

SCSD1513

Information Systems and Information Technology

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Chapter 01: Information Technology, the Internet, and You

Presentation Tips

- Click the mouse to advance the slides
- Click the hyperlink to directly advance to the slide associated with the link; click Return to go back to the calling slide associated with the hyperlink
- All key terms from the end of chapter materials display in **light orange** the first time used in a slide; if used in notes, key terms are identified explicitly
- Discussion questions are set to progressively appear on each mouse click

Competencies (Page 1 of 2)

- Explain the five parts of an **information system**: **people**, **procedures**, **software**, **hardware**, and **data**.
- Distinguish between system software and **application software**.
- Discuss the three kinds of **system software** programs.
- Distinguish between basic and **specialized application software**.
- Identify the four types of computers and the four type of **microcomputers**.

Competencies (Page 2 of 2)

- Describe the different types of computer hardware including the **system unit**, input/output, secondary storage, and **communication devices**.
- Define data and describe **document**, **worksheet**, **database**, and **presentation files**.
- Explain computer **connectivity**, the **wireless revolution**, the **Internet**, **smartphone**, and **cloud computing**.



Introduction

- **Computer competency** refers to acquiring computer-related skills
- **Microcomputers** are common tools in all areas of life
- **Web-based courses** provide alternatives for people who are homebound or work odd hours
- **The Web** provides new ways to communicate, to find people with similar interests, and to purchase goods

Five Parts of an Information System

1. People
2. Procedures
3. Software
4. Hardware
5. Data



People
are end users who use computers to make themselves more productive



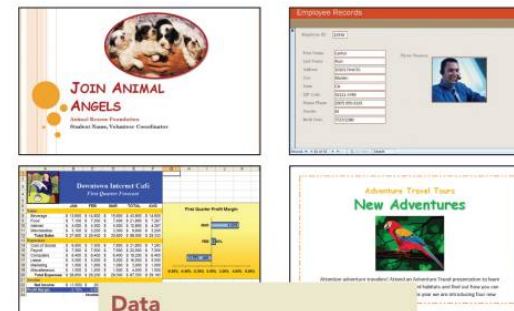
Software
provides step-by-step instructions for computer hardware



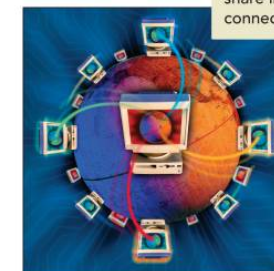
Procedures
specify rules or guidelines for computer operations



Hardware
includes keyboard, mouse, monitor, system unit, and other devices



Data
consists of unprocessed facts including text, numbers, images, and sounds



Connectivity
allows computers to share information and to connect to the Internet

People

- Most important part of any system
- Contact is ...
 - Direct
 - Indirect
- Computer uses
 - Business & Entertainment
 - Education & Medicine



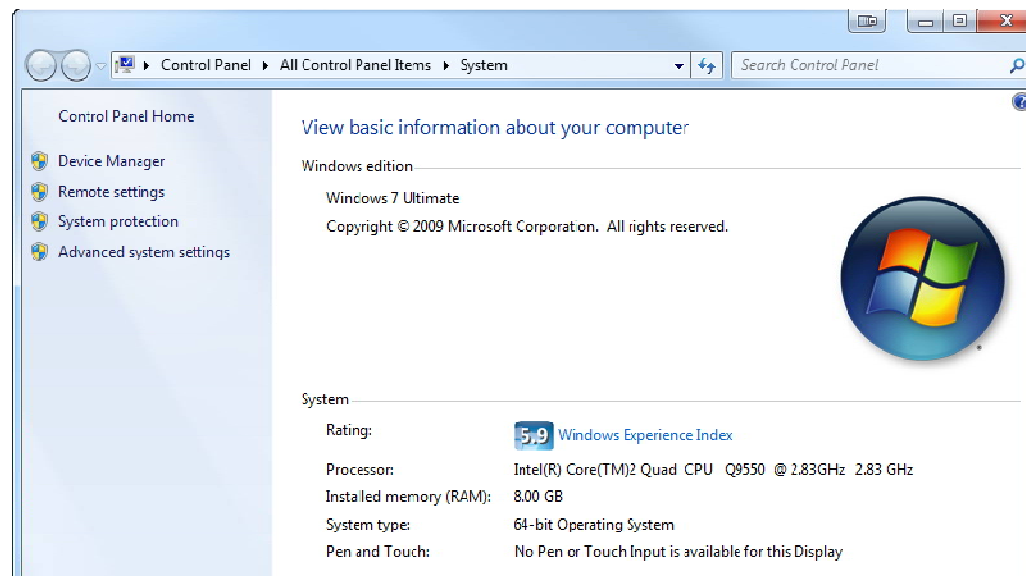
Software

- Software is another name for programs
- Two major kinds of software
 - System Software
 - Application Software



System Software

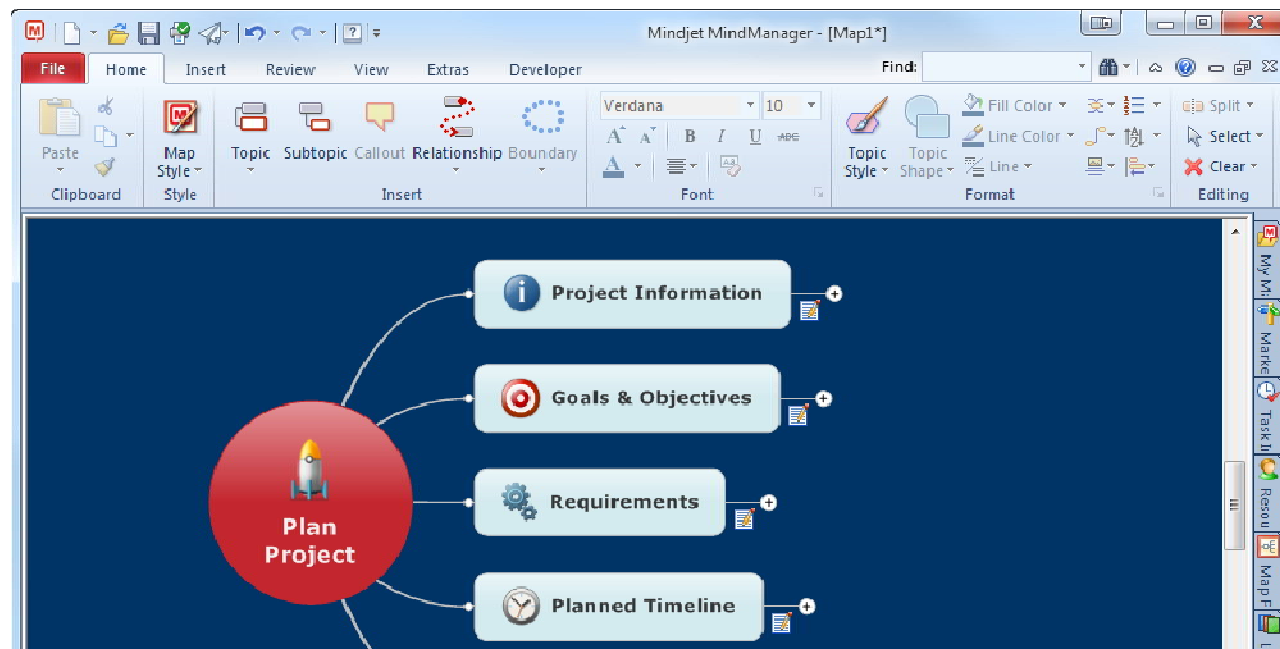
- A collection of programs – not a single program
 - Includes Operating System software, Utilities, and Device Drivers
- Enables the application software to interact with the hardware, and helps the computer manage its resources
- Two best-known operating systems for microcomputers are Windows 7 and Mac OS X



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Application Software

- End-user software
- Two major categories
 - Basic applications
 - Specialized applications



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Hardware - Types of Computers

- Supercomputers
- Mainframe computers
- Minicomputers (or mid-range computers)
- Microcomputers



Microcomputer Types

- Desktop
- Media center system units
- Notebook or laptop
- Netbooks
- Tablet PC
- Handheld



Desktop Computers

- **Desktop computers** are small enough to fit on top of or alongside a desk, yet are too big to carry around



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Media Center System Units

- **Media center system** units blur the line between desktop computers and dedicated entertainment devices

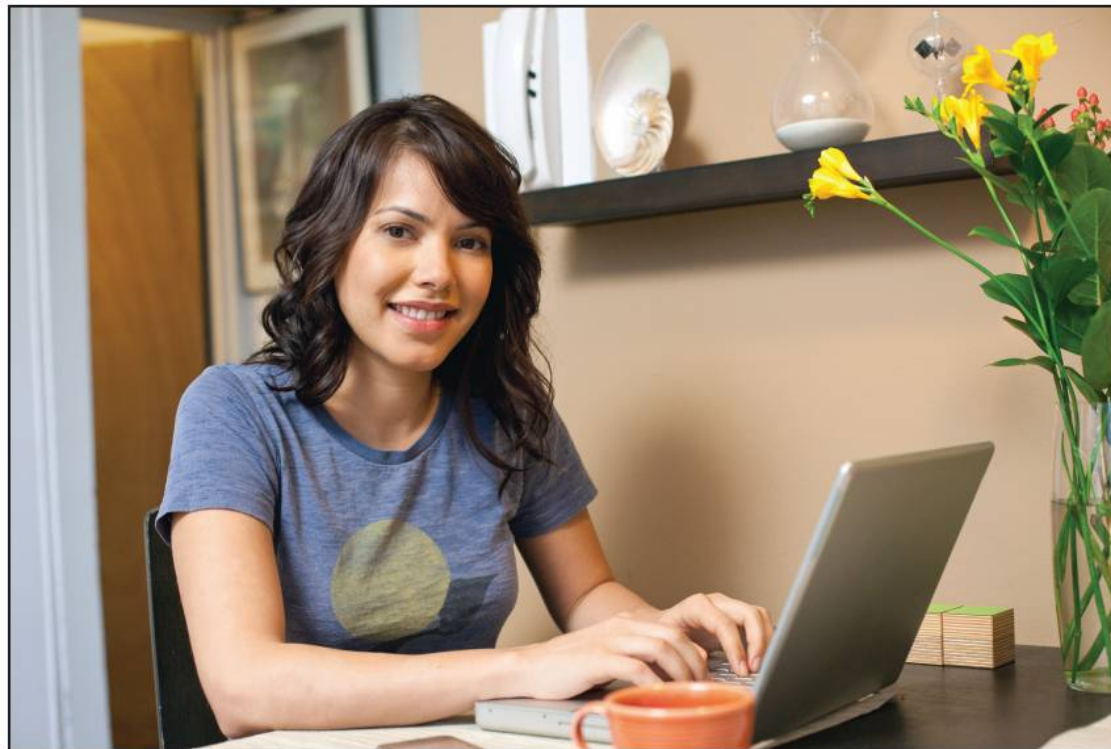


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Notebook or Laptop Computers

- Notebook computers

laptop computers



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Netbooks

- **Similar to notebook computers, but ...**
 - **Smaller**
 - **Lighter**
 - **Less expensive**

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Tablet PC

- In addition to a keyboard, a **tablet PC** allows you to enter data, write notes, and select commands using a pen stylus
- Handwritten data is digitized and converted to standard text that can be further processed by a word processor



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Handheld

- Handheld or palm computers, such as Personal digital assistants (PDAs) and smartphones, are amongst the smallest computing devices
- These systems typically combine pen input, writing recognition, personal organizational tools, and communications capabilities
- Smartphones are cell phones with wireless connections to the Internet



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Microcomputer Hardware

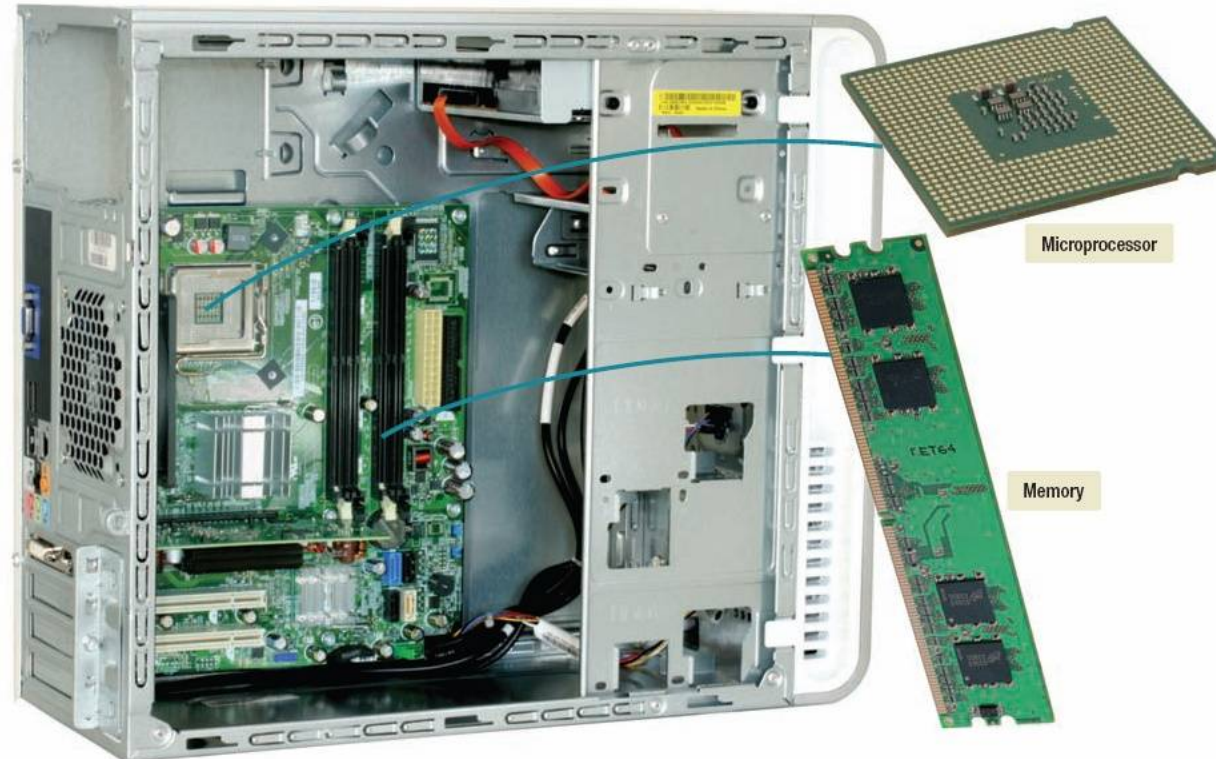
- Four basic categories of equipment:

- System Unit
- Input/Output
- Secondary Storage
- Communications



System Unit

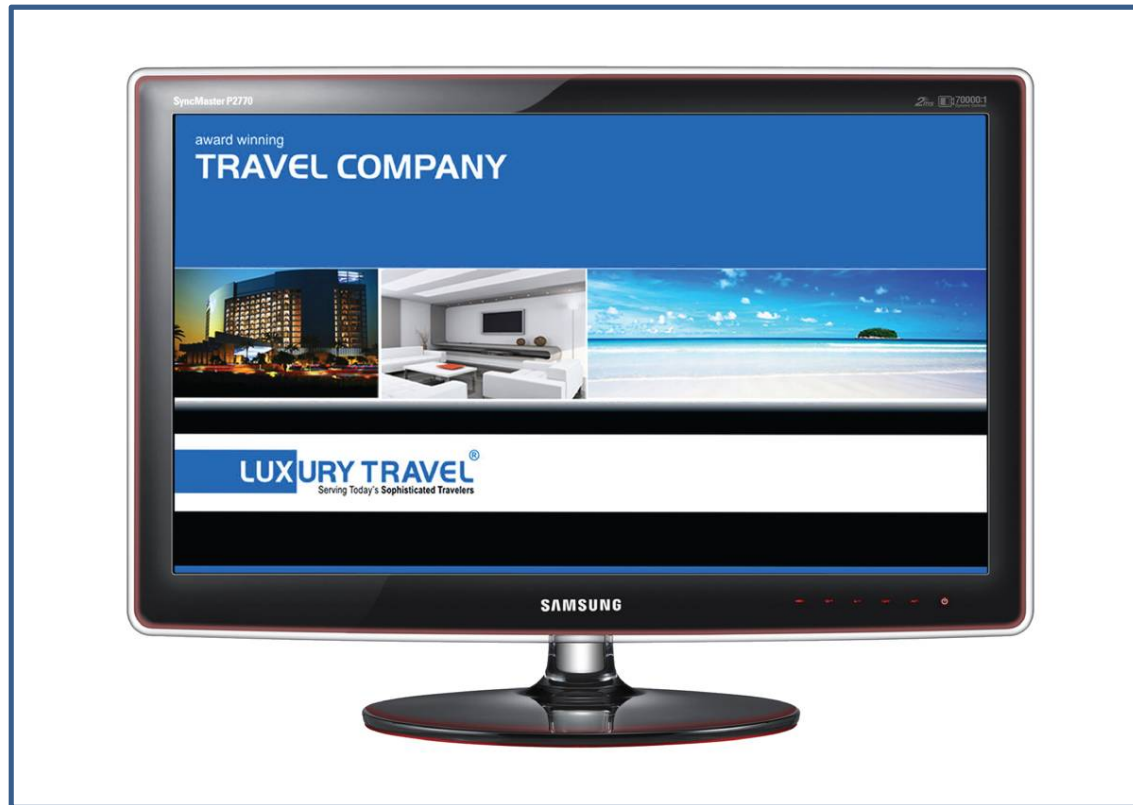
- Two important components
 - Microprocessor
 - Memory



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Input/Output Devices

- Common input devices are the **keyboard** and the **mouse**
- Common **output devices** are printers and **monitors**



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Secondary Storage

- Unlike memory, secondary storage holds data and programs even if electrical power is not available
- The most important types of secondary media are **hard disks**, **solid-state storage**, and **optical disks**



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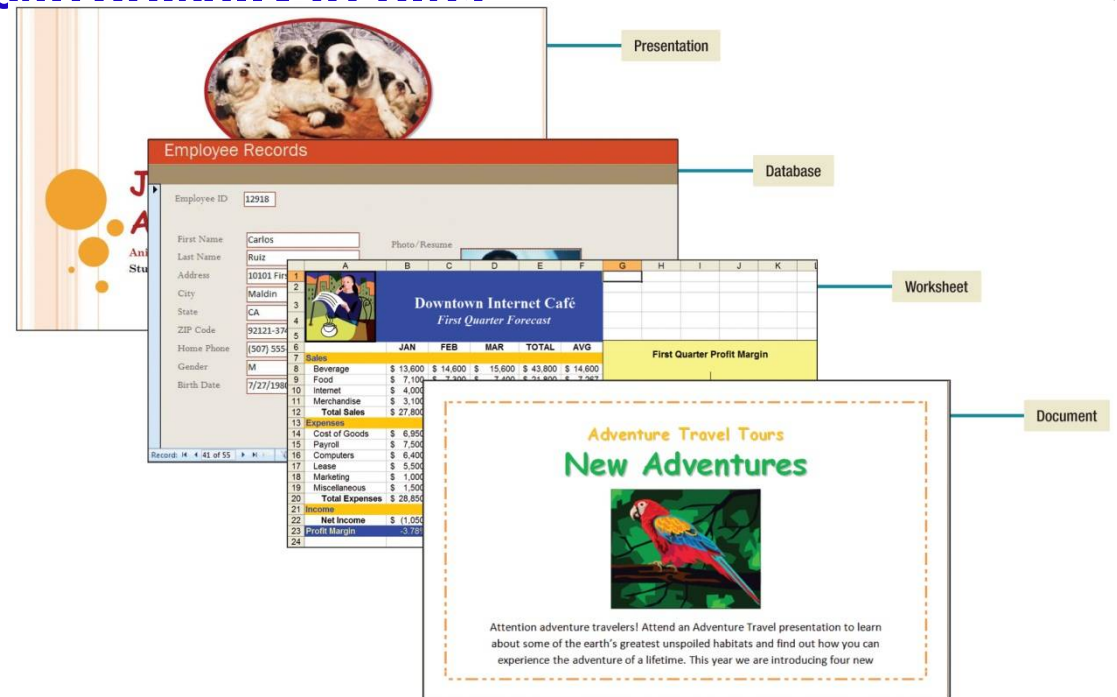
Communications

- Communication devices, such as **modems**, provide microcomputers with the ability to communicate with other computer systems across the globe
- Modems modify telephone communications into a form that can be processed by a computer
- Modems also modify computer output into a form that can be transmitted across standard telephone lines

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Data

- Raw, unprocessed facts
- Processed data becomes information
- Digital data is stored electronically in files
 - Document files
 - Worksheet files
 - Database files
 - Presentation files



Document Files

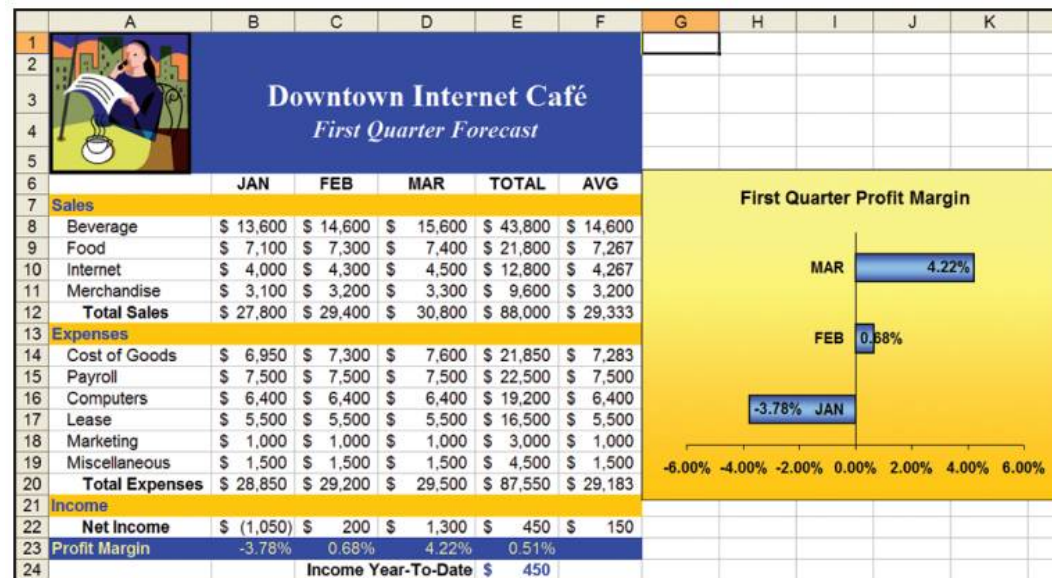
- Created by word processors to save documents such as memos, term papers, and letters



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Worksheet Files

- Created by electronic spreadsheets to analyze things like budgets and to predict sales



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Database Files

- Typically created by database management programs to contain highly structured and organized data

Employee Records

Employee ID	12918
First Name	Carlos
Last Name	Ruiz
Address	10101 First St.
City	Maldin
State	CA
ZIP Code	92121-3740
Home Phone	(507) 555-5125
Gender	M
Birth Date	7/27/1980

Photo/Resume

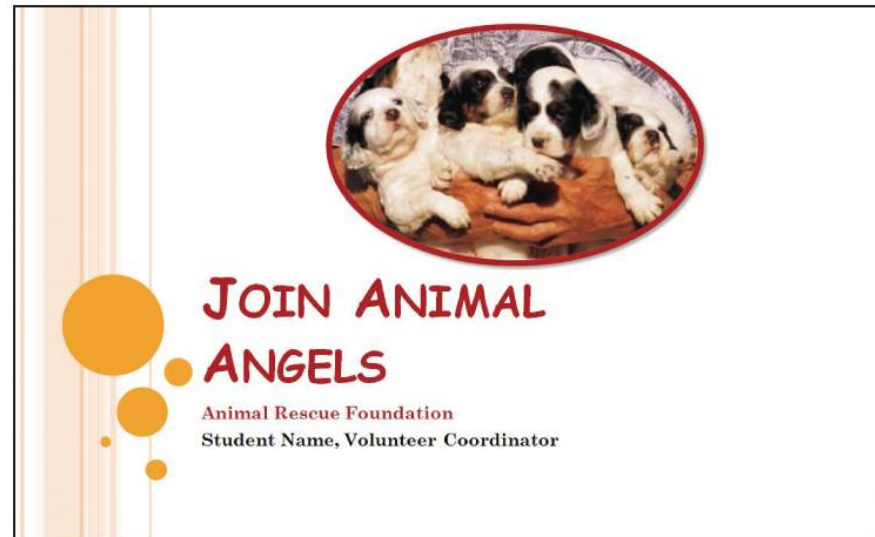


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Presentation Files

- Created by presentation graphics programs to save presentation materials. For example, a file might contain audience handouts, speaker notes, and electronic slides.



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Connectivity, the Wireless Revolution, the Internet, and Cloud Computing

- **Connectivity**
 - Sharing of information
 - Wireless communication has widespread use
- **Computer networks**
 - Connected communication system of computers
 - Largest **network** is the Internet
- **Cloud Computing**
 - Uses the Internet and the Web to shift many computer activities from a user's computer to computers on the Internet

Careers in IT

- For a complete listing of careers, visit <http://www.computing2012.com/> keyword: careers

Career	Description
Webmaster	Develops and maintains Web sites and Web resources. See page xx.
Computer trainer	Instructs end users on the latest software or hardware. See page xx.
Desktop publisher	Creates and formats publication-ready books, magazines, newsletters, and newspapers. See page xxx.
Computer support specialist	Provides technical support to customers and other users. See page xxx.
Computer technician	Repairs and installs computer components and systems. See page xxx.
Technical writer	Prepares instruction manuals, technical reports, and other scientific or technical documents. See page xxx.
Software engineer	Analyzes users' needs and creates application software. See page xxx.
Network administrator	Creates and maintains computer networks. See page xxx.

A Look to the Future

Information Technology, Internet & You

- The Internet and the Web
- Powerful Software
- Powerful Hardware
- Security and Privacy
- Organizations
- Changing Times



Open-Ended Questions (Page 1 of 2)

- Explain the five parts of an information system.
What part do people play in this system?
- What is system software? What kinds of programs are included in system software?
- Define and compare basic and specialized application software.
 - Describe some different types of basic applications.
 - Describe some types of specialized applications.

Open-Ended Questions (Page 2 of 2)

- Describe the different types of computers.
 - What is the most common type?
 - What are the types of microcomputers?
- What is connectivity? What are wireless devices and the wireless revolution? What is a computer network? What are the Internet and the Web? What is cloud computing?

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