Discovering Computers Enhanced Edition ©2017

Tools, Apps, Devices, and the Impact of Technology

Chapter 1

Introducing Today's Technologies



Objectives Overview

Differentiate among laptops, tablets, desktops, and servers

Describe the purpose and uses of smartphones, digital cameras, portable and digital media players, e-book readers, wearable devices, and game devices

Describe the relationship between data and information

Briefly explain various input options

Differentiate the web from the Internet, and describe the relationship among the web, webpages, websites, and web servers

Explain the purpose of a browser, a search engine, and an online social network

See Page 2
for Detailed Objectives

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Objectives Overview

Briefly describe digital security risks associated with viruses and other malware, privacy, your health, and the environment

Differentiate between an operating system and applications

Differentiate between wired and wireless technologies, and identify reasons individuals and businesses use networks

Discuss how society uses technology in education, government, finance, retail, entertainment, health care, science, travel, publishing, and manufacturing

Identify technology used by home users, small/home office users, mobile users, power users, and enterprise users

See Page 2
for Detailed Objectives

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Today's Technology

- Because technology changes, you must keep up with the changes to remain digitally literate
- Digital literacy involves having a current knowledge and understanding of computers, mobile devices, the web, and related technologies



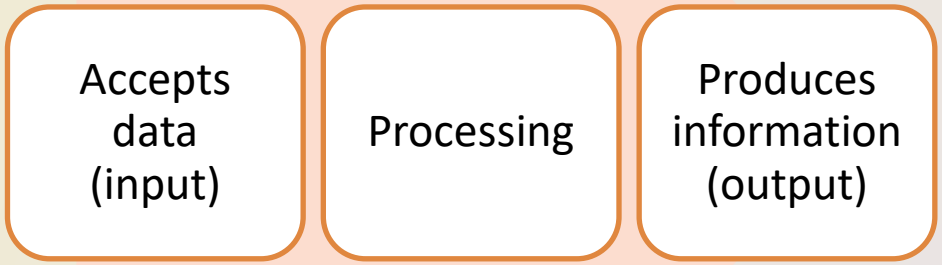
Pages 2 - 3

Figure 1-1

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Computers

- A **computer** is an electronic device, operating under the control of instructions stored in its own memory



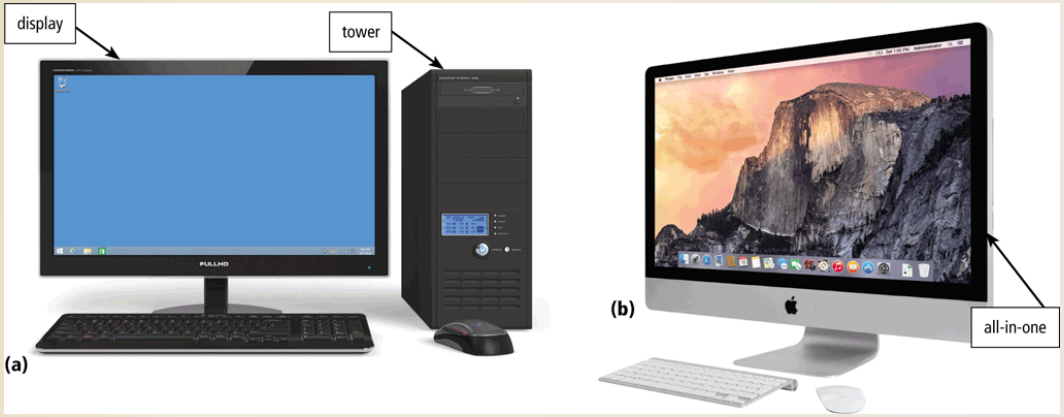
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Computers

- Laptop
- Tablet
- Desktop and All-in-One
- Server









Pages 4 and 6
Figures 1-2 – 1-5

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Mobile and Game Devices


Smartphone



Digital camera


Portable and digital media player


E-book reader

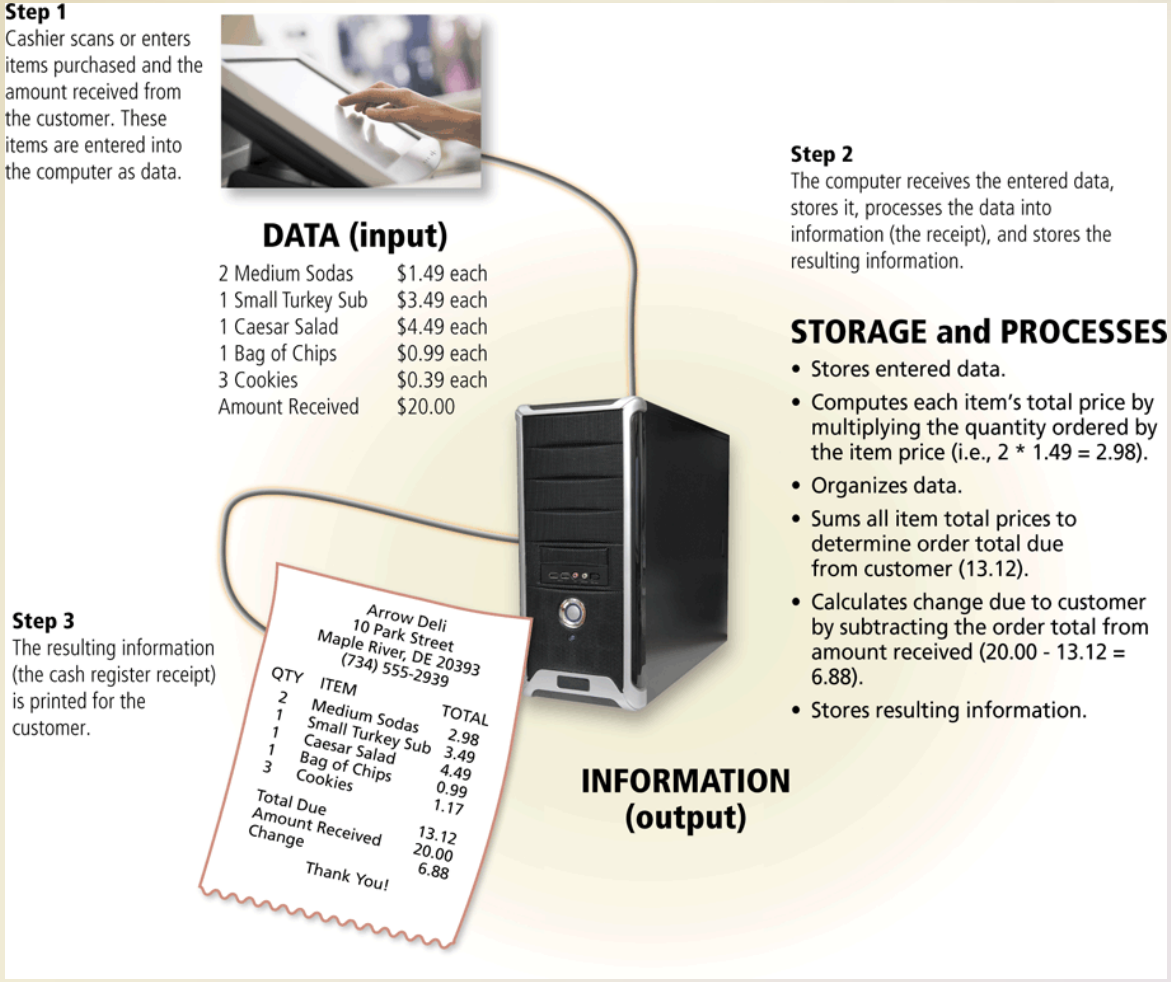

Wearable device


Game device

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Figures 1-6 – 1-11

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Data and Information



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Figure 1-12

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Data and Information

- A keyboard contains keys you press to enter data and instructions into a computer or mobile device


desktop keyboard


laptop keyboard



on-screen keyboard


mini keyboard

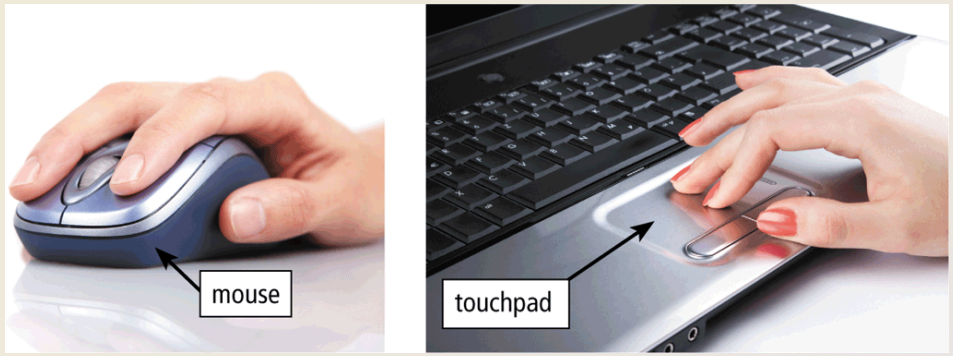

virtual keyboard

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Figure 1-13

Data and Information

- A pointing device is an input device that allows a user to control a small symbol on the screen called the pointer
- Some mobile devices and computers enable you to speak data instructions using voice input and to capture live full-motion images using video input



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Figures 1-14 – 1-15

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Data and Information

- A scanner is a light-sensing input device that converts printed text and images into a form the computer can process



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Figure 1-16

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Data and Information

- An **output device** is any hardware component that conveys information from a computer or mobile device to one or more people
- A **printer** is an output device that produces text and graphics on a physical medium, such as paper or other material
  - A 3-D printer can print solid objects, such as clothing, prosthetics, eyewear, implants, toys, parts, prototypes, and more

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Data and Information



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Figure 1-17

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Data and Information

- A display is an output device that visually conveys text, graphics, and video information

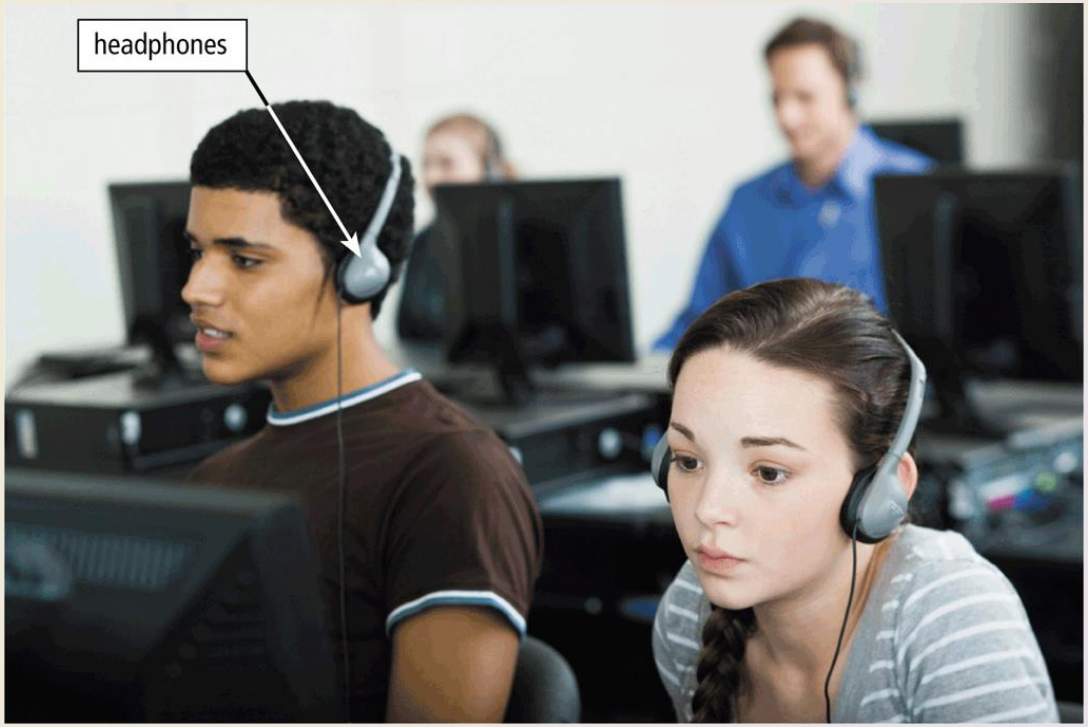


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Figure 1-18

Data and Information

- Speakers allow you to hear audio such as music, voice, and other sounds
  - Earbuds
  - Headphones



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Figure 1-19

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Data and Information

Memory consists of electronic components that store instructions waiting to be executed and the data needed by those instructions

A computer keeps data, instructions, and information on **storage media**

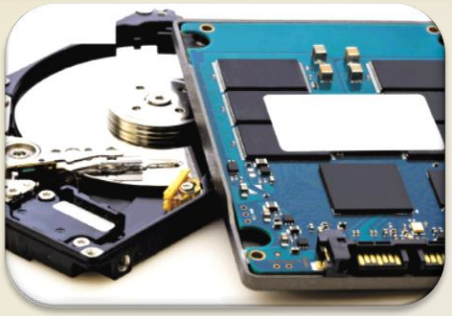
A **storage device** records (writes) and/or retrieves (reads) items to and from storage media

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Data and Information



Hard Disk



Solid-State Drive



USB Flash Drive



Memory Card



Optical Disc



Cloud Storage

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Figures 1-20 – 1-26

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The Web

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



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Figure 1-27

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The Web

The World Wide Web (or web, for short) is a global library of information available to anyone connected to the Internet

The **web** consists of a worldwide collection of electronic documents, each of which is called a **webpage**

A **website** is a collection of related webpages

A **web server** is a computer that delivers requested webpages to your computer

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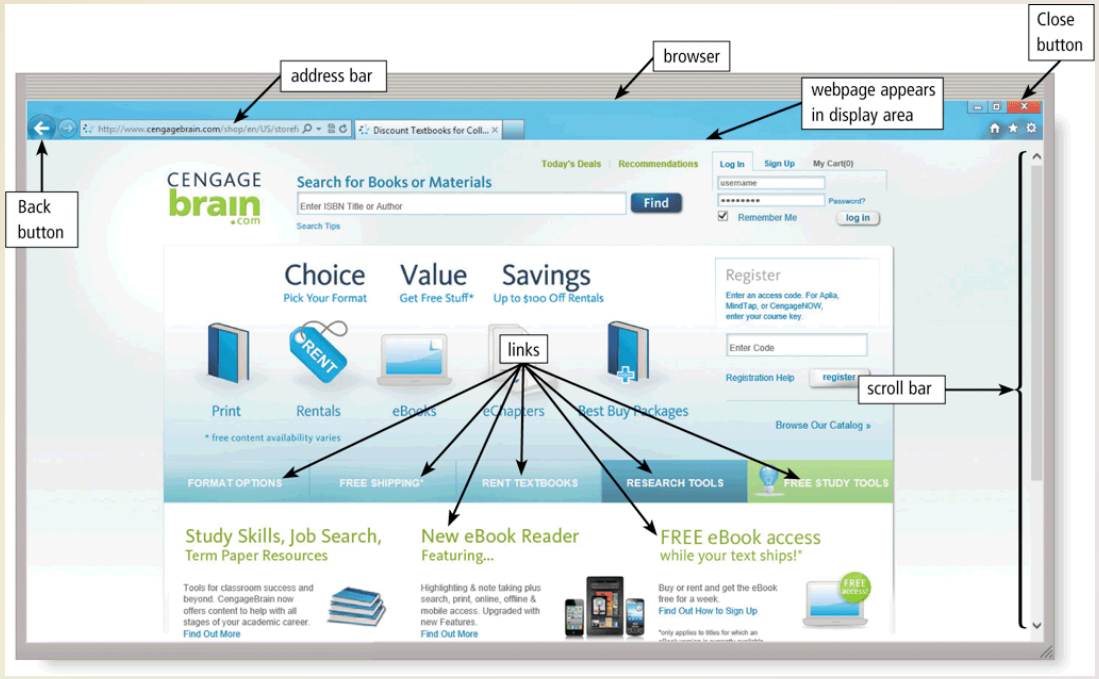
The Web



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The Web

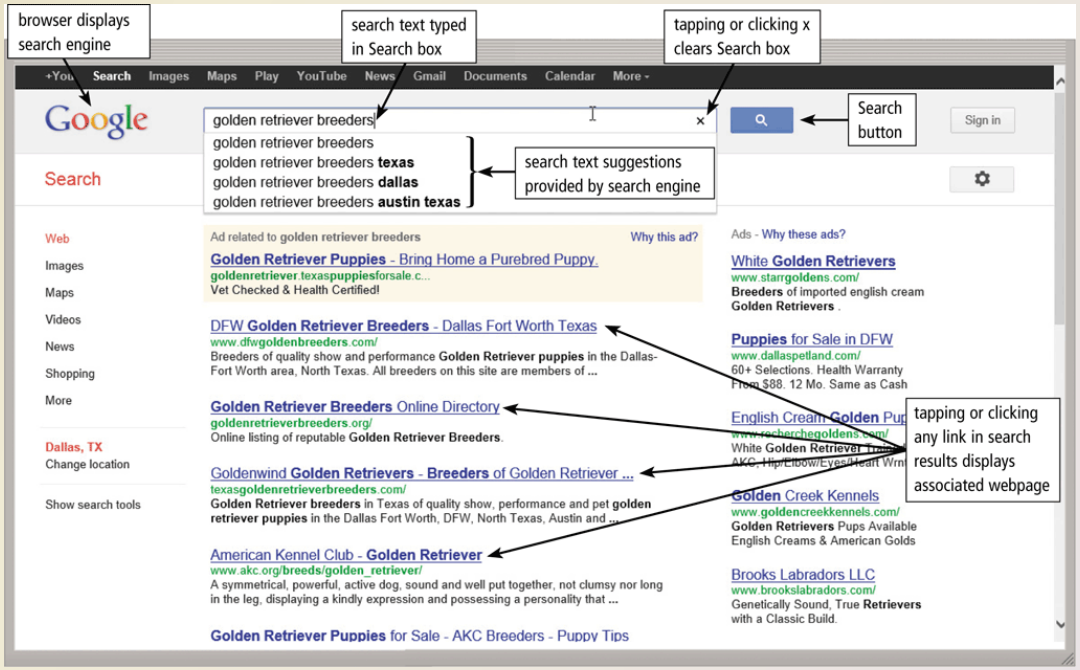
- A **browser** is software that enables users with an Internet connection to access and view webpages on a computer or mobile device



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The Web

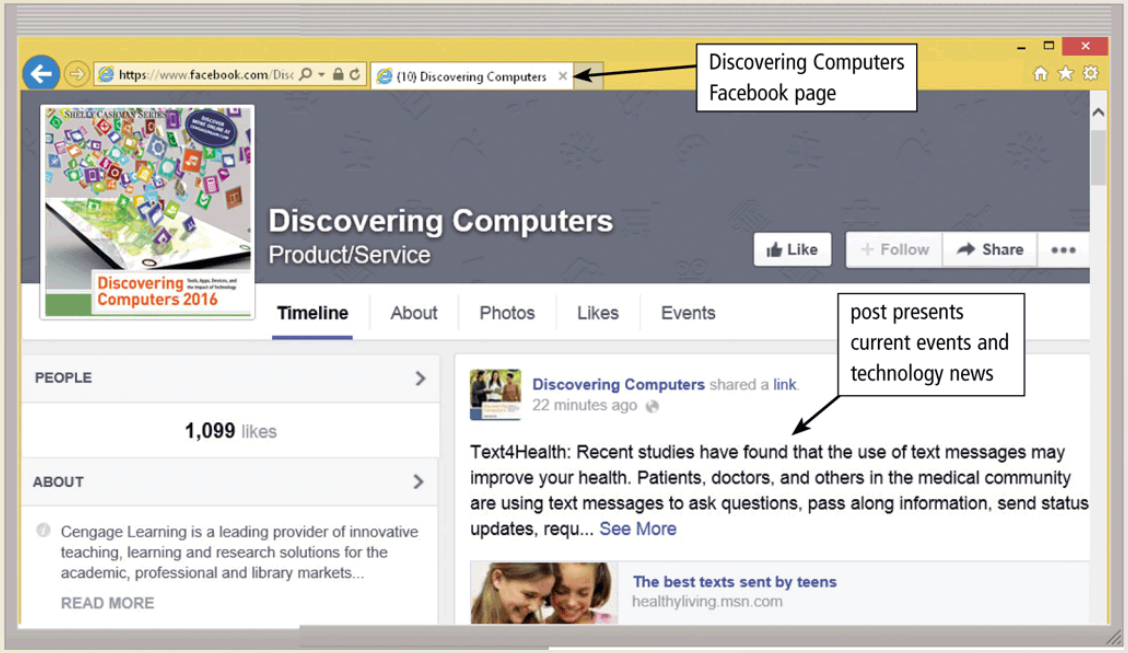
- A **search engine** is software that finds websites, webpages, images, videos, news, maps, and other information related to a specific topic



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The Web

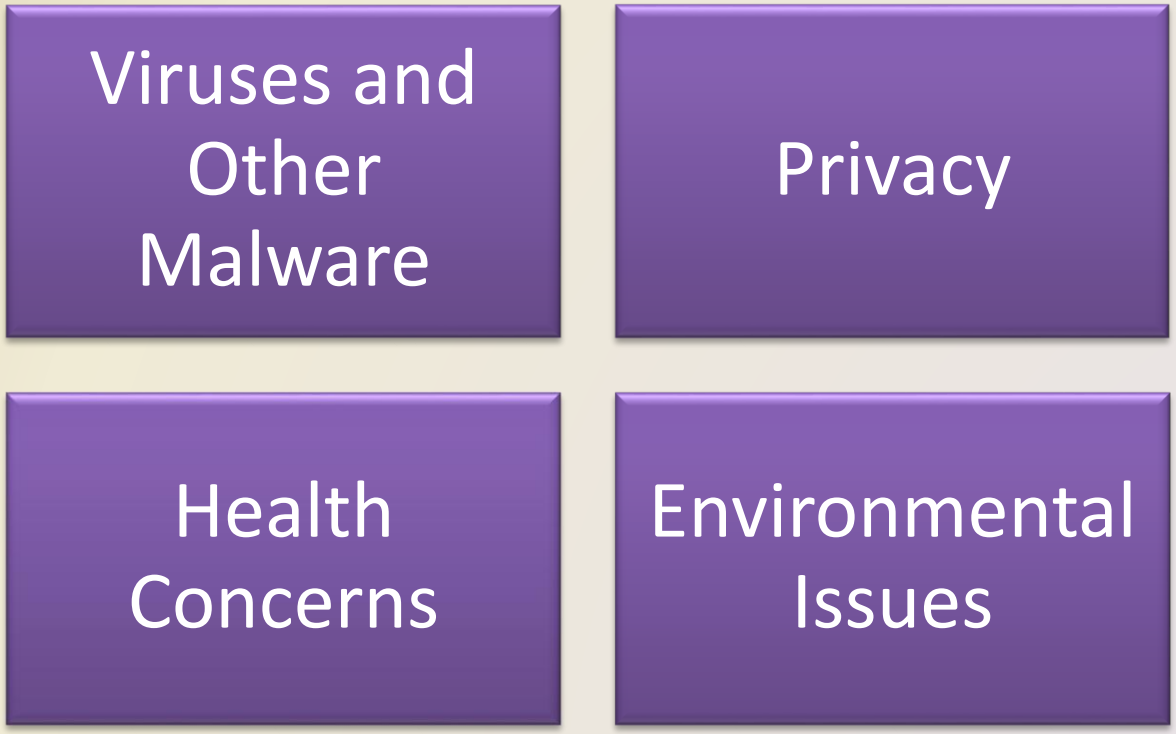
- An **online social network** encourages members to share their interests, ideas, stories, photos, music, and videos with other registered users



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Digital Safety and Security

- It is important that users protect their computers and mobile devices



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Digital Safety and Security

- **Green computing** involves reducing the electricity consumed and environmental waste generated when using a computer
- Strategies include:
  - Recycling
  - Using energy efficient hardware and energy saving features
  - Regulating manufacturing processes
  - Extending the life of computers
  - Immediately donating or properly disposing of replaced computers

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Programs and Apps

- **Software**, also called a **program**, tells the computer what tasks to perform and how to perform them



System Software

- Operating system
- Tools



Applications

Pages 26 - 27
Figure 1-30

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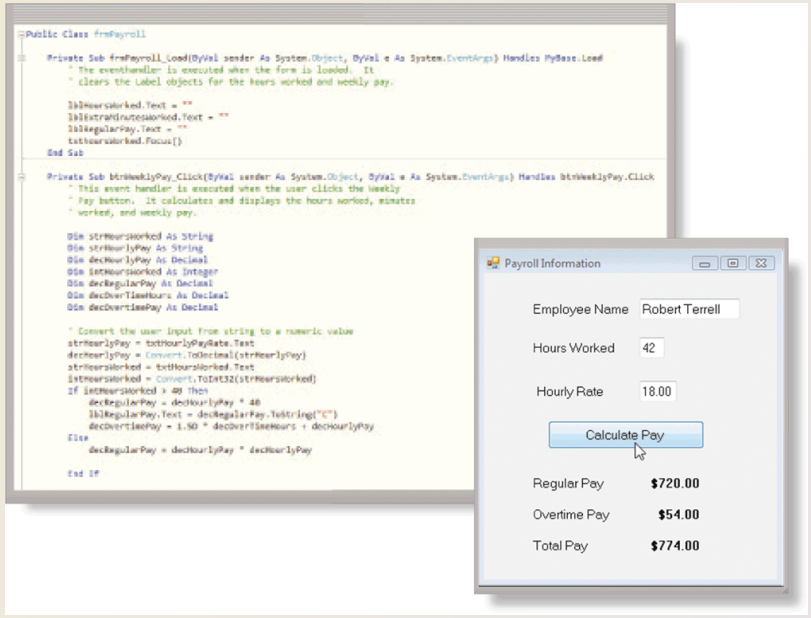
Programs and Apps

- Installing a program is the process of setting up the program to work with the computer, mobile device, printer, and/or other hardware
- Once installed, you can run a program so that you can interact with it
- You interact with a program through its user interface

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Programs and Apps

- A software developer, sometimes called a developer or programmer, is someone who develops programs and apps or writes the instructions that direct the computer or mobile device to process data into information

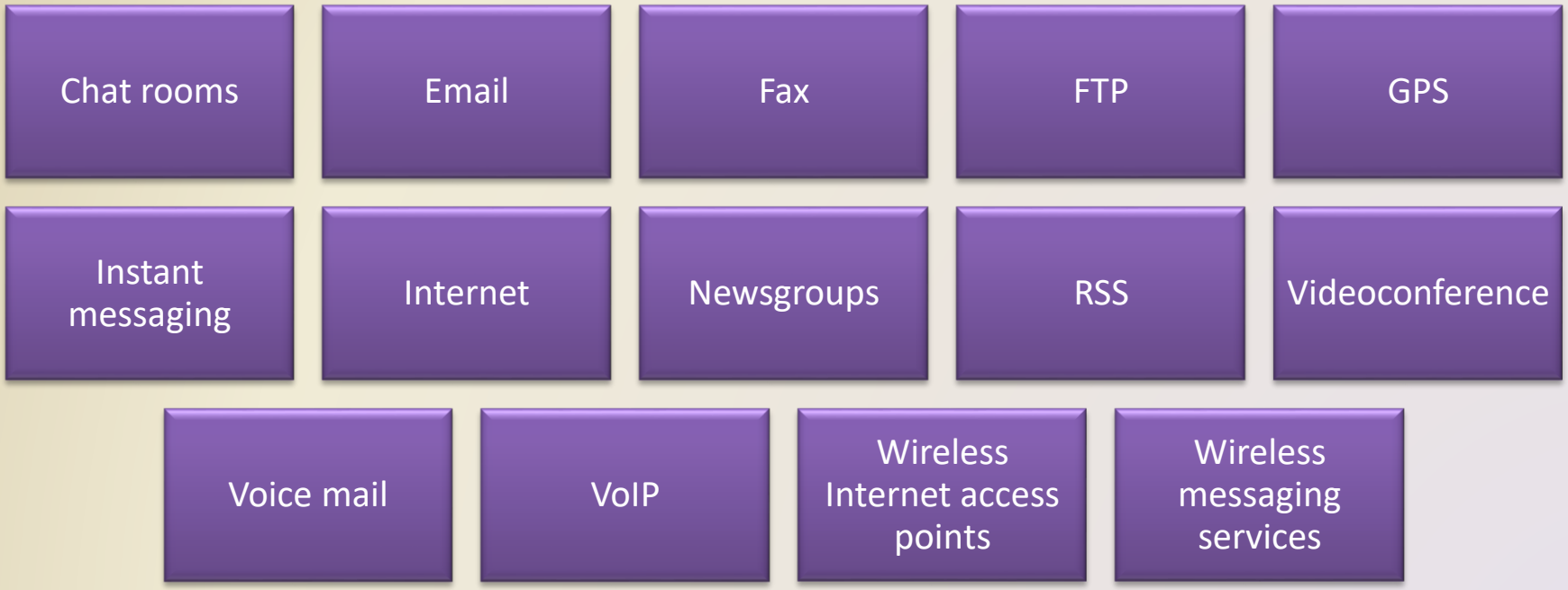


Pages 29 - 30
Figure 1-31

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Communications and Networks

- In the course of a day, it is likely you use, or use information generated by, one or more of these communications technologies



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Communications and Networks

- A **communications device** is hardware capable of transferring items from computers and devices to transmission media and vice versa



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Figure 1-32

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Communications and Networks

- Examples of wireless communications technologies include:



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Communications and Networks

- A **network** is a collection of computers and devices connected together, often wirelessly, via communications devices and transmission media



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Figure 1-33

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Communications and Networks

Home Networks

- Connect to the Internet
- Share a single high-speed Internet connection
- Access photos, music, videos, and other content
- Share devices
- Play multiplayer games
- Connect game consoles to the Internet
- Subscribe to and use VoIP
- Interact with other devices in a smart home

Business Networks

- Facilitate communications
- Share hardware
- Share data, information, and software

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Technology Uses



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Technology Users



Home User



Small/Home Office User



Mobile User



Power User



Enterprise User

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Chapter Summary

Basic computer concepts

Various methods for input, output, memory, and storage

The Internet

Digital security and safety risks and precautions

Uses of technology applications in society

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Tools, Apps, Devices, and the Impact of Technology

Chapter 1

Introducing Today's Technologies



Chapter 1 Complete