Chapter 2

The Internet & World Wide Web

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OBJECTIVES OVERVIEW

Identify and briefly describe various broadband Internet connections

Describe the types of Internet access providers

Explain the purpose of a Web browser and identify the components of a Web address

Describe how to use a search engine to search for information on the Web

Describe the types of Web sites

OBJECTIVES OVERVIEW

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

Identify the steps required for Web publishing

Explain how e-mail, mailing lists, instant messaging, chat rooms, VoIP, FTP, and newsgroups and message boards work

Identify the rules of netiquette

3

THE INTERNET

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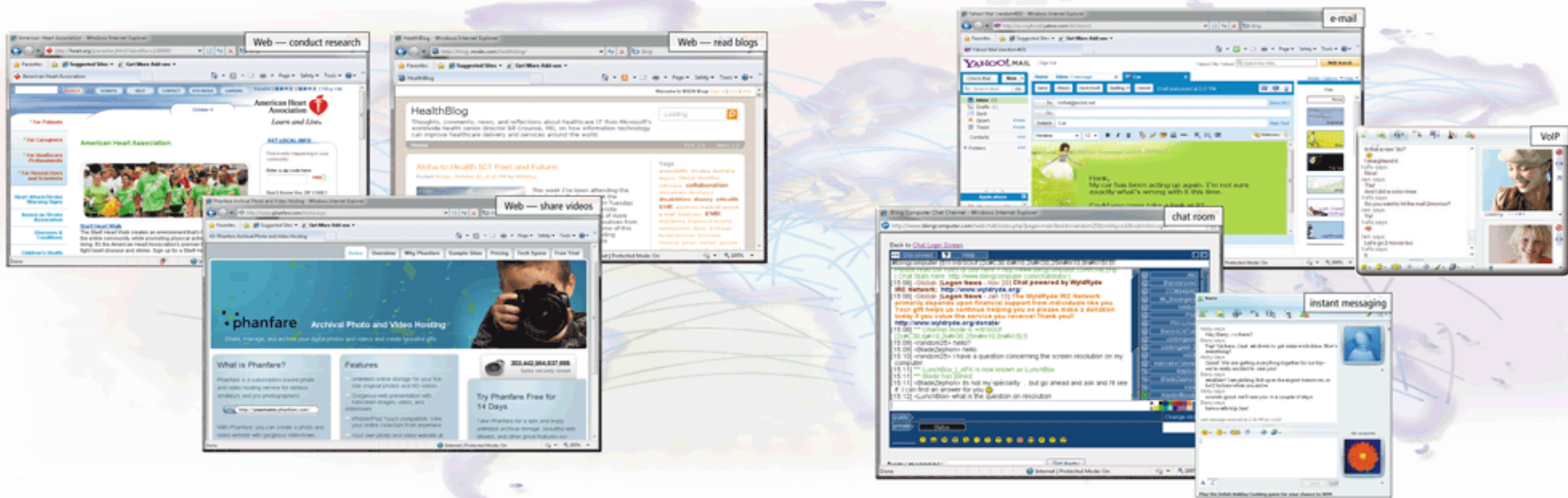
THE INTERNET

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

1986 NSF connects NSFnet to ARPANET and becomes known as the Internet

1969 ARPANET becomes functional
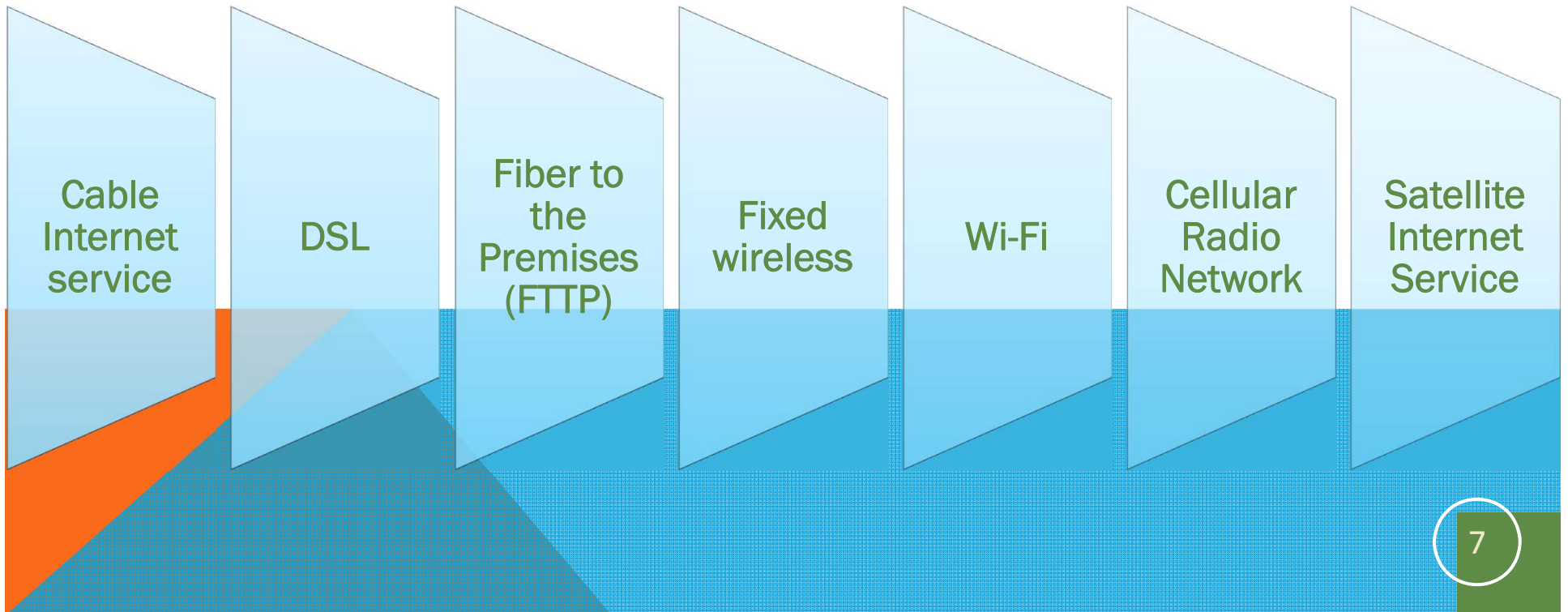
1996 Internet2 is founded

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

1995 NSFNet terminates its network on the Internet and resumes status as research network

Today More than 550 million hosts connect to the Internet

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THE INTERNET

Many home and small business users connect to the Internet via high-speed broadband Internet service

| Cable Internet service | DSL | Fiber to the Premises (FTTP) | Fixed wireless | Wi-Fi | Cellular Radio Network | Satellite Internet Service |

An **access provider** is a business that provides individuals and organizations access to the Internet free or for a fee

THE INTERNET

ISP (Internet service provider)

Regional ISPs provide Internet access to a specific geographical area

National ISPs provide Internet access in cities and towns nationwide

Online service provider (OSP)

Has many members-only features

Popular OSPs include AOL (America Online) and MSN (Microsoft Network)

Wireless Internet service provider (WISP)

Provides wireless Internet access to computers and mobile devices

May require a wireless modem

THE INTERNET

How a Home User's Data and Information Might Travel the Internet Using a Cable Modem Connection

Step 1
You initiate an action to request data or information from the Internet. For example, you request to display a Web page on your computer screen.

Step 2
A cable modem transfers the computer's digital signals to the cable television line in your house.

Step 3
Your request (digital signals) travels through cable television lines to a central cable system, which is shared by up to 500 homes in a neighborhood.

Step 4
The central cable system sends your request over high-speed fiber-optic lines to the cable operator, who often also is the ISP.
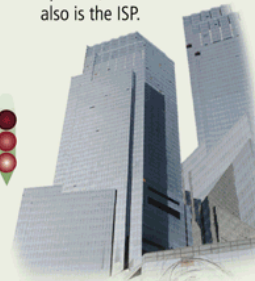
Step 5
The ISP routes your request through the Internet backbone to the destination server (in this example, the server that contains the requested Web site).
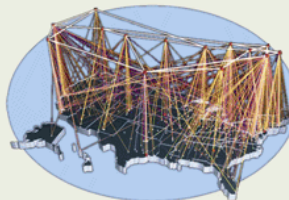
Step 6
The server retrieves the requested Web page and sends it back through the Internet backbone to your computer.
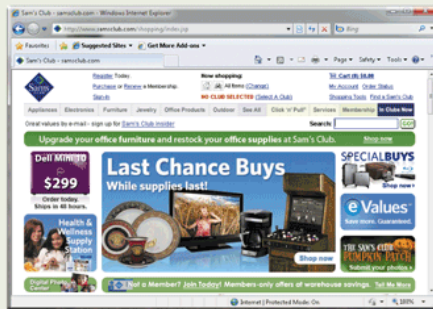
THE INTERNET

An IP address is a number that uniquely identifies each computer or device connected to the Internet

A domain name is the text version of an IP address

- Top-level domain (TLD)

IP address ──────→ 72.14.207.99

Domain name ──────→ www.google.com

top-level domain ──────→

THE INTERNET

Examples of Generic Top-Level Domains

Generic TLD	Intended Purpose	Generic TLD	Intended Purpose
aero	Aviation community members	mil	Military organizations
biz	Businesses of all sizes	mobi	Delivery and management of mobile Internet services
cat	Catalan cultural community	museum	Accredited museums
com	Commercial organizations, businesses, and companies	name	Individuals or families
coop	Business cooperatives such as credit unions and rural electric co-ops	net	Network providers or commercial companies
edu	Educational institutions	org	Nonprofit organizations
gov	Government agencies	pro	Certified professionals such as doctors, lawyers, and accountants
info	Business organizations or individuals providing general information	tel	Internet communications
jobs	Employment or human resource businesses	travel	Travel industry

THE WORLD WIDE WEB

The World Wide Web, or Web, consists of a worldwide collection of electronic documents (Web pages)

A Web site is a collection of related Web pages and associated items

A Web server is a computer that delivers requested Web pages to your computer

Web 2.0 refers to Web sites that provide a means for users to interact

THE WORLD WIDE WEB

A Web browser, or browser, allows users to access Web pages and Web 2.0 programs
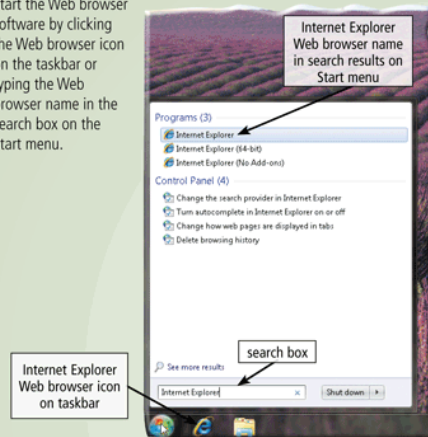
Internet Explorer

Firefox

Opera

Safari

Google Chrome

THE WORLD WIDE WEB

THE WORLD WIDE WEB
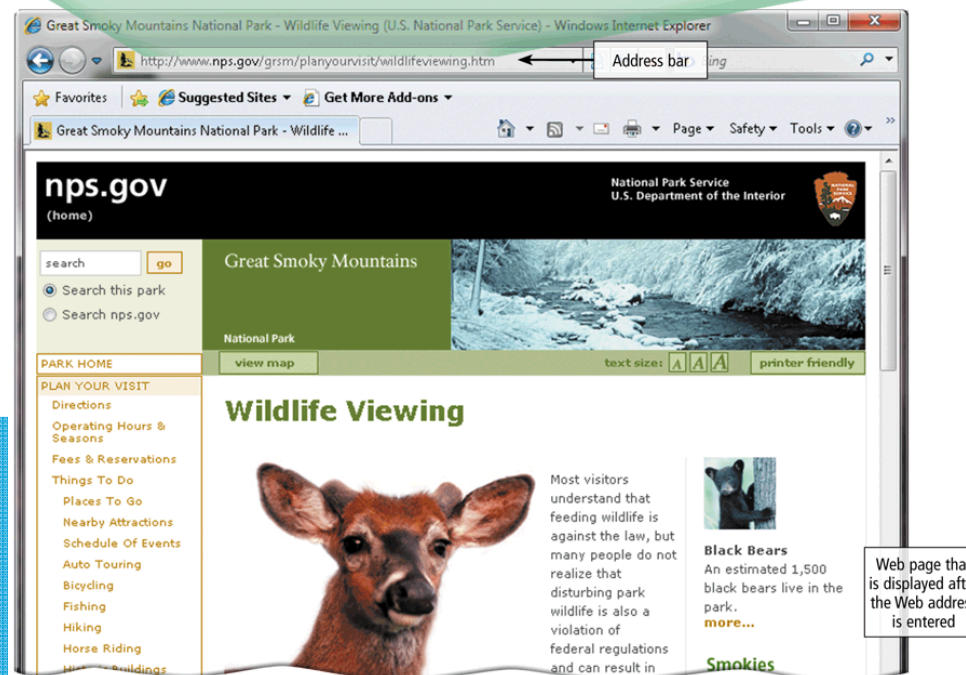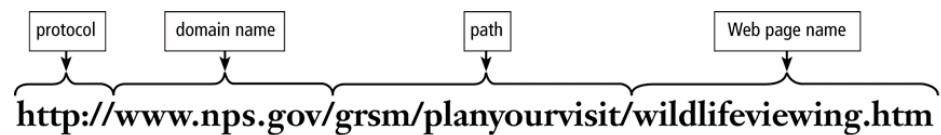
A home page is the first page that a Web site displays

Web pages provide links to other related Web pages

- Surfing the Web
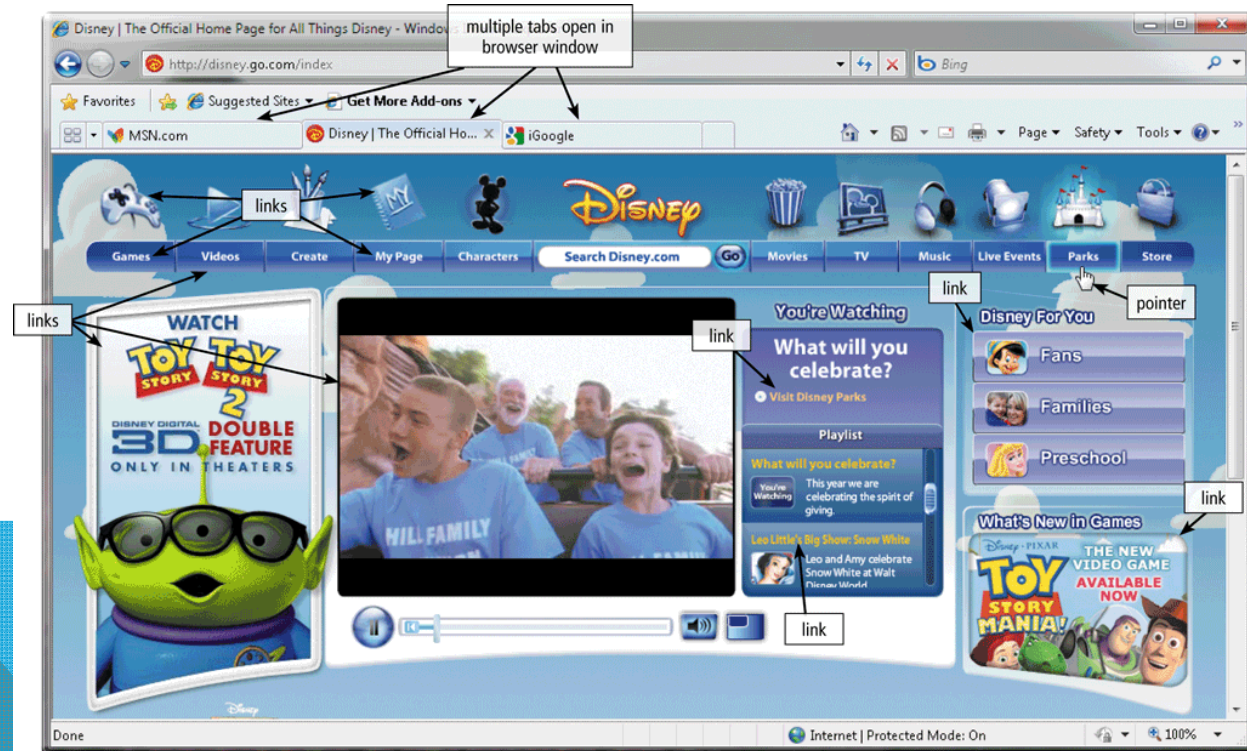
Downloading is the process of receiving information

THE WORLD WIDE WEB

A Web page has a unique address called a URL or Web address

THE WORLD WIDE WEB

Tabbed browsing allows you to open and view multiple Web pages in a single Web browser window

THE WORLD WIDE WEB

Two types of search tools are search engines and subject directories

Search engine

Finds information related to a specific topic

Subject directory

Classifies Web pages in an organized set of categories

THE WORLD WIDE WEB

Widely Used Search Tools			
Search Tool	**Web Address**	**Search Engine**	**Subject Directory**
A9	a9.com	X	
AlltheWeb	alltheweb.com	X	
AltaVista	altavista.com	X	
AOL Search	search.aol.com	X	
Ask	ask.com	X	
Bing	bing.com	X	
Cuil (pronounced cool)	cuil.com	X	
Dogpile	dogpile.com	X	
Excite	excite.com	X	X
Gigablast	gigablast.com	X	X
Google	google.com	X	X
Lycos	lycos.com	X	
MSN	msn.com	X	X
Open Directory Project	dmoz.org	X	X
WebCrawler	webcrawler.com	X	
Yahoo!	yahoo.com	X	X

THE WORLD WIDE WEB

A search engine is helpful in locating items such as:

Images	Videos	Audio	News
Maps	People or Businesses	Blogs	

THE WORLD WIDE WEB
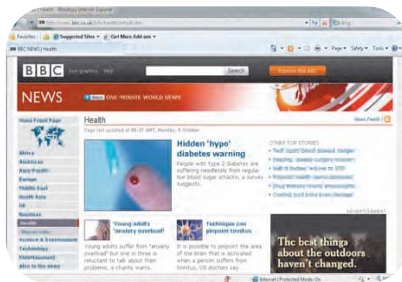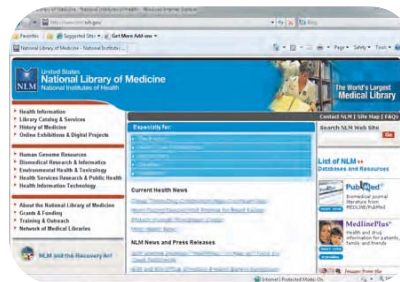

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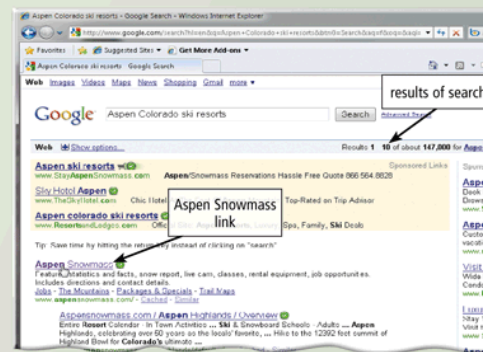
THE WORLD WIDE WEB

There are thirteen types of Web sites
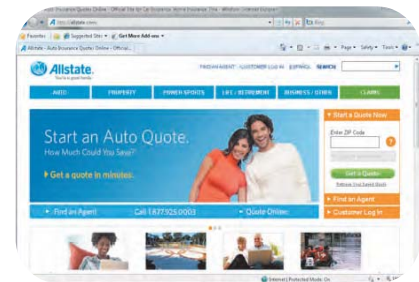

Portal

News

Informational

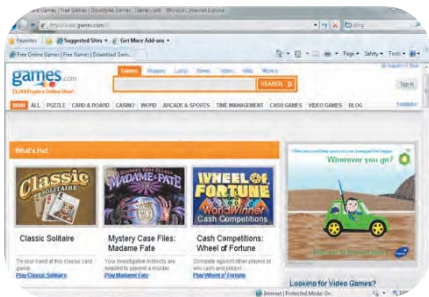Business/Marketing

Blog
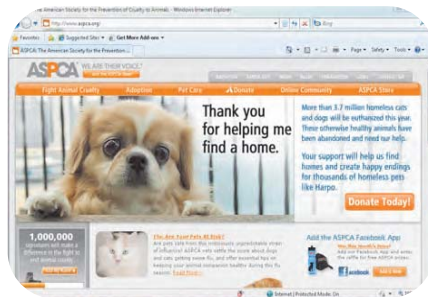

Wiki

Online Social
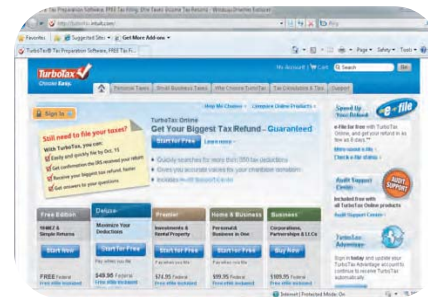Network

Educational

THE WORLD WIDE WEB

Entertainment

Advocacy

Web Application

Content Aggregator

Personal

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THE WORLD WIDE WEB

Information presented on the Web must be evaluated for accuracy

No one oversees the content of Web pages

Criteria for Evaluating a Web Site's Content

Evaluation Criteria	Reliable Web Sites
Affiliation	A reputable institution should support the Web site without bias in the information.
Audience	The Web site should be written at an appropriate level.
Authority	The Web site should list the author and the appropriate credentials.
Content	The Web site should be well organized and the links should work.
Currency	The information on the Web page should be current.
Design	The pages at the Web site should download quickly, be visually pleasing, and easy to navigate.
Objectivity	The Web site should contain little advertising and be free of preconceptions.

THE WORLD WIDE WEB

Multimedia refers to any application that combines text with:

Graphics

Animation

Audio

Video

Virtual Reality