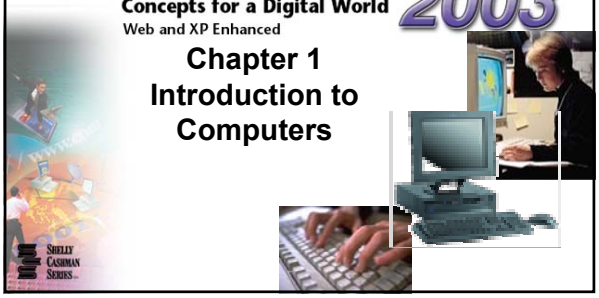
SHELLY CASHMAN SERIES

Discovering Computers 2003

Concepts for a Digital World

Web and XP Enhanced

Chapter 1 Introduction to Computers



Chapter 1 Objectives

- Explain the importance of computer literacy
- Define the term computer
- Identify the components of a computer
- Explain why a computer is a powerful tool
- Differentiate among the various types of software
- Explain the purpose of a network
- Discuss the uses of the Internet and the World Wide Web
- Describe the categories of computers and their uses
- Identify the various types of computer users
- Understand how a user can be a Web publisher

Next

p. 1.2

The Digital Revolution

Where can you find computers?

Next

p. 1.2 Fig. 1-1

- Computers are everywhere

The Digital Revolution

What is computer literacy?

- Knowledge and understanding of computers and their uses

Next

p. 1.4

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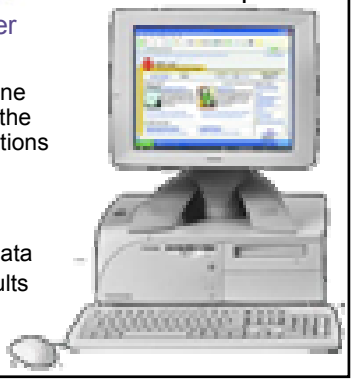
What Is a Computer?

How is a computer defined?

- Electronic machine operating under the control of instructions stored in its own memory
  - Accepts data
  - Manipulates data
  - Produces results
  - Stores results



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p. 1.4

What Is a Computer?

Data
Raw facts, figures, and symbols

Information
Data that is organized, meaningful, and useful

Next

p. 1.4 Fig. 1-2

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What Is a Computer?

Who is a user?

- Person who communicates with a computer or uses the information it generates

Next
p. 1.4

What Is a Computer?

What are hardware and software?

Hardware
Electronic and mechanical equipment

Software
Instructions that tell hardware how to perform tasks

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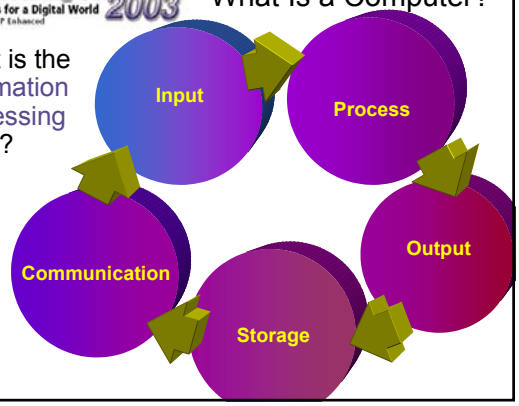
p. 1.4

What Is a Computer?

What is the information processing cycle?



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p. 1.5

The Components of a Computer

What are common computer hardware components?

Next
p. 1.5 Fig. 1-3

The Components of a Computer

What is an input device?

- Hardware used to enter data and instructions

Next
p. 1.5 Fig. 1-3

The Components of a Computer

What is an output device?

- Hardware that conveys information to a user

Next
p. 1.6 Fig. 1-3

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The Components of a Computer

What is the system unit?

- Box-like device containing electronic components connected to motherboard
- Also called a chassis

The Components of a Computer

What are two main components on the motherboard?

Central Processing Unit (CPU)

- Also called a processor
- Carries out instructions that tell computer what to do

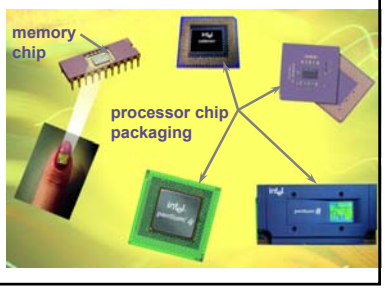
Memory

- Temporary holding place for data and instructions

The Components of a Computer

What is a chip?

- Device with microscopic pathways that carry electrical currents
- Attaches to motherboard



The Components of a Computer

What is storage?

- Holds data, instructions, and information for future use

Storage Medium

- Physical material on which data, instructions, and information are stored

Storage Device

- Records and retrieves items to and from a storage medium

The Components of a Computer

What are common storage devices or drives?

The Components of a Computer

What is a floppy disk?

- Thin, circular, flexible disk enclosed in rigid plastic
- A Zip® disk is a higher capacity disk

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The Components of a Computer

What is a hard disk?

- Provides much greater storage capacity than a floppy disk

Next
p. 1.7 Fig. 1-6 & 7

The Components of a Computer

What is a compact disc?

- Portable storage media
  - CD-ROM
  - CD-RW
  - DVD-ROM
  - DVD+RW

Next
p. 1.8 Fig. 1-8

The Components of a Computer

What is miniature storage media?

- Portable, thin, credit card size memory
- Used in digital cameras and handheld computers

Next
p. 1.8 Fig. 1-9

The Components of a Computer

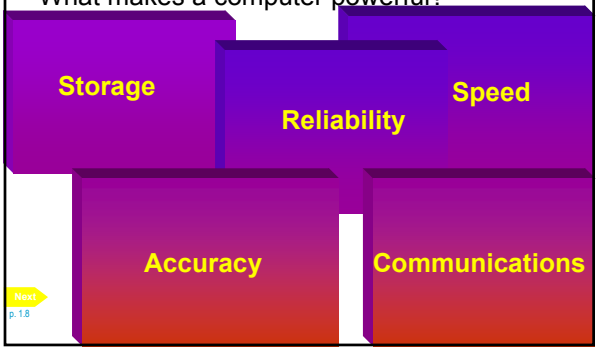
What is a communications device?

- Establishes a connection between two computers using cable, telephone lines, and satellites
- One type is a modem

Next
p. 1.8 Fig. 1-3

Why Is a Computer So Powerful?

What makes a computer powerful?



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Computer Software

What is a computer program?

- A series of instructions that tells the computer what to do

```
*   COMPUTE REGULAR TIME PAY
    MULTIPLY REGULAR-TIME-HOURS BY HOURLY-PAY-RATE
        GIVING REGULAR-TIME-PAY.

*   COMPUTE OVERTIME PAY
    IF OVERTIME-HOURS > 0
        COMPUTE OVERTIME-PAY = OVERTIME-HOURS * 1.5 * HOURLY-PAY-RATE
    ELSE
        MOVE 0 TO OVERTIME-PAY.

*   COMPUTE GROSS PAY
    ADD REGULAR-TIME-PAY TO OVERTIME-PAY
        GIVING GROSS-PAY.

*   PRINT GROSS PAY
    MOVE GROSS-PAY TO GROSS-PAY-OUT.
    WRITE REPORT-LINE-OUT FROM DETAIL-LINE
        AFTER ADVANCING 2 LINES.
```

Next
p. 1.10

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Computer Software

What happens when you run a program from a CD-ROM?

Step 1: Insert the CD-ROM into the CD-ROM drive

Step 2: Instruct the computer to run the program

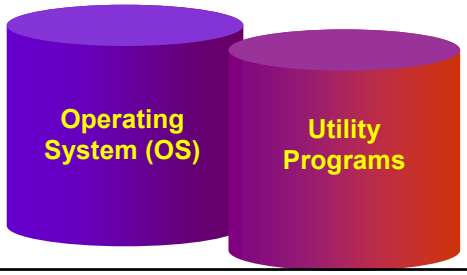
Step 3: The program executes

Next
p. 1.11 Fig. 1-12

Computer Software

What is system software?

- Programs that control the operations of the computer and its devices



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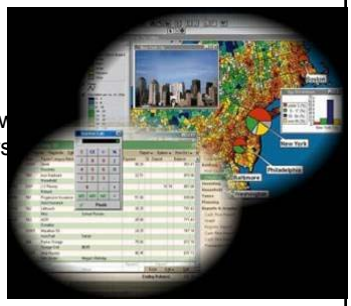
Computer Software

What is the user interface?

- Controls how you enter data and commands and how information displays



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Computer Software

What is a graphical user interface (GUI)?

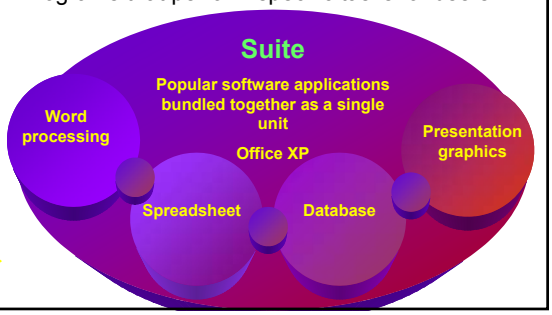
- Uses visual images such as icons
  - Icon represents program, instruction, or some other object

Next
p. 1.12 Fig. 1-13

Computer Software

What is application software?

- Programs that perform specific tasks for users



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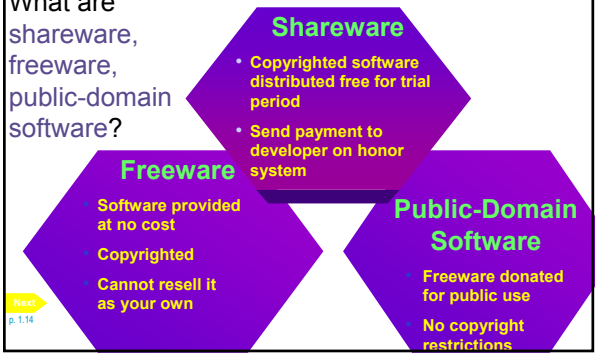
Computer Software

What are shareware, freeware, public-domain software?



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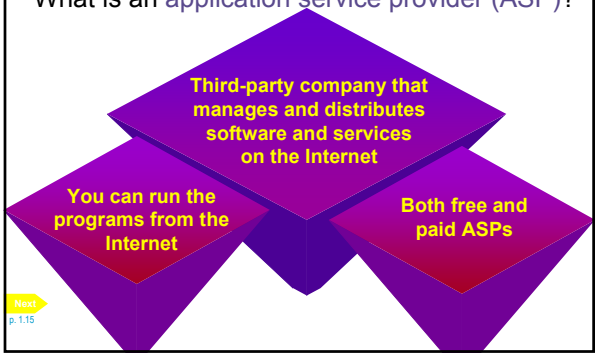
Computer Software

What is an application service provider (ASP)?



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p. 1.15

Computer Software

Who designs and writes software?

- Systems analyst
- Programmer

Next
p. 1.15

Networks and the Internet

What is a network?

- Collection of computers and devices connected together

Communications Device
- Modem

Communications Media
- Cables
- Telephone lines
- Cellular radio
- Satellites

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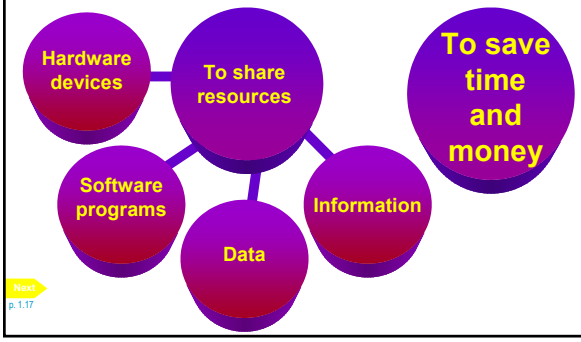
p. 1.16

Networks and the Internet

What are the reasons to network?



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p. 1.17

Networks and the Internet

What is a local area network (LAN)?

- Network that connects computers in a limited geographic area

Next
p. 1.16 Fig. 1-16

Networks and the Internet

What is a wide area network (WAN)?

- Network that covers large geographical area

Next
p. 1.16 Fig. 1-17

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Networks and the Internet

What is the Internet?

- Worldwide collection of networks that links millions of computers together

Next
p. 1.17

Networks and the Internet

Why do users access the Internet?

- E-mail
- Information
- Shopping
- Meeting people
- Entertainment

Next
p. 1.17 Fig. 1-18

Networks and the Internet

How do users connect to the Internet?

Internet Service Provider (ISP)
Provides access to the Internet

Online Service Provider (OSP)
Provides access to the Internet and specialized services
(AOL and MSN)

Next
p. 1.18

Networks and the Internet

What is the World Wide Web (WWW)?

- Billions of documents, called Web pages, linked together on computers throughout the world

Web site
Collection of related Web pages

Web page
Contains text, graphics, sound, or video and links to other Web pages

Web browser
Program used to access and view Web pages

Next
p. 1.18

Networks and the Internet

How do you connect to Internet and display a Web page?

1: Use computer to make a local telephone call to an online service provider
2: Use browser such as Internet Explorer to display a Web page
3: Enter the address of the Web site
4: The Web browser locates the Web site and displays the Web page

Next
p. 1.18 Fig. 1-19

Categories of Computers

What are the categories of computers?

CATEGORIES OF COMPUTERS

Category	Physical size	Number of simultaneously connected users	General price range
Personal computer (desktop or notebook)	Fits on a desk or on your lap	Usually one, or many networked	Several thousand dollars or less
Handheld computer	Fits in your hand	Usually one	Several hundred dollars or less
Internet appliance	Fits on a countertop	Usually one	Several hundred dollars or less
Mid-range server	Small cabinet	Two to thousands	$5,000 to $850,000
Mainframe	Partial room to a full room of equipment	Hundreds to thousands	$300,000 to several million dollars
Supercomputer	Full room of equipment	Hundreds to thousands	Several million dollars and up

Next
p. 1.19 Fig. 1-20

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Personal Computers

What are the two most popular series of personal computers?

Apple Macintosh uses the Macintosh operating system (Mac OS)

PC and compatibles use the Windows operating system

Next

p. 1.19 Fig. 1-21 & 22

Personal Computers

What is a notebook computer?

- Portable, small enough to fit on your lap
- Also called a laptop
- Generally more expensive than a desktop computer

Next

p. 1.22 Fig. 1-26

Handheld Computers

What is a handheld computer?

- Small computer that fits in your hand
- Also called a palmtop or pocket computer

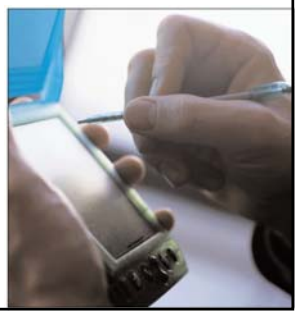
Next

p. 1.23 Fig. 1-27

Handheld Computers

How do you input data with a handheld computer?

- Keyboard
- Stylus
- Speech recognition
- Handwriting recognition



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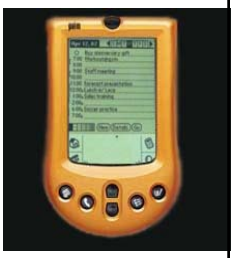
p. 1.23 Fig. 1-28

Handheld Computers

What is a personal digital assistant (PDA)?

- Provides personal organizer functions
  - Calendar
  - Appointment book
  - Address book
  - Calculator
  - Notepad



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Handheld Computers

What are Web-enabled handheld computers?

- Allow wireless Internet access

Next

p. 1.24 Fig. 1-29

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Internet Appliances

What is an Internet appliance?

- Computer whose main purpose is to connect to Internet from home
- Web TV is one example

Next
p. 1.24 Fig. 1-30

Elements of an Information System

What are information system elements?

- Hardware
- Software
- Data
- People
- Procedures

Next
p. 1.27 Fig. 1-35

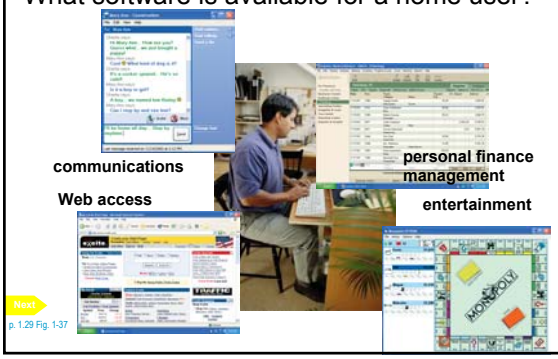
Examples of Computer Usage

What are five categories of computer users?

Next
p. 1.28 Fig. 1-36

Examples of Computer Usage

What software is available for a home user?



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p. 1.29 Fig. 1-37

Examples of Computer Usage

What software is available for a small office/home office (SOHO) user?

- Local area network (LAN)
- Productivity software
- Specialty software
- Web usage
- E-mail
- E-commerce

Next
p. 1.31 Fig. 1-39

Examples of Computer Usage

What is available for a mobile user?

- Hardware
  - Notebook computers
  - Handheld computers
  - Web-enabled cellular telephones
- Software
  - Productivity
  - Presentation

Next
p. 1.32 Fig. 1-40

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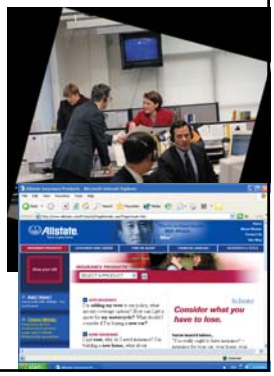
Examples of Computer Usage

What are the needs of the large business user?

- Network
- Sales management
- Accounting
- Desktop publishing
- Information systems department
- Productivity software
- Scheduling
- Web access
- Telecommuting



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p. 1.33 Fig. 1-41

Examples of Computer Usage

What are the needs of a power user?

- Speed and large amounts of storage
- Types of power users
  - Engineers
  - Architects
  - Desktop publishers
  - Graphic artists

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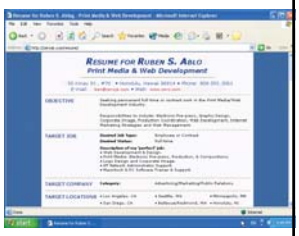
p. 1.35 Fig. 1-45

Computer User as a Web Publisher

Why do users publish Web pages?

- Family information
- Resume online
- Electronic storefront
- Photo communities



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p. 1.36 Fig. 1-46

Summary of Introduction to Computers

- The digital revolution
- What is a computer?
- The components of a computer
- Why is a computer so powerful?
- Computer software
- Networks and the Internet
- Categories of computers
- Personal computers

(continued)

Next

Summary of Introduction to Computers (cont'd)

- Handheld computers
- Internet appliances
- Elements of an information system
- Examples of computer usage
- Computer user as a Web publisher

Chapter 1 Complete

Next

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