

# **Understanding Computers in a Changing Society**

**5e**

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## **Chapter 3 The World Wide Web**

# Learning Objectives

1. Discuss how the Internet evolved and what it is like today.
2. Identify the various types of individuals, companies, and organizations involved in the Internet community and explain their purposes.
3. Describe device and connection options for connecting to the Internet, as well as some considerations to keep in mind when selecting an ISP.
4. Understand how to search effectively for information on the Internet and how to cite Internet resources properly.

# Learning Objectives

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5. List several ways to communicate over the Internet, in addition to e-mail.
6. List several useful activities that can be performed via the Web.
7. Discuss censorship and privacy and how they are related to Internet use.

# Overview

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- This chapter covers:
  - The evolution of the Internet
  - The Internet community
  - Different options for connecting to the Internet
  - Internet searching
  - Common Internet applications available via the Internet
  - Societal issues that apply to Internet use

# Evolution of the Internet

- Internet
  - Largest and most well-known computer network, linking millions of computers all over the world
  - While Internet has become a household word only during the past two decades, it has actually operated in one form or another for much longer than that
- From ARPANET to Internet 2
  - ARPANET
    - The predecessor of the Internet
    - Created in 1969 and named after the Advanced Research Projects Agency (ARPA), which sponsored its development
    - Initially connected four supercomputers
    - Eventually evolved into today's Internet

# Evolution of the Internet

- The World Wide Web
  - The collection of Web pages available through the Internet
  - Proposed by Tim Berners-Lee in 1989
  - Originally only text-based content; release of the Mosaic browser in 1993 led to graphical content
  - Web 2.0
    - Wide variety of content available via Web pages today such as social networking, RSS, podcasts, blogs and wikis
  - The World Wide Web and the Internet are not owned by any person, business, or organization

# Evolution of the Internet

- Primary infrastructure that makes up the Internet backbone is typically owned by communications companies
- Internet2
  - Consortium of researchers, educators, and technology leaders from industry, government, and the international community
  - Dedicated to the development of revolutionary Internet technologies
  - Research and development tool, much of which is focused on speed

# Evolution of the Internet



## EARLY 1990s

Even at the beginning of the 1990s, using the Internet for most people meant learning how to work with a cryptic sequence of commands. Virtually all information was text-based.



## TODAY

Today's Web organizes much of the Internet's content into easy-to-read pages that can contain text, graphics, animation, video, and interactive content that users access via hyperlinks.

**FIGURE 3-1**  
Using the Internet:  
Back in the “old  
days” versus now.



# Evolution of the Internet

- The Internet Community Today
  - Users
    - People who use the Internet
  - Internet Service Providers (ISPs)
    - Provide access to the Internet,
    - Include most communication a

**FIGURE 3-2**  
Companies that provide Internet access today include telephone, cable, and satellite companies.

Use of the AT&T logo is granted under permission by AT&T Intellectual Property.; Courtesy of Verizon Communications; Courtesy Comcast; Photos courtesy of Hughes Network Systems, LLC; Courtesy EarthLink, Inc.; Courtesy Clearwire



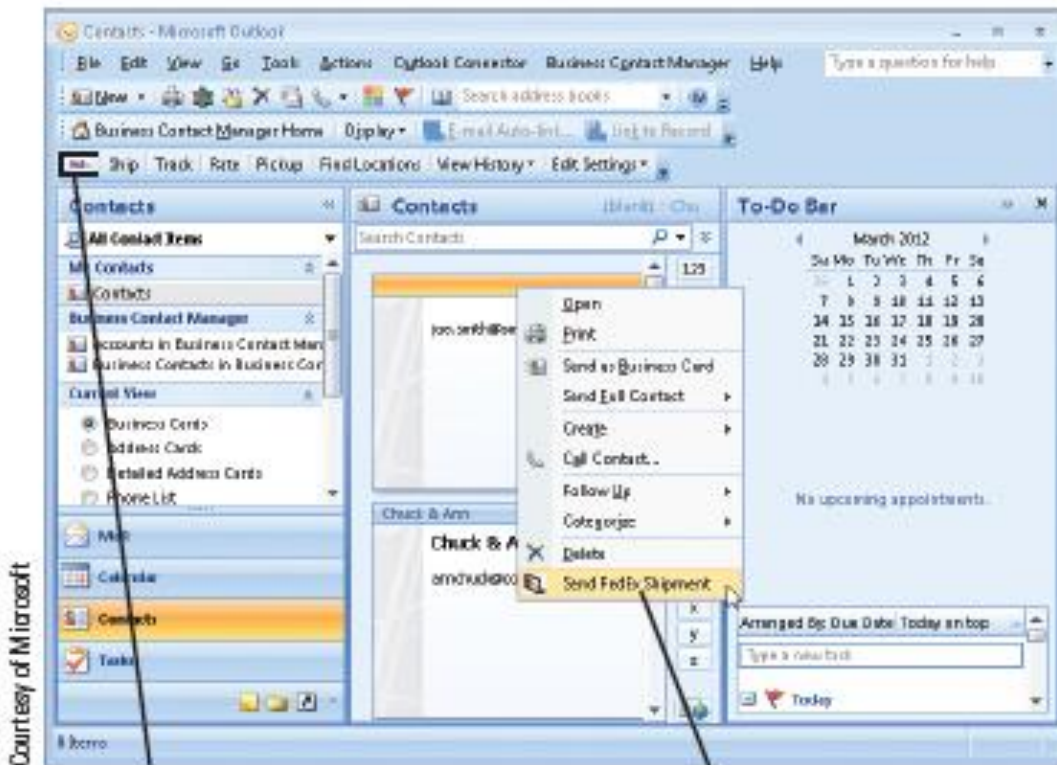
# Evolution of the Internet

- Internet Content Providers
  - Persons or organizations that provide Internet content
    - Businesses, non-profit organizations, educational institutions, individuals
- Application Service Providers (ASPs) and Web Services
  - Companies that manage and distribute Web-based software services over the Internet
    - Web-based software, Software as a Service (SaaS), cloudware
    - Often fee-based business software

# Evolution of the Internet

- Web service
  - Self-contained business application added to a Web page to provide specific services for end users, i.e., FedEx QuickShip Web service
- Infrastructure Companies
  - Enterprises that own or operating the physical structure of the Internet
  - Conventional and mobile phone companies, cable companies, and satellite Internet providers
- Hardware and Software Companies
  - Provide the hardware and software used in conjunction with the Internet and Web

# Evolution of the Internet



The QuickShip toolbar can be used for a variety of shipping tasks.

Right-click a contact to create a shipment to that individual.

**FIGURE 3-3**  
Web services. Once downloaded and installed, this Web service allows users to create and manage FedEx shipments from within Microsoft Outlook.

# Evolution of the Internet

- The Government and Other Organizations
  - Some countries limit information and access
  - FCC influences communications
  - Internet Society (ISOC)
    - Addresses issues impacting the future of the internet
  - Internet Corporation for Assigned Names and Numbers (ICANN)
    - Domain and IP management
  - World Wide Web Consortium (W3C)
    - Protocols and standards, ensures interoperability

# Evolution of the Internet

- Myths About the Internet
  - Myth 1: The Internet is Free
    - Most people and businesses pay for Internet access
    - Businesses, schools, and libraries lease communications lines from phone companies
    - Mobile phone users pay hotspot providers or mobile phone providers for access
    - Fee-based content is growing at a rapid pace
      - Music/movie downloads
      - Donation based sites

# Evolution of the Internet



Courtesy of Rhapsody International

**FIGURE 3-4**  
Fee-based Web content. The use of fee-based Web content, such as downloadable movies and music, is growing.

# Evolution of the Internet

- Myth 2: Someone Controls the Internet
  - No single group or organization controls the Internet
  - Governments can regulate Internet use within its country, but difficult to enforce
- Myth 3: The Internet and World Wide Web are Identical
  - Internet is the physical network
  - WWW is the collection of Web pages available over the Internet
  - Other resources are available via the Internet, i.e., FTP



# Getting Set Up to Use the Internet

- Type of Device
  - Three Decisions
    - Determine the type of device you will use to access the Internet
    - Select the type of connection desired
    - Decide on the Internet service provider to be used
  - Personal Computers
  - Mobile Phones
  - Gaming Devices and Televisions

# Getting Set Up to Use the Internet

**FIGURE 3-5**  
A variety of devices can be used to access the Internet.



Courtesy, Hewlett-Packard Company

**PERSONAL COMPUTERS**



Courtesy Microsoft Corporation

**MOBILE PHONES**



Eric Millos/ Shutterstock.com; Courtesy of Yahoo!

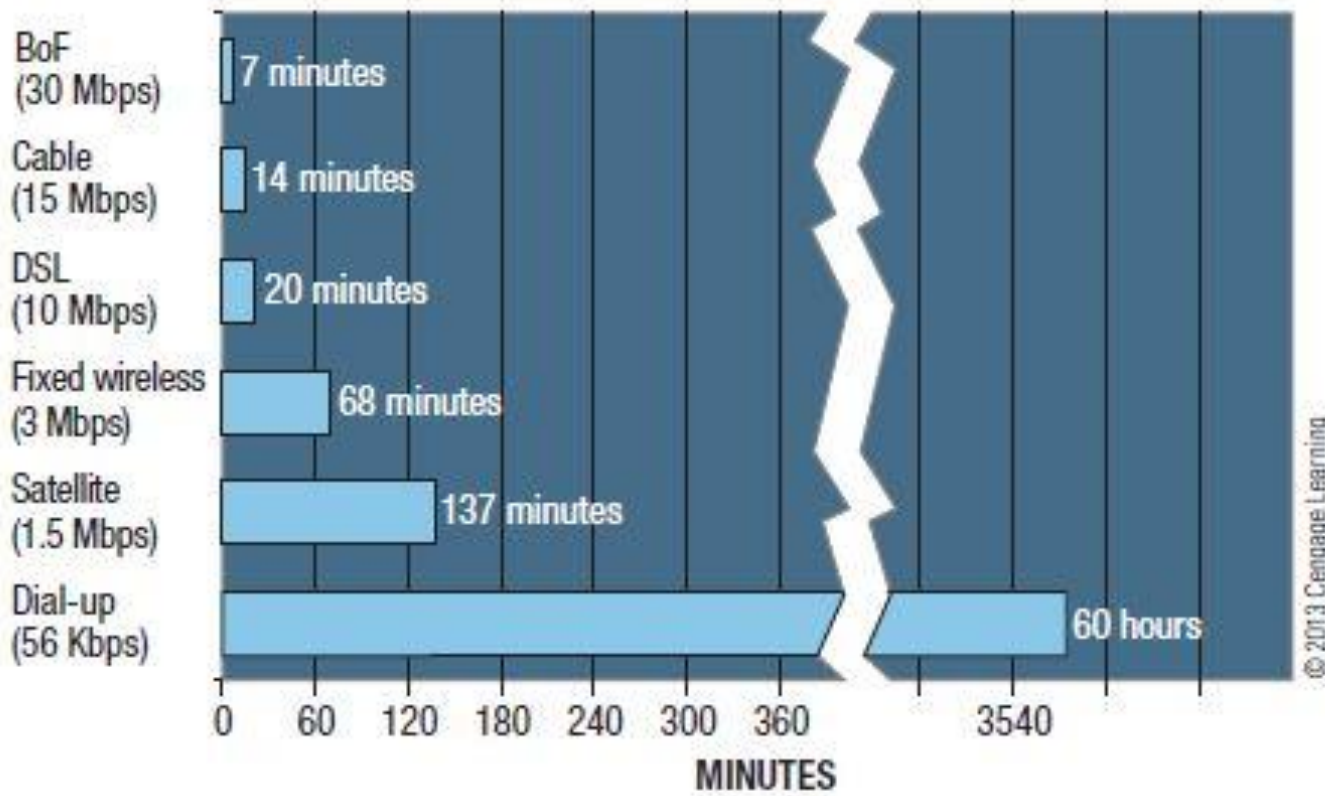
**TELEVISIONS**

# Getting Set Up to Use the Internet

- Types of Connection and Internet Access
  - Computer must be connected to the Internet to obtain access
    - Most connections today are broadband
  - Dial-up vs. Direct Connections
    - Direct connections use standard phone lines
      - Uses modem to dial-up ISP
      - Inconvenient
      - Slower, but cheaper
      - Ties up phone lines
      - Relatively secure from hackers

# Getting Set Up to Use the Internet

**FIGURE 3-6**  
Length of time to download a 1.5 GB movie using different home Internet options.



# Getting Set Up to Use the Internet

- Direct
  - Device is continually connected to the Internet
  - Access Internet using a browser—Internet Explorer, Chrome, or Firefox
  - Direct connections are typically broadband; fast speeds needed for many Web activities today
  - Because you are always connected, it is important to protect your computer from hackers

# Getting Set Up to Use the Internet

- Conventional Dial-Up
  - Uses dial-up modem connected to standard telephone jack
  - Most often used with home computers for users who do not need or do not want to pay for broadband
    - Inexpensive hardware
    - Easy to set up and use
    - Widespread availability
    - Slow connection speed

# Getting Set Up to Use the Internet

- Cable
  - Most widely used home broadband connection
  - Fast, between 5 and 20 Mbps
  - Requires a cable modem
- DSL
  - Broadband delivered over telephone lines
  - Must be less than 3 miles from a switching station
  - Transmits over telephone lines but does not tie up the line
  - Typically 1-7 Mbps

# Getting Set Up to Use the Internet

- Satellite
  - Broadband option for rural areas
  - Slower and more expensive than cable or DSL
  - Available in many areas other broadband options are not
  - Requires satellite modem and transceiver dish
- Fixed Wireless
  - Uses radio transmission towers rather than satellites
  - Not available in all areas
  - Uses Wi-Fi or WiMAX




# Getting Set Up to Use the Internet

- Broadband over Fiber (BoF)
  - Delivers over fiber-optic cabling all the way to the building
  - Also called fiber-to-the-premises (FTTP)
  - Most often installed by telephone companies
  - Fast, available in limited areas
  - Requires special networking equipment
- Mobile Wireless
  - Access via a mobile phone or mobile tablet
  - Typically requires a data plan

# Getting Set Up to Use the Internet

TYPE OF INTERNET CONNECTION	AVAILABILITY	APPROXIMATE MAXIMUM SPEED*	APPROXIMATE MONTHLY PRICE
Conventional dial-up	Anywhere there is telephone service	56 Kbps	Free–\$20
Cable	Virtually anywhere cable TV service is available	10–25 Mbps	\$30–55
DSL	Within 3 miles of a switching station that supports DSL	1–15 Mbps	\$15–55
Satellite	Anywhere there is a clear view of the southern sky and where a satellite dish can be mounted and receive a signal	1–2 Mbps	\$40–90
Fixed wireless	Selected areas where service is available	1–6 Mbps	\$35–55
Broadband over fiber (BoF)	Anywhere fiber has been installed to the building	5–50 Mbps	\$55–145
Mobile wireless (3G/4G)	Virtually anywhere cellular phone service is available	600 Kbps–12 Mbps	Varies greatly; often bundled with mobile phone service

\* Download speed; most connections have slower upload speeds.

 **FIGURE 3-7**  
Typical home Internet connection options.

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# Getting Set Up to Use the Internet

- Wi-Fi Hotspots
  - Public wireless networks (Wi-Fi)
  - Both free and fee-based are available

**FIGURE 3-9**  
**Wi-Fi hotspots.**  
Hotspots are used to wirelessly connect to the Internet via the Internet connection belonging to a business, city, school, or other organization.



Anton Gvozdtkov/Shutterstock.com

**COFFEEHOUSES AND OTHER PUBLIC LOCATIONS**  
Often fee-based, though some are available for free.



John Wolwert/Shutterstock.com

**HOSPITALS, BUSINESSES, AND OTHER ORGANIZATIONS**  
Usually designed for employees but are sometimes also available free to visitors.



Courtesy Abilene Christian University

**COLLEGE CAMPUSES**  
Usually designed for students and faculty; sometimes used directly in class for student assignments, as shown here.

# Getting Set Up to Use the Internet

- Selecting an ISP and Setting Up Your Computer
  - Selecting an ISP
    - Type of device used, type of Internet connection, and service desired, geographic location will likely determine your ISP options
    - Pricing options between different ISP companies will vary
      - Many ISPs offer tiers or different levels (speeds) of service for different prices

# Getting Set Up to Use the Internet

## AREA QUESTIONS TO ASK

Services	<p>Is the service compatible with my device?</p> <p>Is there a monthly bandwidth limit?</p> <p>How many e-mail addresses can I have?</p> <p>What is the size limit on incoming and outgoing e-mail messages and attachments?</p> <p>Do I have a choice between conventional and Web-based e-mail?</p> <p>Is there dial-up service that I can use when I'm away from home?</p> <p>Are there any special member features or benefits?</p> <p>Does the service include Web site hosting?</p>
Speed	<p>How fast are the maximum and usual downstream (ISP to my PC) speeds?</p> <p>How fast are the maximum and usual upstream (my PC to ISP) speeds?</p> <p>How much does the service slow down under adverse conditions, such as high traffic or poor weather?</p>
Support	<p>Is telephone technical support available?</p> <p>Is Web-based technical support (such as via e-mail) available?</p> <p>Is there ever a charge for technical support?</p>
Cost	<p>What is the monthly cost for the service? Is it lower if I prepay a few months in advance? Are different tiers available?</p> <p>Is there a setup fee? If so, can it be waived with a 6-month or 12-month agreement?</p> <p>What is the cost of any additional hardware needed, such as modem or transceiver? Can the fee be waived with a long-term service agreement?</p> <p>Are there any other services (telephone service, or cable or satellite TV, for instance) available from this provider that I have or want and that can be combined with Internet access for a lower total cost?</p>



## FIGURE 3-10

**Choosing an ISP.**  
Some questions to ask before making your final selection.

# Getting Set Up to Use the Internet

- Setting Up Your Computer
  - Install necessary hardware
    - Some may require professional installation, i.e., satellites and broadband over fiber
  - Install necessary software
  - Select user name, access telephone number (for dial-up connections), and a payment method
  - Perform any necessary set-up to share the connection with other computers or devices

# Quick Quiz

1. The Internet began as an experimental network known by which name?
  - a. ARPANET
  - b. Internet2
  - c. World Wide Web
2. True or False: Cable is a common type of direct Internet connection.
3. A type of always-on broadband Internet access available through conventional phone lines that does not tie up your phone line is \_\_\_\_\_.

*Answers:*

*1) a; 2) True; 3) DSL*

# Searching the Internet

- Search Sites
  - Web sites specifically designed to help users search for Web pages that match specified keywords or selected categories
    - Typically use a search engine in conjunction with a database containing information about Web pages to locate appropriate Web pages
    - Many search sites available (Google, Bing, Yahoo, Ask.com, etc)
    - Real-time search engines are emerging
      - Search the Web live rather than relying on a database, i.e., MyLiveSearch



# Searching the Internet

- Keyword Search
  - Keywords are typed in a search box to locate information on the Internet
  - Matching Web pages are called hits
  - Clicking on a Web page name displays that page
- Directory Search
  - Categories are selected to locate information on the Internet
- Search Site Tools
  - Search for music files, image files, newsgroups, news articles, maps, people, telephone numbers, videos
  - Google is one of the most versatile search sites

# Searching the Internet

FUNCTION	EXPLANATION
Calculator	Enter a mathematical expression or a conversion to see the result.
Currency converter	Enter an amount and currency type to see the corresponding value.
Dictionary	Enter the term <i>define</i> followed by a term to view definitions for that term from online sources.
Earthquakes	Enter the term <i>earthquake</i> to see recent earthquake activity around the world.
Flight information	Enter an airline and a flight number to see status information.
Movie showtimes	Enter the term <i>movie</i> followed by a ZIP code to view movies showing in that area.
Number search	Enter a UPS, FedEx, or USPS tracking number; an area code; or a UPC code to view the associated information.
Sports scores	Enter a team name or league name to see scores and schedules.
Sunrise/sunset	Enter the term <i>sunrise</i> or <i>sunset</i> followed by a city name to see the time of the sunrise or sunset in that city.
Stock quotes	Enter one or more stock ticker symbols to retrieve stock quotes.
Street maps	Enter an address to find a map to that location.
Time	Enter the term <i>time</i> followed by a city name to see the current time in that city.
Weather	Enter the term <i>weather</i> followed by a city name or ZIP code to view the weather for that location.
Yellow pages	Enter a type of business and city name or ZIP code to view businesses in that local area.

**EXAMPLES:**

10 miles in feet

**10 miles = 52 800 feet**

time paris

**10:10pm Wednesday (CEST)**  
Time in Paris, France

weather san francisco

**Weather for San Francisco, CA**

**68°F**  
Mostly Cloudy  
Wind: NW at 1 mph  
Humidity: 76%

Wed Thu Fri  
65°F | 50°F 69°F | 52°F 70°F | 52°F

 **FIGURE 3-13**  
Google search tools.

Google screenshot © Google Inc. and used with permission. © 2013 Cengage Learning

# Searching the Internet

- Search Strategies
  - Using Phrases
    - Phrase searching is typing more than one keyword in a keyword search

SEARCH PHRASE USED	SEARCH SITE	NUMBER OF PAGES FOUND	TITLE OF FIRST TWO NONSPONSORED PAGES FOUND*
dogs	Google	371,000,000	Dog Breeds, Breed Information and Picture Dogs – Wikipedia, the free encyclopedia
	Bing	109,000,000	Dog – Wikipedia, the free encyclopedia Dogs & Puppies – Next Day pets
hand signals	Google	6,380,000	Hand Signals Bicycle Safety – Hand Signals
	Bing	26,800,000	Hand Signals – Wikipedia, the free encyclopedia Hand Signals
dog hand signals	Google	667,000	How to Teach a Dog Hand Signals   eHow.com Dog Hand Signals – How To Information   eHow.com
	Bing	20,900,000	How to Teach a Dog Hand Signals   eHow.com DDEAF Training Hand Signs
"dog hand signals"	Google	17,400	How to Teach a Dog Hand Signals   eHow.com Dog Hand Signals – How To Information   eHow.com
	Bing	28,100,100	How to Teach a Dog Hand Signals   eHow.com DDEAF Training Hand Signs

\* Highlighted entries indicate Web pages about dog hand signals.

**FIGURE 3-14**  
Examples of phrase searching. Using different search phrases and different search sites can dramatically change the search results.

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# Searching the Internet

- Using Boolean Operators
  - Use AND, OR, and NOT to further refine a search
  - Check the search site being used to see what operators can be used on the site
- Using Multiple Search Sites
  - Different search sites can return different results
- Using Appropriate Keywords, Synonyms, Variant Word Forms, and Wildcards
  - Synonyms are different words that mean the same thing
  - Variant word forms are variations of your keywords, alternate spellings, etc.
  - Wildcards, such as \*, can be used to search for keyword patterns

# Searching the Internet

## – Using Field Searches

- Field searches are searches limited to a particular characteristic, such as page title, page text, URL, top level domain or Web site

**FIGURE 8-15**

Field searching. Field searches limit search results to just those pages that match specific field criteria, in addition to any specified search criteria.

FIELD TYPE	EXAMPLE	EXPLANATION
Title	title: "tax tips"	Searches for Web pages containing the words "tax tips" in the page title.
Text	text: "tax tips"	Searches for Web pages containing "tax tips" in the text of the page.
Site	forms site:irs.gov	Searches for Web pages associated with the keyword "forms" that are located only on the irs.gov Web site.
Domain	tax tips site:*.gov	Searches for Web pages associated with the keywords "tax tips" that are located on government Web sites (they can have anything for the first part of the domain name, but must have a .gov TLD).

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# Searching the Internet

- Evaluating Search Results
  - Does the title and listed description sound appropriate for the information you are seeking?
  - Is the URL from an appropriate company or organization?
  - You should also evaluate:
    - The author
    - The source
      - Determine if reliable or biased
    - The date
      - Many online articles are years old
  - Verify online information with a second source

# Searching the Internet

- Citing Internet Resources
  - To avoid plagiarism, proper citation procedures should be used for all Internet content used in a paper, book, or on a Web site
  - Citation should include
    - Author
    - Date of publication
    - Article or Web page title
    - “Retrieved” statement listing the date the article was retrieved from the Internet and the URL used

# Searching the Internet

TYPE OF RESOURCE	CITATION EXAMPLE
Web page article (magazine)	Dvorak, John. (2011, March 23). Government Wants to Control App Market. <i>PC Magazine</i> . Retrieved February 14, 2012, from <a href="http://www.pcmag.com/article2/0,2817,2382500,00.asp">http://www.pcmag.com/article2/0,2817,2382500,00.asp</a>
Web page article (journal)	Hader, Richard. (2011, March). Forging Forward: Future of Nursing Special. <i>Nursing Management</i> , 42 no. 3. Retrieved June 21, 2012, from <a href="http://journals.lww.com/nursingmanagement/Fulltext/2011/03000/Forging_forward__Future_of_Nursing_special.9.aspx">http://journals.lww.com/nursingmanagement/Fulltext/2011/03000/Forging_forward__Future_of_Nursing_special.9.aspx</a>
Web page article (not appearing in a periodical)	Liebowitz, Matt. (2011, March 23). Fraud Attack Targets Google, Skype, and Yahoo. MSNBC. Retrieved May 15, 2012, from <a href="http://www.msnbc.msn.com/id/42238340/ns/technology_and_science-security/">http://www.msnbc.msn.com/id/42238340/ns/technology_and_science-security/</a>
Web page content (not an article)	<i>Browse the Web Safely</i> . (n.d.) Retrieved April 11, 2012 from <a href="http://us.norton.com/security_response/browsewebsafely.jsp">http://us.norton.com/security_response/browsewebsafely.jsp</a>
E-mail (cited in text, not reference list)	Maria Rodriquez. (personal communication, March 28, 2012)

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**FIGURE 3-16**  
**Citing Web sources.**  
 It is important to properly credit your Web sources. These examples follow the American Psychological Association (APA) citation guidelines.



# Quick Quiz

1. With which of the following does the user select a category matching the topic for which he or she is searching?
  - a. keyword search
  - b. directory search
  - c. field search
2. True or False: The search phrase “trailer NOT horse” would locate Web pages about horse trailers
3. The program used by many search sites to retrieve matching Web pages from their database is called a(n) \_\_\_\_\_.

*Answers:*

*1) b; 2) False; 3) search engine*

# Beyond Browsing and E-Mail

- Other Types of Online Communications
  - Instant Messaging (IM) and Text Messaging
    - Instant Messaging
      - Exchanging real-time messages
      - Typically real-time--presence technology
      - Often can be used for a variety of other tasks such as starting a voice or video call, playing games, sending files and photos, etc.
    - Text Messaging
      - Used by mobile phone users
      - Short Message Service (SMS) also used
      - Beginning to replace e-mail for personal communication

# Beyond Browsing and E-Mail

- Twittering and Social Networking Updates
  - Often referred to as microblogging
  - Users post short updates called tweets
  - Used in both business and personal lives
  - Other types of status updates are available via some social networking sites

**FIGURE 3-18**  
**Twitter.** Allows individuals to post tweets via computer, mobile phone, or Xbox (as shown here).

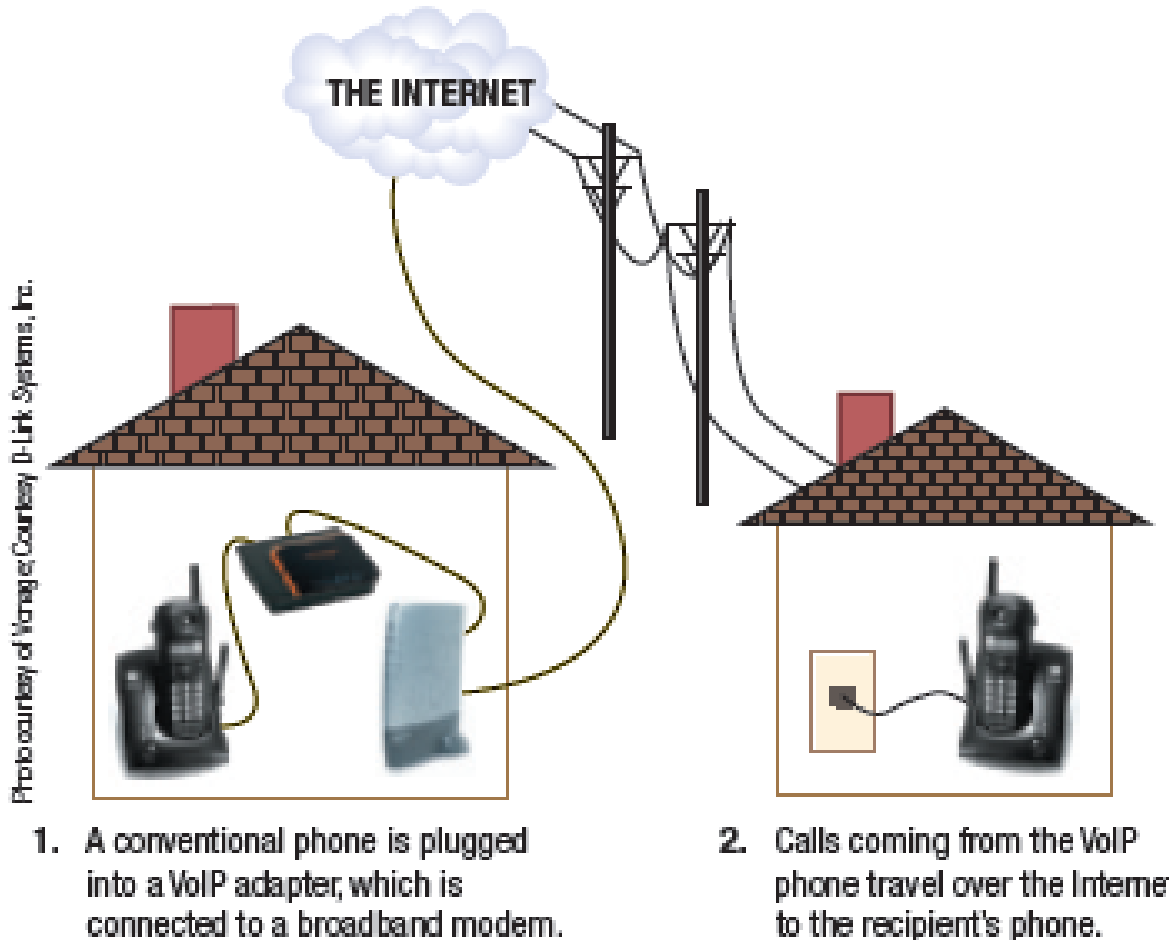


Courtesy of Microsoft Corporation

# Beyond Browsing and E-Mail

- Message Boards
  - For asking questions of, making comments to, or initiating discussions with a large group of people
  - Participants post and read messages
- Voice over Internet Protocol (VoIP)
  - Making telephone calls over the Internet
  - Computer to computer
    - Skype, IM, etc.
  - More permanent VoIP setups replace landline phones
  - Relatively inexpensive—as little as \$25 per month
  - Does not work when Internet connection or power is out

# Beyond Browsing and E-Mail



**FIGURE 3-19**  
Voice over IP (VoIP). Permanent VoIP setups allow telephone calls to be placed via a broadband Internet connection using a conventional telephone.

# Beyond Browsing and E-Mail

- Web Conferences and Webinars
  - Web Conference
    - Face-to-face meeting (videoconferencing) taking place via the Internet
    - Typically takes place using a personal computer or mobile phone
    - Used by individuals and businesses
    - Can be set up using any online communications program that supports video phone calls
    - Business Web conferences with multiple participants might use Web Conferencing software or services

# Beyond Browsing and E-Mail



**FIGURE 3-20**  
Web conferencing.  
Allows individuals to  
talk with and see each  
other in real time.

Courtesy of Microsoft

# Beyond Browsing and E-Mail

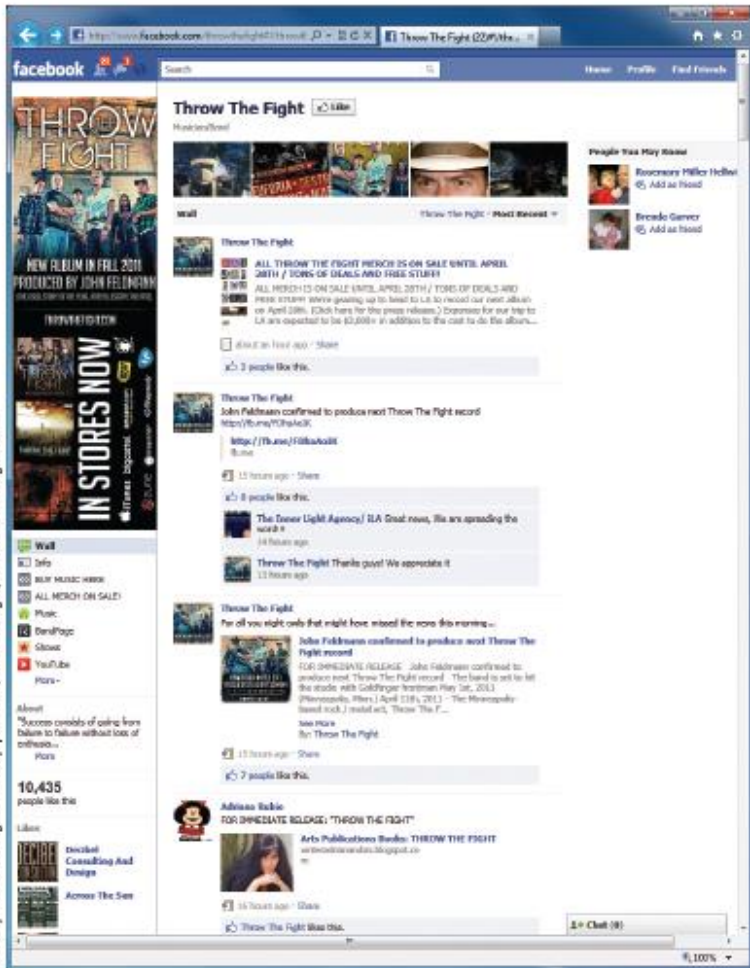
- Webinar
  - A seminar presented via the Web
  - Typically more one-way communication than a Web conference
- Webcast
  - A completely one-way presentation
- Social Networking
  - Social Networking Site
    - A site that enables a community of individuals to communicate and share information



# Beyond Browsing and E-Mail

- MySpace, Facebook, etc. allow people to post information about themselves
  - YouTube and Flickr enable video and photo sharing
  - Meetup connects people in specific geographic areas
  - Used by schools for classmates to meet and share
  - Used in politics and business
  - Used by families
- For security and safety reasons, users should be careful not to reveal too much about themselves
  - Sites are increasingly monitored by colleges and employers
    - Carefully check what is posted and remove anything that might be potentially embarrassing

# Beyond Browsing and E-Mail

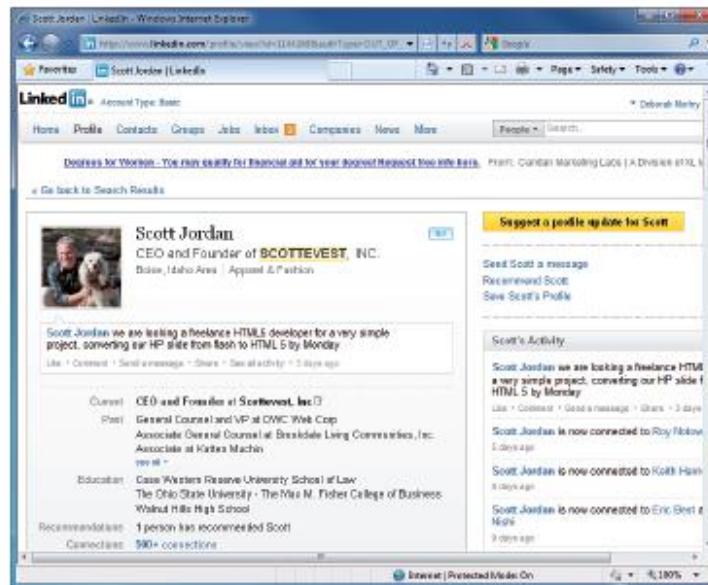


## PERSONAL PROFILING SITES

Allow individuals to post information about themselves, view status information about their friends, exchange messages, and so forth.

## BUSINESS NETWORKING SITES

Help businesspeople find business contacts, potential new employees and clients, dinner and traveling partners during business trips, and so forth.



**FIGURE 3-21**  
Social networking sites. A variety of social networking sites are available to meet different needs.

Courtesy Throw the Fight www.throwthefight.com.

Courtesy LinkedIn, Scottevest

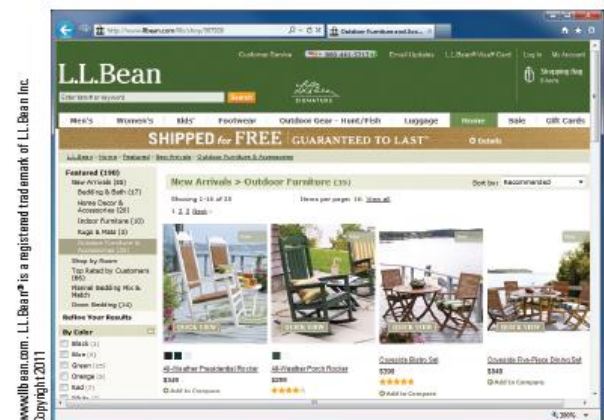
# Beyond Browsing and E-Mail

- Online Shopping and Investing
  - E-commerce
    - Online financial transactions
  - Precautions
    - Be sure all e-commerce activities are performed via a secure Web server (<https://>)
    - Use a credit card or online payment service whenever possible

# Beyond Browsing and E-Mail

- Online Shopping and Auctions
  - Online Shopping
  - Buying products or services online—both physical and downloadable items
  - Typically paid via credit card or online payment service such as PayPal
  - Estimated that online sales will reach \$250 billion by 2014

 **FIGURE 3-22**  
**Online shopping.**  
Allows you to purchase goods and services online.



www.llbean.com. L.L.Bean® is a registered trademark of L.L.Bean Inc. Copyright 2011

# Beyond Browsing and E-Mail

- Online Auctions
  - Bids are placed for items, and the highest bidder purchases the item
  - Sellers list items (such as via eBay)
  - Can bid until auction closes
  - Winning bidder arranges payments and delivery with seller
  - Seller pays auction fees
- Online Banking and Online Investing
  - Online Banking
    - Performing banking activities via the Web--(transfer funds, check balances, pay bills, etc.)

# Beyond Browsing and E-Mail



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**FIGURE 3-23**  
**Mobile banking.**  
Many banks allow online banking via text message or mobile app.

# Beyond Browsing and E-Mail

- Online Investing
  - Buying and selling stocks, bonds, mutual funds and other types of investments via the Web
  - Lower transaction fees
  - Ability to buy and/or sell quickly
  - Typical online services include the ability to order sales and purchases; access performance histories, corporate news, and set up online portfolios

# Beyond Browsing and E-Mail

- Online Entertainment
  - Online Music
    - Music played or obtained via the Web
    - Online radio stations
      - Listen to music live
    - Online music subscription service
      - Used to purchase and download music singles and albums in digital format legally, i.e., iTunes
    - Number of online music users predicted to reach 178 million by 2015



# Beyond Browsing and E-Mail

- Online TV, Videos, and Movies
  - Online videos
    - Videos watched or downloaded via the Web
  - Online TV
    - Live or recorded TV shows available via the Web
  - Online movies
    - Feature films available via the Web
  - Video-on-demand (VoD)
    - The process of downloading movies and television shows, on demand, via the Web
  - Internet Protocol Television (IPTV)
    - Delivery of content via Internet directly to your TV

# Beyond Browsing and E-Mail

**FIGURE 3-24**  
Online TV and  
movies.



Courtesy MobitV

## MOBILE TV

Both live and recorded TV shows can be delivered directly to a mobile phone.



Courtesy CastTV

## ONLINE TV AND MOVIES

TV shows and movies can be watched online for free via a variety of Web sites.

# Beyond Browsing and E-Mail

- Online Gaming
  - Playing games via the Web
  - Web-based games, online multiplayer games, etc.
  - Quite often associated with Internet addiction
    - The inability to stop using the Internet or to prevent extensive use of the Internet from interfering with other aspects of one's life

# Beyond Browsing and E-Mail

- Online News, Reference, and Information
  - News and Reference Information
    - News
      - Available through Web sites belonging to news organizations, television networks, newspapers, magazines, etc.
      - Usually updated on a continual basis
      - Growing trend is to abandon print subscriptions and provide Web-only service--mainly due to cost
      - News archives are often available (sometimes requires a fee)

# Beyond Browsing and E-Mail



**FIGURE 3-25**

Online news and reference Web sites.

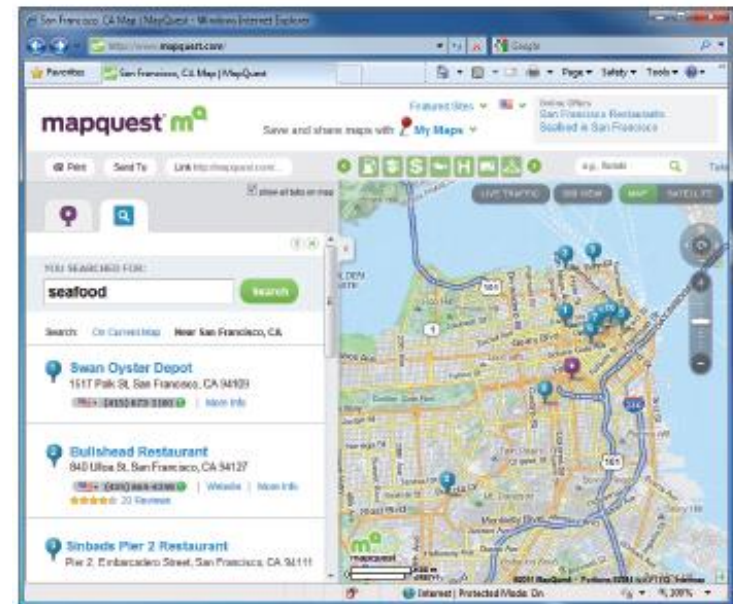
## NEWS SITES

News organizations typically update their sites several times per day to provide access to the most current news and information.

# Beyond Browsing and E-Mail

- Reference Sites
  - Provide access to specific types of useful information
  - Phone and address directories, weather, maps, home values, encyclopedias, dictionaries, etc.

**FIGURE 3-25**  
Online news and reference Web sites.



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## REFERENCE SITES

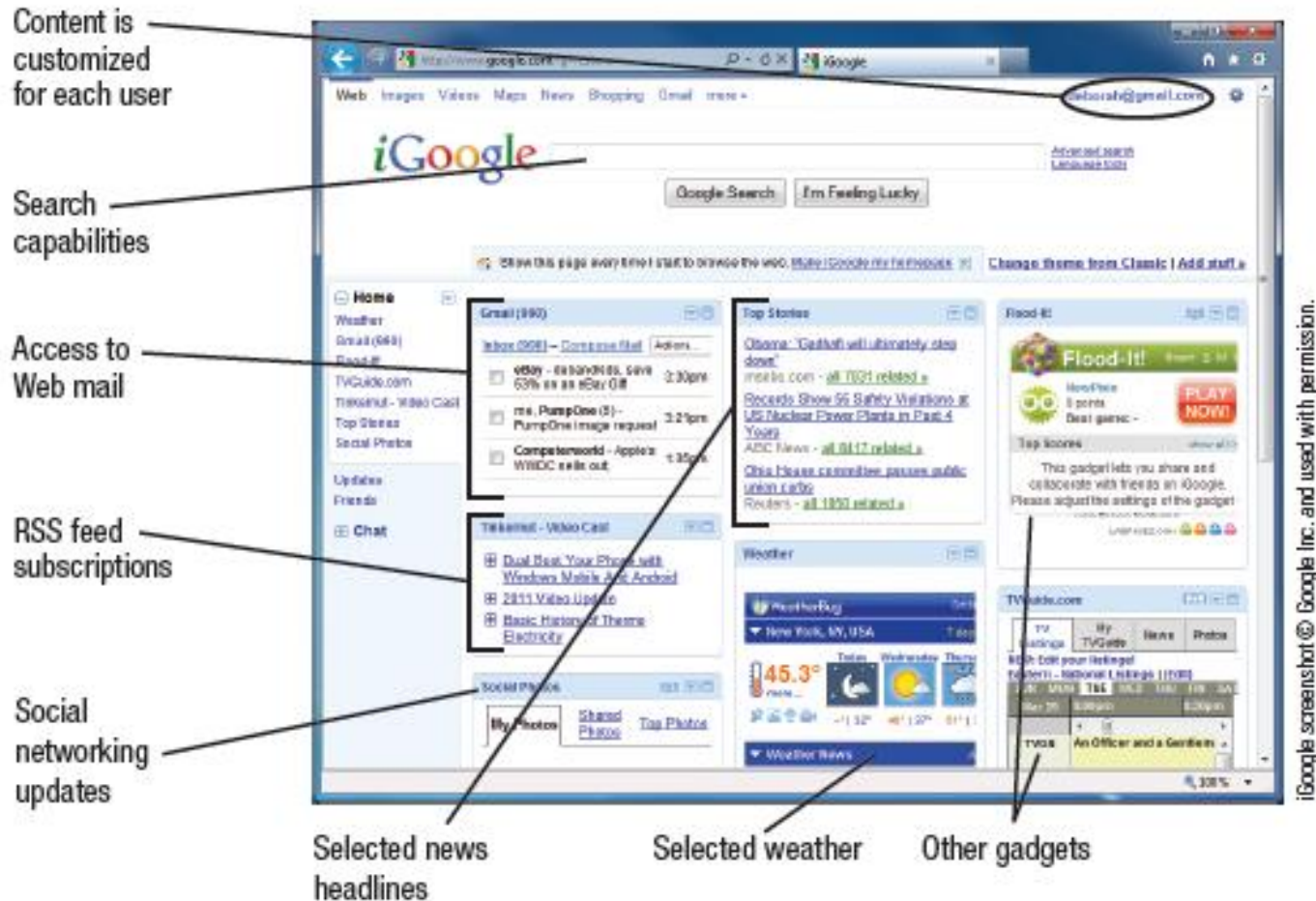
Reference Web sites provide access to specific types of useful information, such as the maps and driving directions available via this Web site.

# Beyond Browsing and E-Mail

- Portal Pages, RSS Feeds, and Podcasts
  - Portal Web page
    - Designed to be selected as a browser's home page, typically can be customized
    - Often contains news, calendars, e-mail, search capabilities, and other tools
    - Usually personalized
    - Popular portals include iGoogle, My Yahoo!, My MSN, and AOL.com



# Beyond Browsing and E-Mail



**FIGURE 3-26**  
Portal pages. Portal pages can contain a wide variety of customized news and information.



# Beyond Browsing and E-Mail

- RSS (Really Simple Syndication) Feeds
  - News tool that delivers selected Web content to subscribers as the content is published to a Web site
  - Individuals subscribe to an RSS feed and new content is delivered to them as it becomes available
- Podcasts
  - Recorded audio or video file that can be played or downloaded via the Web
  - Prepared by individuals and businesses
  - Used to share knowledge, express opinions, share original poems, songs, or short stories
  - Typically uploaded to the Web on a regular basis

# Beyond Browsing and E-Mail

- Product, Corporate, Government, and Other Information
  - Vast amount of product and government information available online
    - Product specifications
    - Instruction manuals
    - Tax forms
    - Government publications
    - Legislative bills
  - Wide variety of information from non-profit organizations, conservation groups, political parties, etc., also available

# Beyond Browsing and E-Mail



**FIGURE 3-27**  
FactCheck.org. This Web site can be used to check the accuracy of political statements.

Courtesy FactCheck.org

# Beyond Browsing and E-Mail

- Online Education and Writing
  - Using the Internet to facilitate learning
  - Rapidly growing application
  - Web-Based Training (WBT)
    - Any instruction delivered on an individual basis via the Web
      - Corporate training, tutorials, distance learning, etc.
  - Distance Learning
    - Students take classes from a location which is different from the one where the delivery of instruction takes place.

# Beyond Browsing and E-Mail

- Advantages
  - Self-paced instruction
  - Flexible location
  - Up-to-date material
  - Immediate feedback
  - Customized content
- Disadvantages
  - Technology requirements and problems
  - Anonymity
  - Lack of face-to-face contact

# Beyond Browsing and E-Mail



**FIGURE 3-28**  
Web-based learning. The Understanding Computers in a Changing Society CourseMate Web site provides a variety of Web-based learning opportunities for readers of this textbook.

# Beyond Browsing and E-Mail

- Online Testing
  - Taking tests via the Internet
    - Available for both objective and performance-based exams
    - Typically are graded automatically
    - Security is an issue
    - Authorized testing centers
    - Secure testing systems

**FIGURE 3-29**  
Secure online testing.

1. The device authenticates the individual via a fingerprint scan before the exam can begin.
2. The device captures real-time audio and video during the exam.



3. The computer is locked down during the exam so it can only be used for authorized activities.

Courtesy Software Secure, Inc.

# Beyond Browsing and E-Mail

- Blogs, Wikis, and Other Types of Online Writing
  - Blogs
    - A Web page that contains short, frequently updated entries in chronological order, typically by just one individual
  - Wikis
    - A collaborative Web page that is designed to be edited and republished by a variety of individuals
    - Wikipedia is largest
    - Carefully evaluate content, as irresponsible individuals can enter erroneous information
  - E-portfolios
    - A collection of an individual's work accessible via the Web



# Beyond Browsing and E-Mail



Courtesy of Carol Cram



## FIGURE 3-30

**Blogs.** Allow individuals to post entries to an online personal journal.



Courtesy of Wikipedia



## FIGURE 3-31

**Wikis.** Wikis, such as the Wikipedia collaborative online encyclopedia shown here, can be edited by any authorized individual.

# Censorship and Privacy Issues

- Censorship
  - Some countries block some Internet content
    - To hinder spread of information from political opposition
    - To filter out material determined to be offensive
    - To protect national security
  - Some countries have attempted to regulate Internet content
    - Difficulty defining “patently offensive” and “indecent”
    - Difficult finding a fair balance between protection and censorship

# Censorship and Privacy Issues

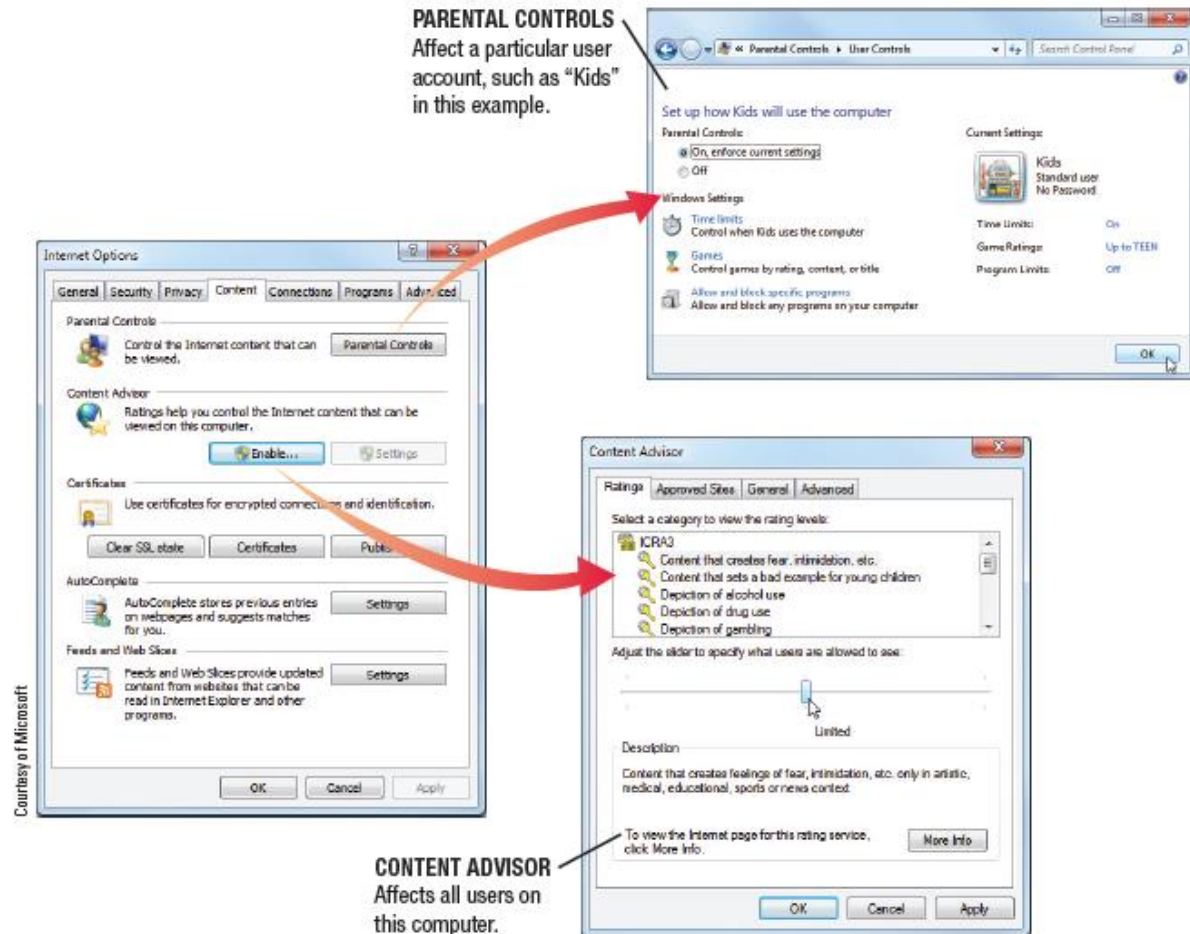
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## – Internet Filtering

- Using software or browser options to block access to particular Web pages or types of Web pages
- Used by individuals, schools, employers, public computers, etc.
- Can use browser settings or special filtering software

# Censorship and Privacy Issues

**FIGURE 3-32**  
**Internet filtering.**  
Browser settings can be changed to deny access to Web pages with objectionable content.



# Censorship and Privacy Issues

- Web Browsing Privacy
  - Encompasses what information about individuals is available, how it is used, and by whom
  - Cookies
    - Small files stored on the user's hard drive by a Web server
    - Used to identify return visitors and their preferences
    - Can be used to track Web activity
    - Cookie information can be personally identifiable or non-personally identifiable
    - Cookie data can be viewed or deleted
    - Cookie settings can be changed and software can be used to manage cookies

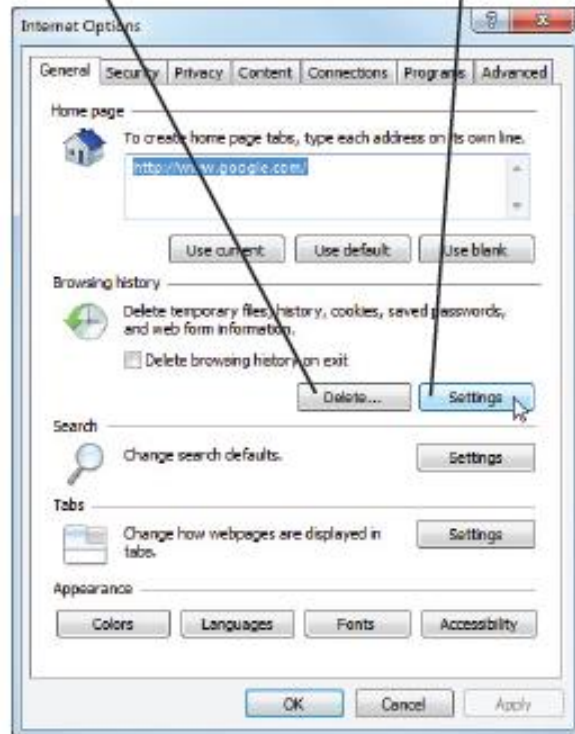
# Censorship and Privacy Issues

Click to delete all temporary files, including cookies.

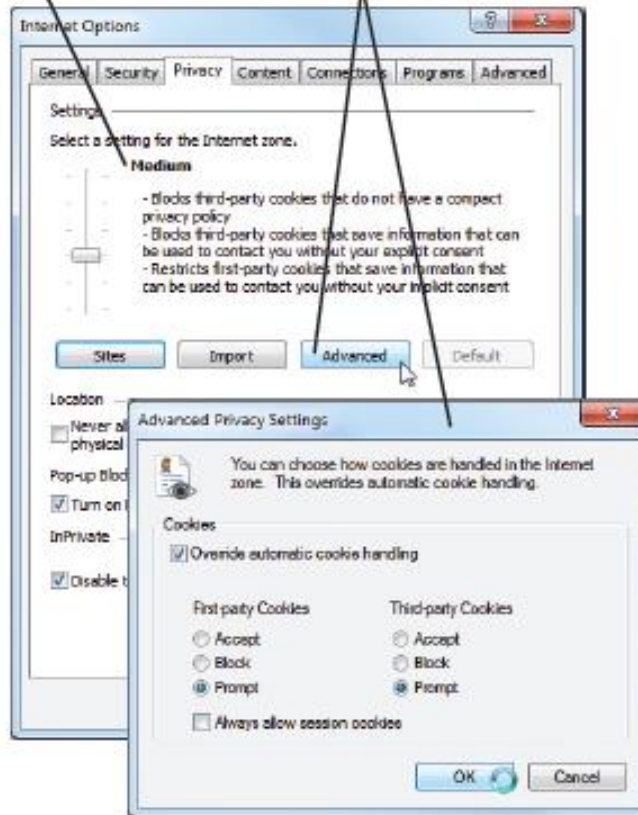
Click to view cookies.

Select one of the standard privacy settings here.

Click to create a custom privacy setting.



INTERNET OPTIONS GENERAL TAB



INTERNET OPTIONS PRIVACY TAB

**FIGURE 3-33**  
Browser cookie management in Internet Explorer.

Courtesy of Microsoft

# Censorship and Privacy Issues

- Spyware and Adware
  - Spyware
    - Software installed without users knowledge that transmits data secretly through the user's Internet connection
    - Sometimes used by advertisers to gather marketing information
    - Used by criminals to gather personal data stored on your computer
    - Can be blocked and/or removed using security software

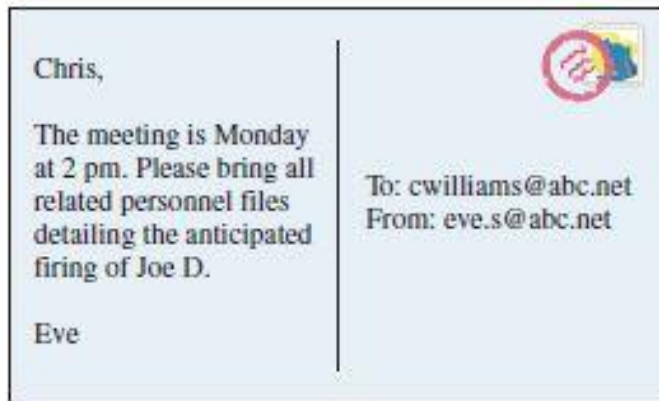


# Censorship and Privacy Issues

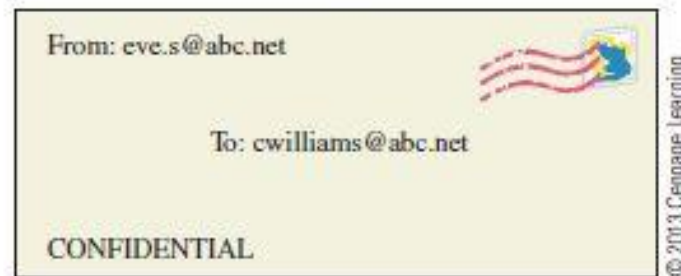
- Adware
  - Software supported by onscreen advertising
  - Often included in free programs
  - Does not gather information
  - Is not installed without user's consent
- E-Mail Privacy
  - Privacy of the e-mail messages you send and receive
  - Only encrypted e-mail can be transmitted privately
  - Employers and ISPs have access to e-mails sent through those organizations
  - Businesses and ISPs typically archive e-mail messages



# Censorship and Privacy Issues



**REGULAR (NONENCRYPTED E-MAIL) = POSTCARD**



**ENCRYPTED E-MAIL = SEALED LETTER**

**FIGURE 3-35**  
You cannot assume e-mail messages are private, unless they are encrypted.

# Quick Quiz

1. Ordering a movie or television show to be downloaded from the Internet is referred to as?
  - a. Interactive TV
  - b. Online radio
  - c. Video-on-demand (VOD)
2. True or False: A URL that begins with *https://* indicates the page being viewed is secure.
3. Blocking access to particular Web pages or types of Web pages using browser settings or special software is called Internet \_\_\_\_\_.

*Answers:*

*1) c; 2) True; 3) filtering*

# Summary

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- Evolution of the Internet
- Getting Set Up to Use the Internet
- Searching the Internet
- Beyond Browsing and E-Mail
- Censorship and Privacy Issues