

**Discovering Computers**  
Concepts for a Digital World **2003**  
Web and XP Enhanced

## Chapter 1 Objectives

Explain the importance of computer literacy

Explain the purpose of a network

Define the term computer

Discuss the uses of the Internet and the World Wide Web

Identify the components of a computer

Describe the categories of computers and their uses

Explain why a computer is a powerful tool

Identify the various types of computer users

Differentiate among the various types of software

Understand how a user can be a Web publisher

Next p. 12

**Discovering Computers**  
Concepts for a Digital World **2003**  
Web and XP Enhanced

## The Digital Revolution

### Where can you find computers?

• Computers are everywhere

Next p. 12 Fig. 1-1

**Discovering Computers**  
Concepts for a Digital World **2003**  
Web and XP Enhanced

## The Digital Revolution

### What is computer literacy?

- Knowledge and understanding of computers and their uses

Next p. 14

**Discovering Computers**  
Concepts for a Digital World **2003**  
Web and XP Enhanced

## 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

Next p. 14

**Discovering Computers**  
Concepts for a Digital World **2003**  
Web and XP Enhanced

## What Is a Computer?

**Data**  
Raw facts, figures, and symbols

**Information**  
Data that is organized, meaningful, and useful


Next p. 14 Fig. 1-2

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## What Is a Computer?

Who is a **user**?

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



**Next**  
p. 14

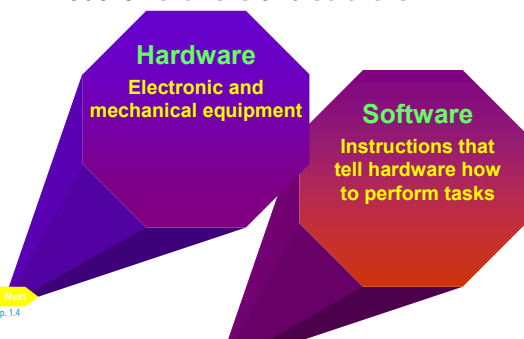
**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## What Is a Computer?

What are **hardware** and **software**?

**Hardware**  
Electronic and mechanical equipment

**Software**  
Instructions that tell hardware how to perform tasks

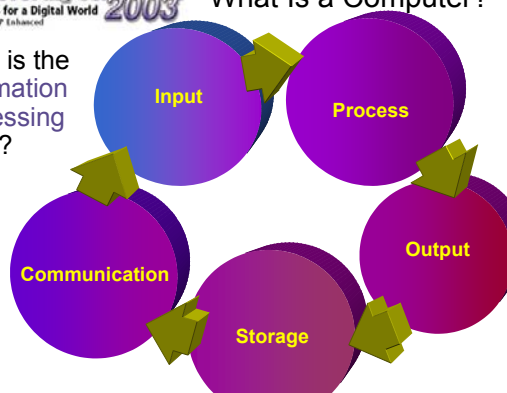


**Next**  
p. 14

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## What Is a Computer?

What is the **information processing cycle**?



**Next**  
p. 15

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## The Components of a Computer

What are common computer hardware components?




**Next**  
p. 15 Fig. 1-3

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## The Components of a Computer

What is an **input device**?

- Hardware used to enter data and instructions




**Next**  
p. 15 Fig. 1-3

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## The Components of a Computer

What is an **output device**?

- Hardware that conveys information to a user



**Next**  
p. 16 Fig. 1-3

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

### The Components of a Computer

What is the **system unit**?

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

CD-RW drive  
Zip® drive  
hard disk drive (inside case)  
CD-ROM or DVD-ROM drive  
floppy disk drive

Next  
p. 18 Fig. 1-3

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

### 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

Next  
p. 18

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

### The Components of a Computer

What is a **chip**?

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

memory chip  
processor chip packaging

Next  
p. 18 Fig. 1-4

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

### 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

Next  
p. 17

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

### The Components of a Computer

What are common **storage devices or drives**?

CD-RW drive  
hard disk drive  
CD-ROM or DVD-ROM drive  
ZIP® drive  
floppy disk drive

Next  
p. 17 Fig. 1-3

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

### 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


Next  
p. 17 Fig. 1-5

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## The Components of a Computer

What is a **hard disk**?

- Provides much greater storage capacity than a floppy disk



self-contained hard disk

removable hard disk

Next  
p. 17 Fig. 1-6 & 7

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## The Components of a Computer

What is a **compact disc**?

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



Next  
p. 18 Fig. 1-8

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## The Components of a Computer

What is **miniature storage media**?

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



Memory card miniature storage media


Next  
p. 18 Fig. 1-9

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## 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



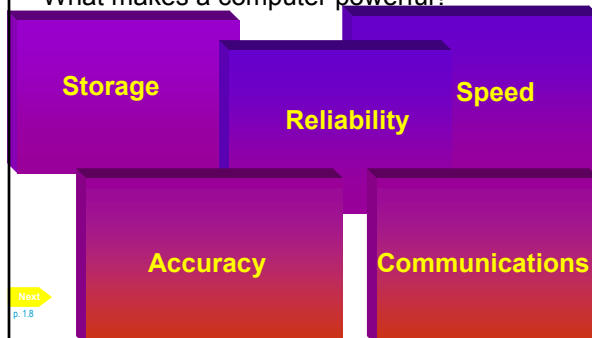
modem

Next  
p. 18 Fig. 1-3

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## Why Is a Computer So Powerful?

What makes a computer powerful?



Storage

Reliability

Speed

Accuracy

Communications

Next  
p. 18

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## 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. 10


**Discovering Computers 2003** Computer Software  
 Concepts for a Digital World  
 Web and XP Enhanced

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

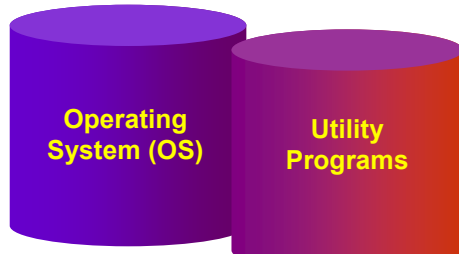


Next  
 p. 1.11 Fig. 1-12

**Discovering Computers 2003** Computer Software  
 Concepts for a Digital World  
 Web and XP Enhanced

What is system software?

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



Next  
 p. 1.12

**Discovering Computers 2003** Computer Software  
 Concepts for a Digital World  
 Web and XP Enhanced

What is the user interface?

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




Next  
 p. 1.12

**Discovering Computers 2003** Computer Software  
 Concepts for a Digital World  
 Web and XP Enhanced

What is a graphical user interface (GUI)?

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

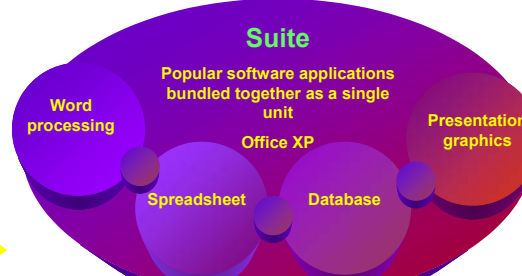


Next  
 p. 1.12 Fig. 1-13

**Discovering Computers 2003** Computer Software  
 Concepts for a Digital World  
 Web and XP Enhanced

What is application software?

- Programs that perform specific tasks for users



Next  
 p. 1.13

**Discovering Computers 2003** Computer Software  
 Concepts for a Digital World  
 Web and XP Enhanced

What are shareware, freeware, public-domain software?

- Shareware**
  - Copyrighted software distributed free for trial period
  - Send payment to developer on honor system
- Freeware**
  - Software provided at no cost
  - Copyrighted
  - Cannot resell it as your own
- Public-Domain Software**
  - Freeware donated for public use
  - No copyright restrictions

Next  
 p. 1.14

**Discovering Computers 2003** Concepts for a Digital World Web and XP Enhanced **Computer Software**

What is an application service provider (ASP)?

Third-party company that manages and distributes software and services on the Internet

You can run the programs from the Internet

Both free and paid ASPs

Next p. 1.15

**Discovering Computers 2003** Concepts for a Digital World Web and XP Enhanced **Computer Software**

Who designs and writes software?

- Systems analyst
- Programmer

Next p. 1.15

**Discovering Computers 2003** Concepts for a Digital World Web and XP Enhanced **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

Next p. 1.16

**Discovering Computers 2003** Concepts for a Digital World Web and XP Enhanced **Networks and the Internet**

What are the reasons to network?

Hardware devices

To share resources

Software programs

Data

Information

To save time and money

Next p. 1.17

**Discovering Computers 2003** Concepts for a Digital World Web and XP Enhanced **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

**Discovering Computers 2003** Concepts for a Digital World Web and XP Enhanced **Networks and the Internet**

What is a wide area network (WAN)?


- Network that covers large geographical area

Next p. 1.16 Fig. 1-17

**Discovering Computers 2003** Networks and the Internet  
 Concepts for a Digital World Web and XP Enhanced

### What is the Internet?

- Worldwide collection of networks that links millions of computers together




**Next**  
p. 1-17

**Discovering Computers 2003** Networks and the Internet  
 Concepts for a Digital World Web and XP Enhanced

### Why do users access the Internet?

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



**Next**  
p. 1-17 Fig. 1-18

**Discovering Computers 2003** Networks and the Internet  
 Concepts for a Digital World Web and XP Enhanced

### 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

**Discovering Computers 2003** Networks and the Internet  
 Concepts for a Digital World Web and XP Enhanced

### 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

**Discovering Computers 2003** Networks and the Internet  
 Concepts for a Digital World Web and XP Enhanced

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

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



**Next**  
p. 1-18 Fig. 1-19

**Discovering Computers 2003** Categories of Computers  
 Concepts for a Digital World Web and XP Enhanced

### What are the categories of computers?


**CATEGORIES OF COMPUTERS**

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

**Next**  
p. 1-19 Fig. 1-20

**Discovering Computers 2003** Concepts for a Digital World Web and XP Enhanced **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. 119 Fig. 1-21 & 22

**Discovering Computers 2003** Concepts for a Digital World Web and XP Enhanced **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. 122 Fig. 1-26

**Discovering Computers 2003** Concepts for a Digital World Web and XP Enhanced **Handheld Computers**

What is a handheld computer?

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




Next p. 123 Fig. 1-27

**Discovering Computers 2003** Concepts for a Digital World Web and XP Enhanced **Handheld Computers**

How do you input data with a handheld computer?

- ❖ Keyboard
- ❖ Stylus
- ❖ Speech recognition
- ❖ Handwriting recognition

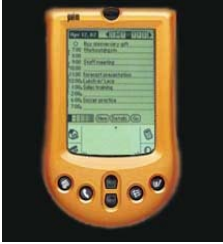


Next p. 123 Fig. 1-28

**Discovering Computers 2003** Concepts for a Digital World Web and XP Enhanced **Handheld Computers**

What is a personal digital assistant (PDA)?

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



Next p. 123

**Discovering Computers 2003** Concepts for a Digital World Web and XP Enhanced **Handheld Computers**

What are Web-enabled handheld computers?

- Allow wireless Internet access



Web-enabled two-way pager

Web-enabled cellular telephone

Web-enabled handheld computer

Next p. 124 Fig. 1-29



**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## 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. 124 Fig. 1-30

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## Elements of an Information System

What are information system elements?

- Hardware
- Software
- Data
- People
- Procedures



Next  
p. 127 Fig. 1-35

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## Examples of Computer Usage

What are five categories of computer users?



Next  
p. 128 Fig. 1-36

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## Examples of Computer Usage

What software is available for a home user?



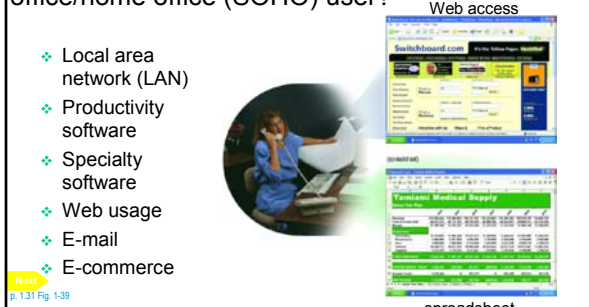
Next  
p. 129 Fig. 1-37

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## 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



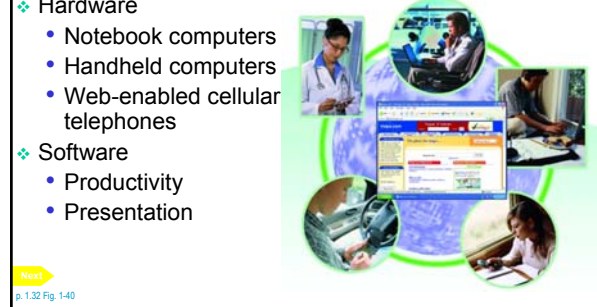
Next  
p. 131 Fig. 1-39

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

## 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. 132 Fig. 1-40

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

### 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



Next  
p. 1.33 Fig. 1-41

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

### 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



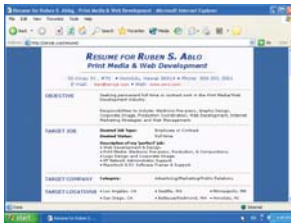
Next  
p. 1.35 Fig. 1-45

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

### Computer User as a Web Publisher

Why do users publish Web pages?

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



Next  
p. 1.36 Fig. 1-46

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

### 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

**Discovering Computers 2003**  
Concepts for a Digital World  
Web and XP Enhanced

### 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

**Get more e-books from [www.ketabton.com](http://www.ketabton.com)  
Ketabton.com: The Digital Library**