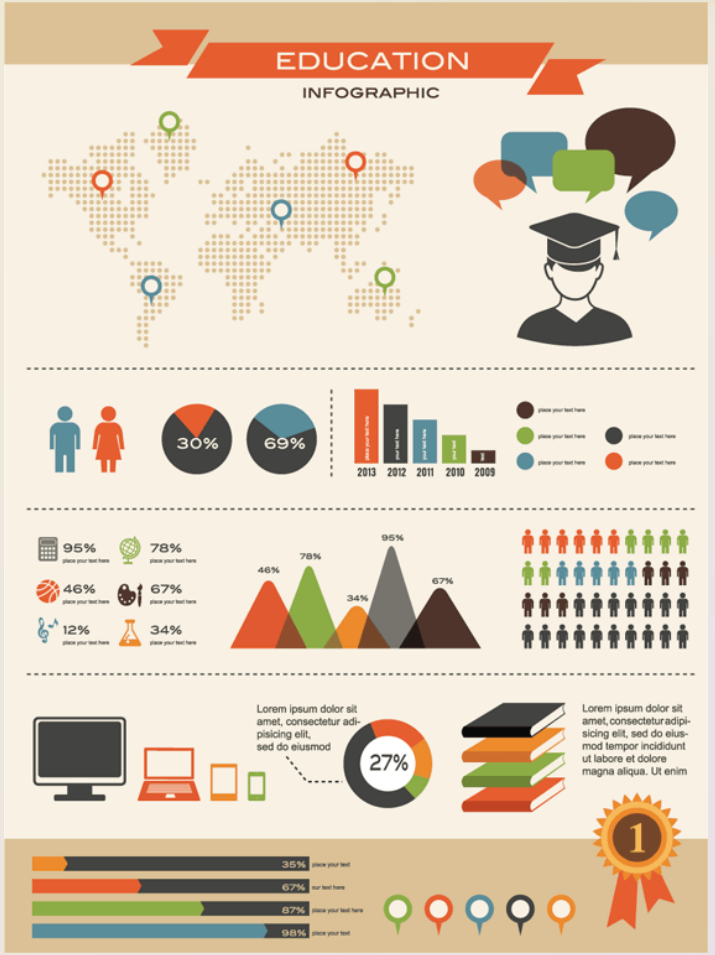

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Figure 2-23

Digital Media on the Web

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

Digital 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

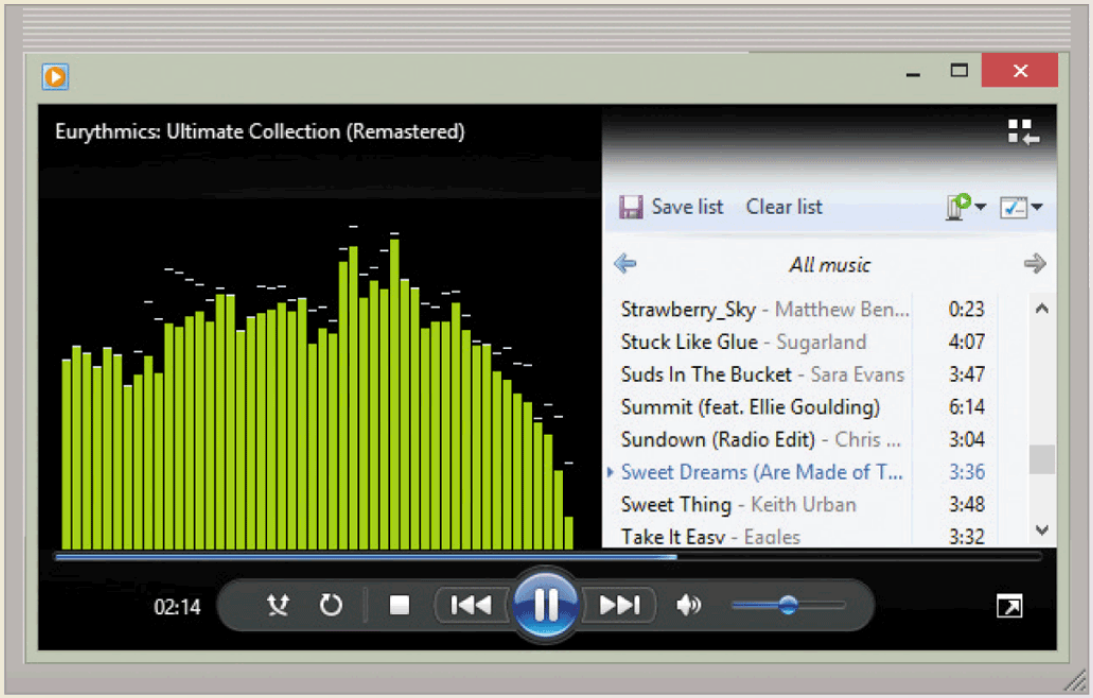

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Figure 2-24

Digital 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

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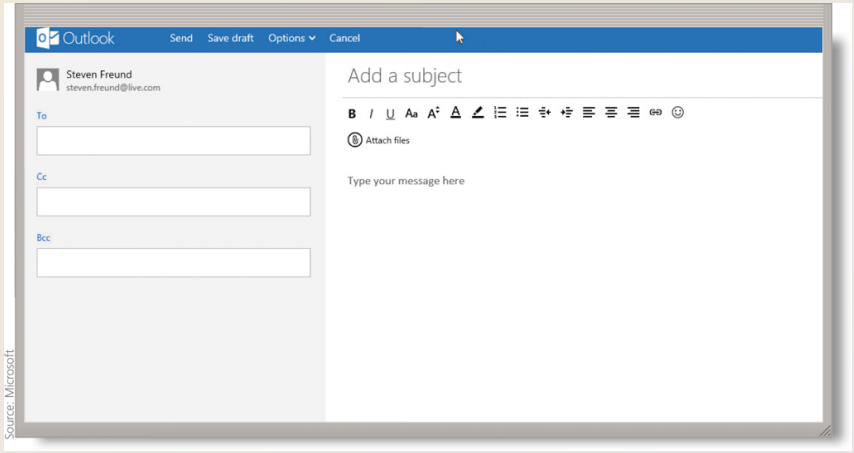
Figure 2-25

Digital Media on the Web

A plug-in, or add-on, is a program that extends the capability of a 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

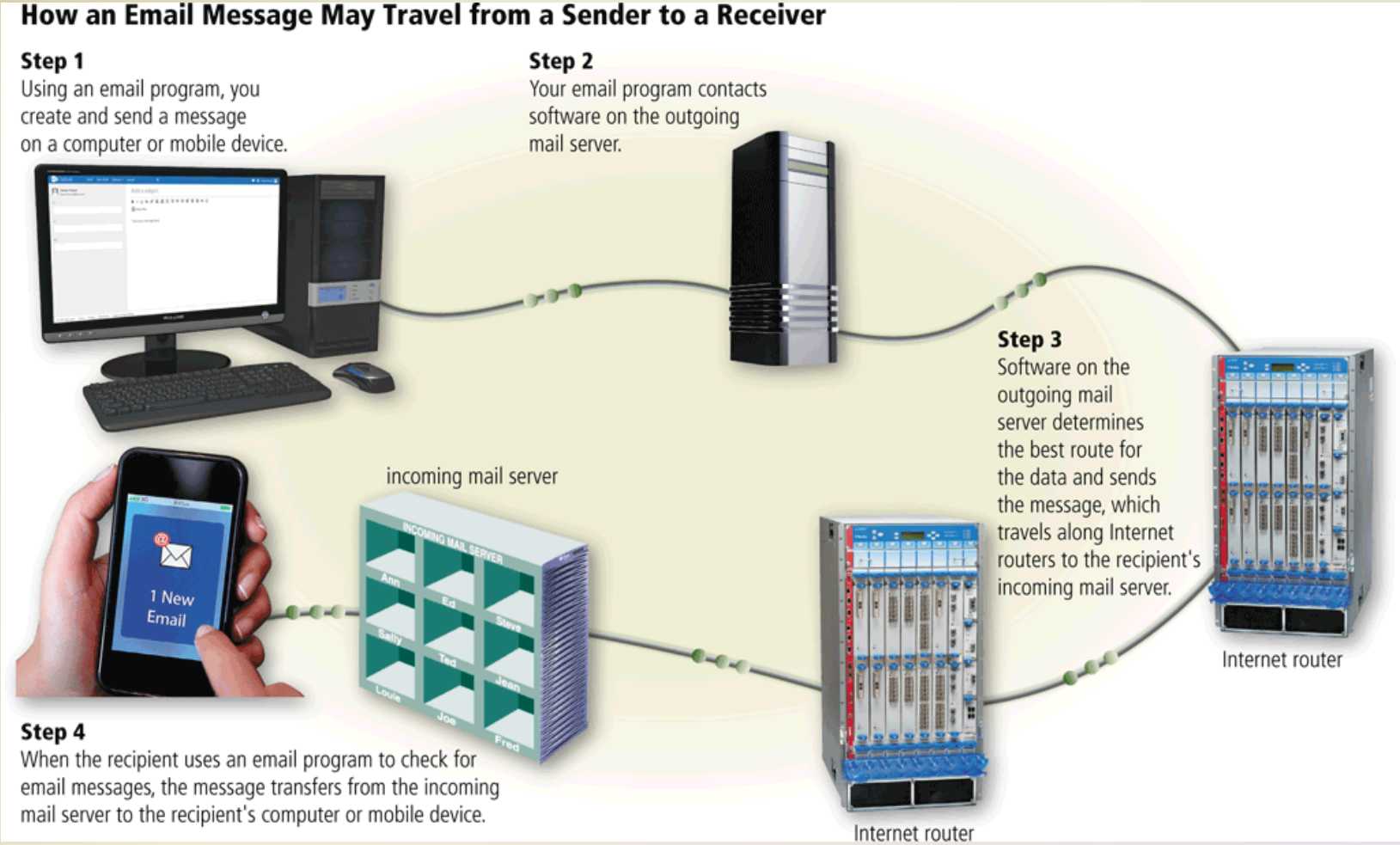


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Figure 2-26

Other Internet Services

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

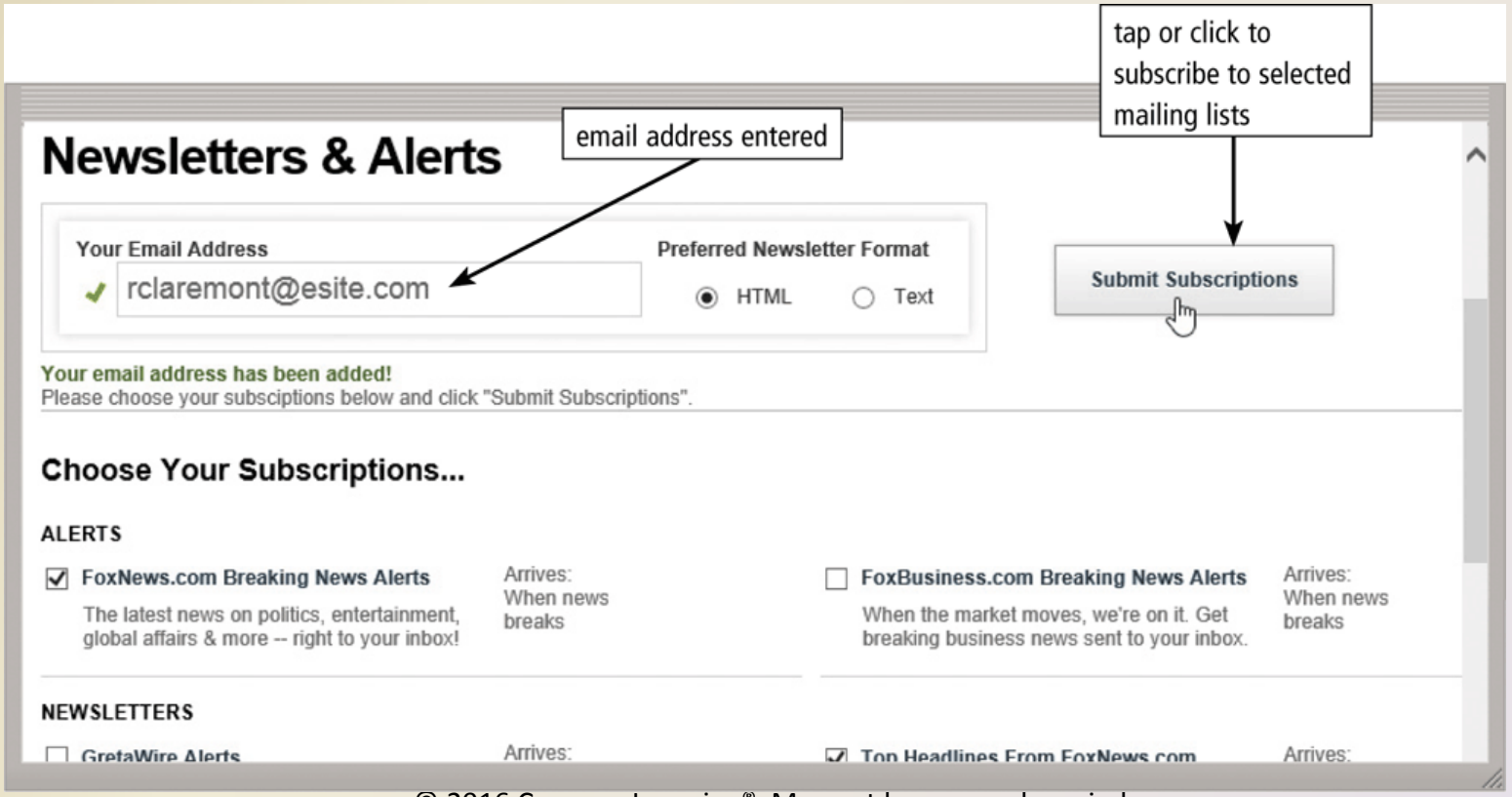

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Figure 2-27

Other Internet Services

- **Instant messaging** services notify you when one or more of your established contacts are online and then allows you to exchange messages or files or join a private chat room with them

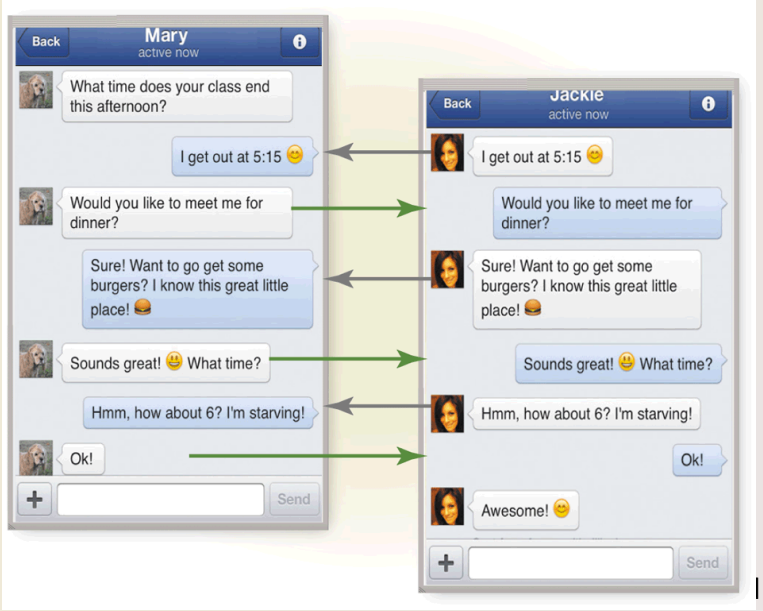

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Figure 2-28

Other Internet Services

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

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Figure 2-29

Other Internet Services

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

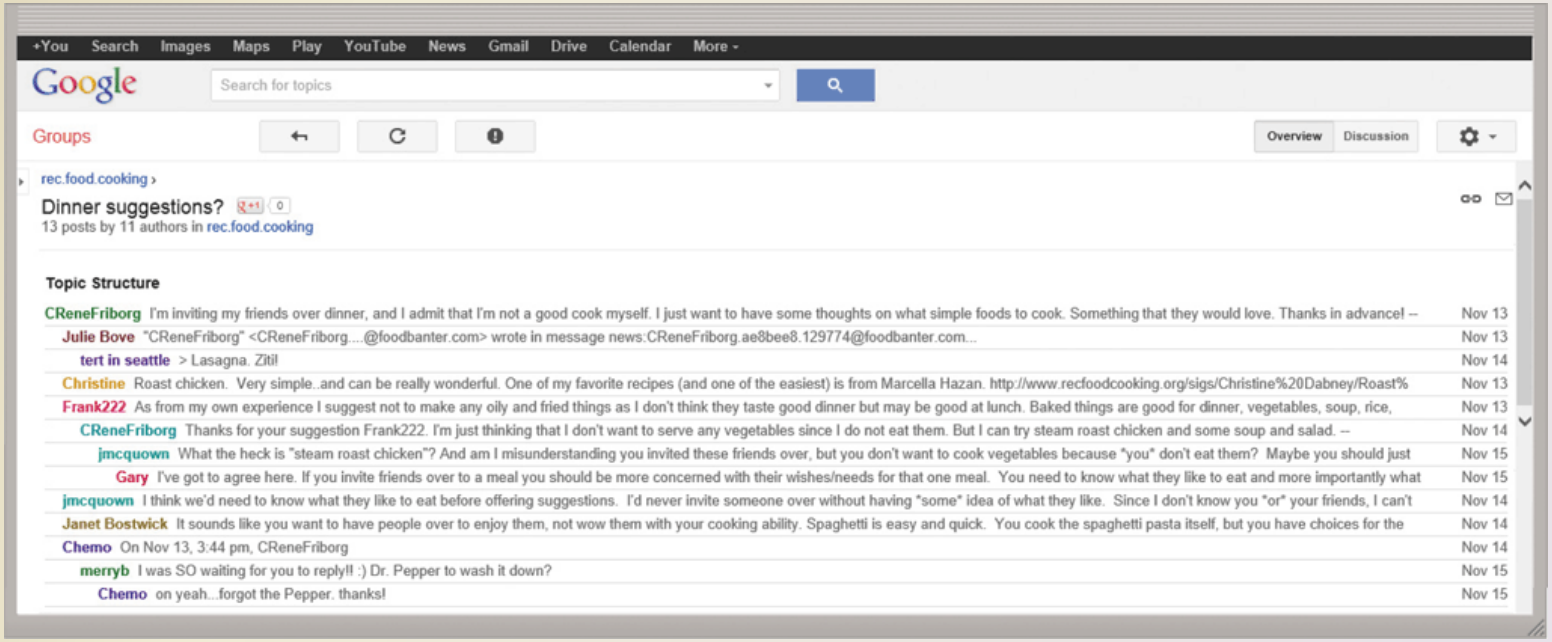

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Figure 2-30

Other Internet Services

- **VoIP** (Voice over IP) enables users to speak to other users via their Internet connection

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.

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Figure 2-31

Chapter Summary

Evolution of the Internet

The web

Various types of websites and media

Other services available on the Internet

Netiquette

Discovering Computers

Tools, Apps, Devices, and the Impact of Technology

Chapter 2

Connecting and Communicating Online

Chapter 2 Complete