

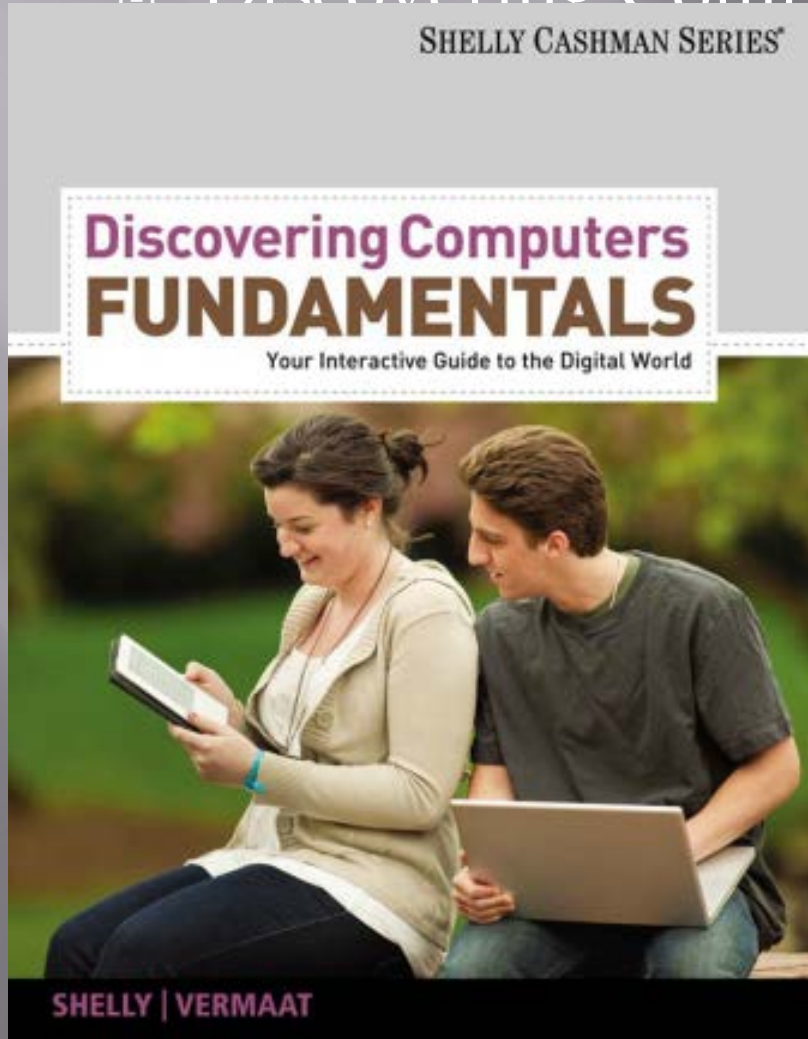
Lecture 1

INTRODUCTION TO COMPUTERS

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Reference book-

▣ Discovering Computers Fundamentals-2012



Chapter 1 Objectives

Recognize the importance of computer literacy

Identify the components of a computer

Discuss the uses of the Internet and World Wide Web

Identify the categories of software

Describe the categories of computers

Identify the types of computer users

Discuss various computer applications in society

A World of Computers

What is **computer literacy**?

- Knowledge and understanding of computers and their uses
- Computers are everywhere



What Is a Computer?

How is a **computer** defined?

- A computer is an electronic device, operating under the control of instructions stored in its own memory, that can accept data, process the data according to specified rules, produce results, and store the results for future use.

Accepts **data**

Raw facts, figures, and symbols

Processes data into **information**

Data that is organized, meaningful, and useful

Produces and stores results

Data and Information

Computers process data into information. Data is a collection of unprocessed items, which can include text, numbers, images, audio, and video. Information conveys meaning and is useful to people.

example, computers process several data items to print information in the form of a cash register receipt.

Data and Information

the form of a cash register receipt.

DATA

2 Medium Sodas	\$1.49 each
1 Small Turkey Sub	\$3.49 each
1 Caesar Salad	\$4.49 each
1 Bag of Chips	\$0.99 each
3 Cookies	\$0.39 each
Amount Received	\$20.00

PROCESSES

- Computes each item's total price by multiplying the quantity ordered by the item price (i.e., $2 * 1.49 = 2.98$).
- Organizes data.
- Sums all item total prices to determine order total due from customer (13.12).
- Calculates change due to customer by subtracting the order total from amount received ($20.00 - 13.12 = 6.88$).

INFORMATION

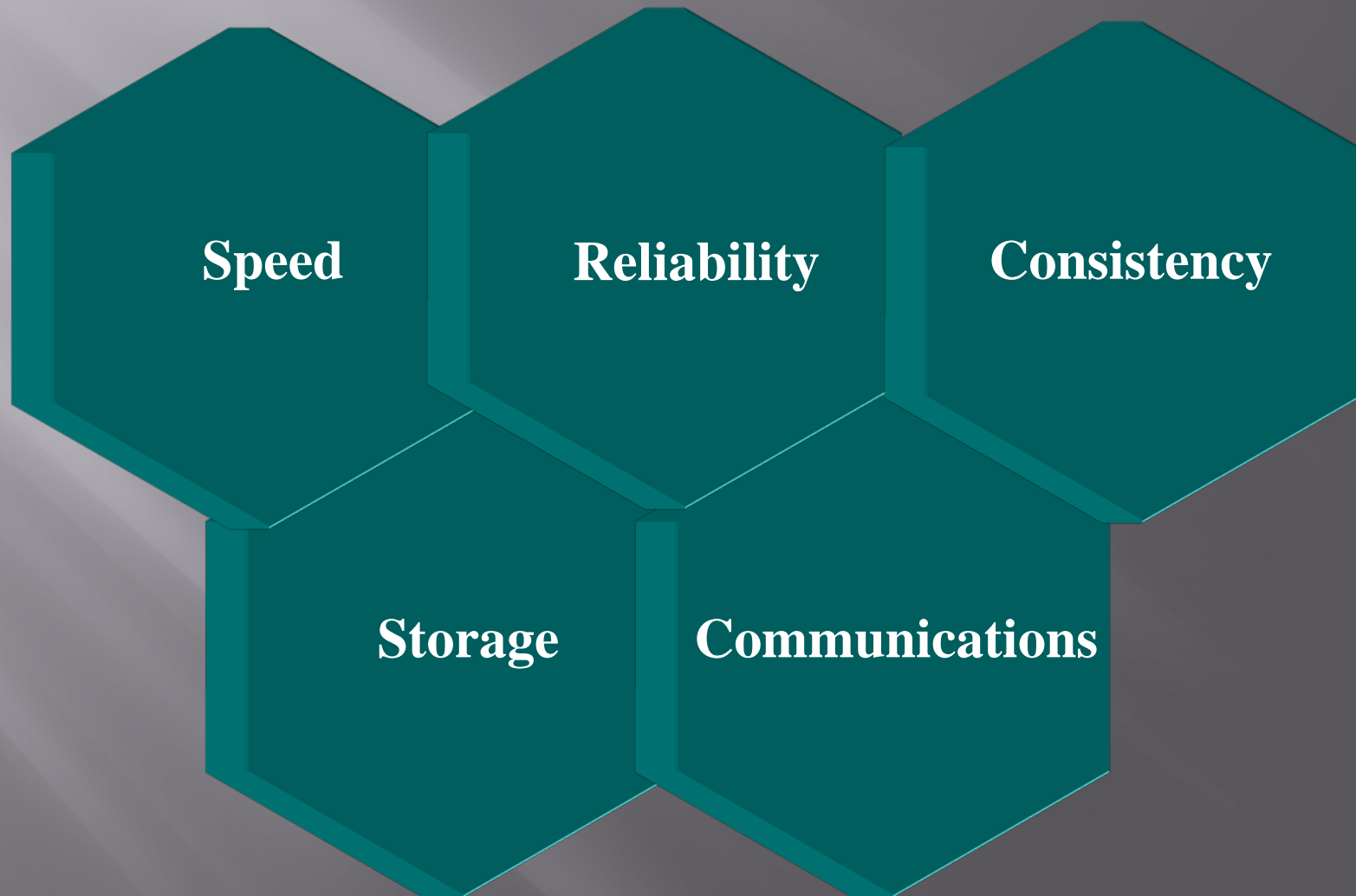
Arrow Deli
10 Park Street
Maple River, DE 20393
(734) 555-2939

QTY	ITEM	TOTAL
2	Medium Sodas	2.98
1	Small Turkey Sub	3.49
1	Caesar Salad	4.49
1	Bag of Chips	0.99
3	Cookies	1.17
Total Due		13.12
Amount Received		20.00
Change		6.88

Thank You!

Advantages and Disadvantages of Using Computers

What are the advantages of using computers?



Advantages and Disadvantages of Using Computers

What are the disadvantages of using computers?

**Violation of
Privacy**

Public Safety

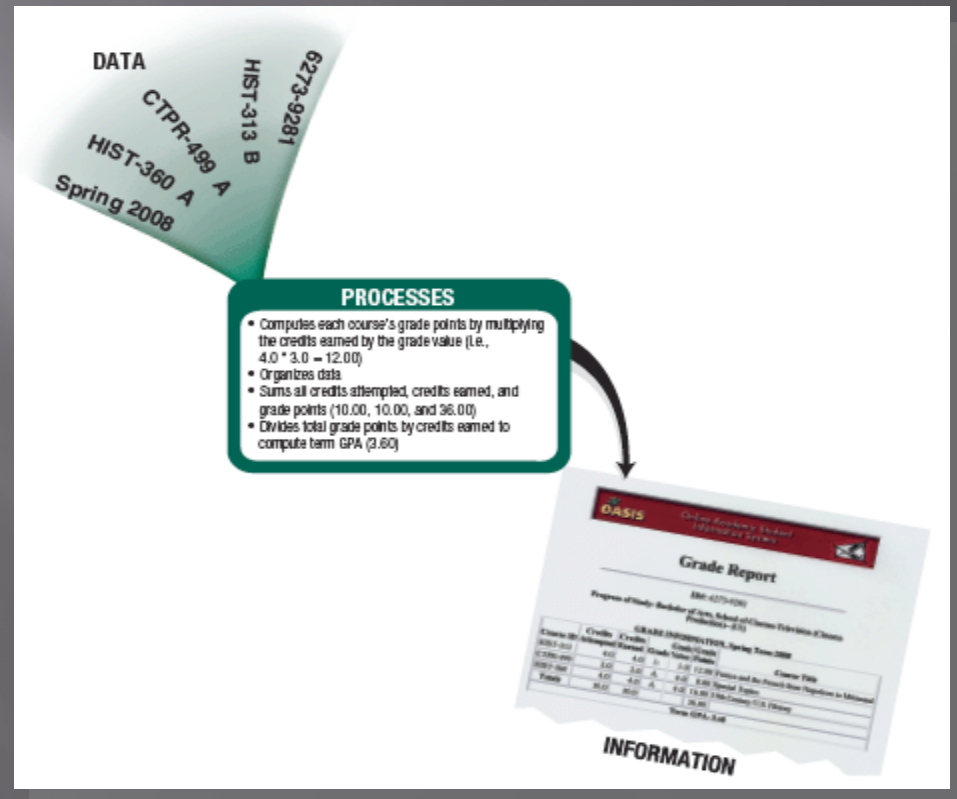
**Impact on
Labor Force**

Health Risks

**Impact on
Environment**

What is the information processing cycle?

- **Input**
- **Process**
- **Output**
- **Storage**
- **Communication**



The Components of a Computer

What is an **input device**?

- Hardware used to enter data and instructions



The Components of a Computer

What is an **output device**?

- Hardware that conveys information to one or more people



The Components of a Computer

What is the **system unit**?

- Case containing electronic components of the computer that are used to process data



The Components of a Computer

What are two main components on the motherboard?

Processor

Also called a **Central Processing Unit (CPU)**

The electronic component that interprets and carries out the basic instructions that operate the computer

Memory

Consists of electronic components that store instructions waiting to be executed and data needed by those instructions

The Components of a Computer

What is storage?

- **Holds data, instructions, and information for future use**

Storage media

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 is **storage media**?



Hard Disks

CDs

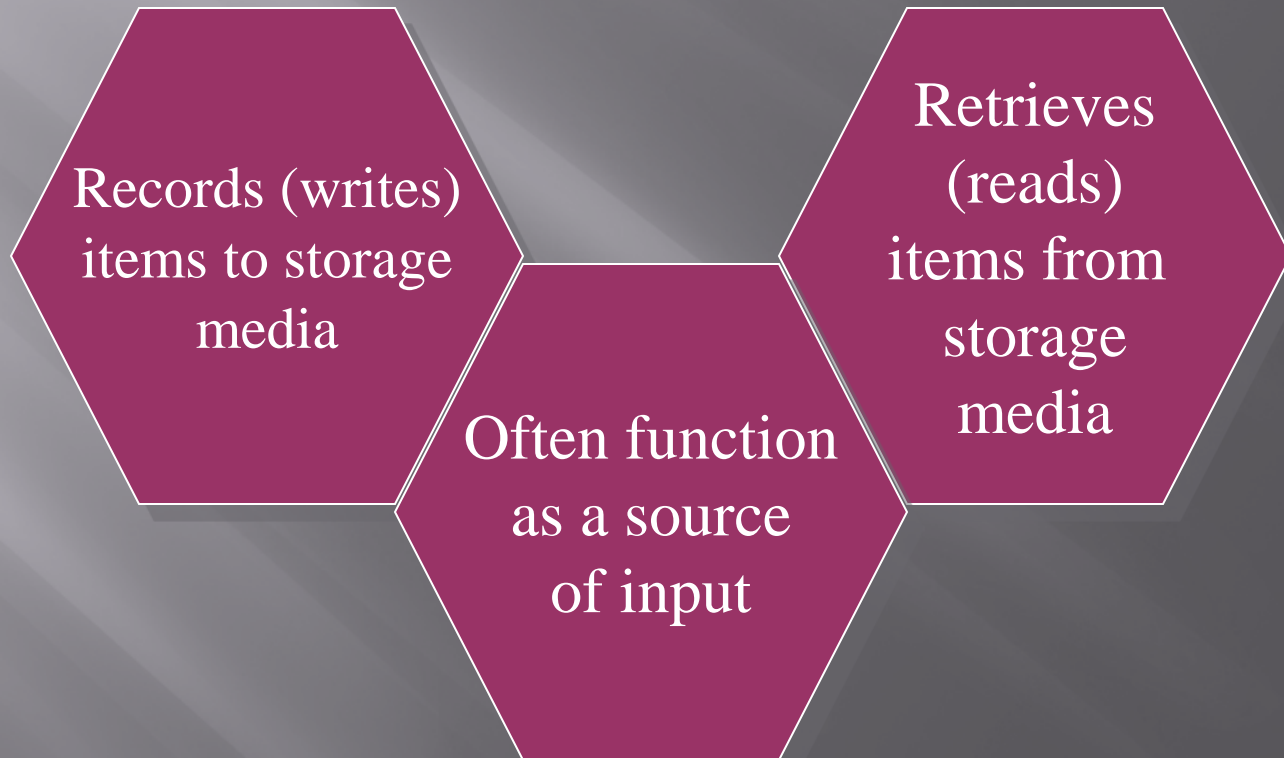
DVDs

Memory Cards

USB Flash Drives

The Components of a Computer

What is a **storage device**?



The Components of a Computer

What is a USB flash drive?

- **Portable storage device**
- **Small and lightweight enough to be transported on a keychain or in a pocket**
- **The average USB flash drive can hold about 32 million characters**

The Components of a Computer

What is a hard disk?

- Provides greater storage capacity than a USB flash drive
- Most are housed inside of the system unit

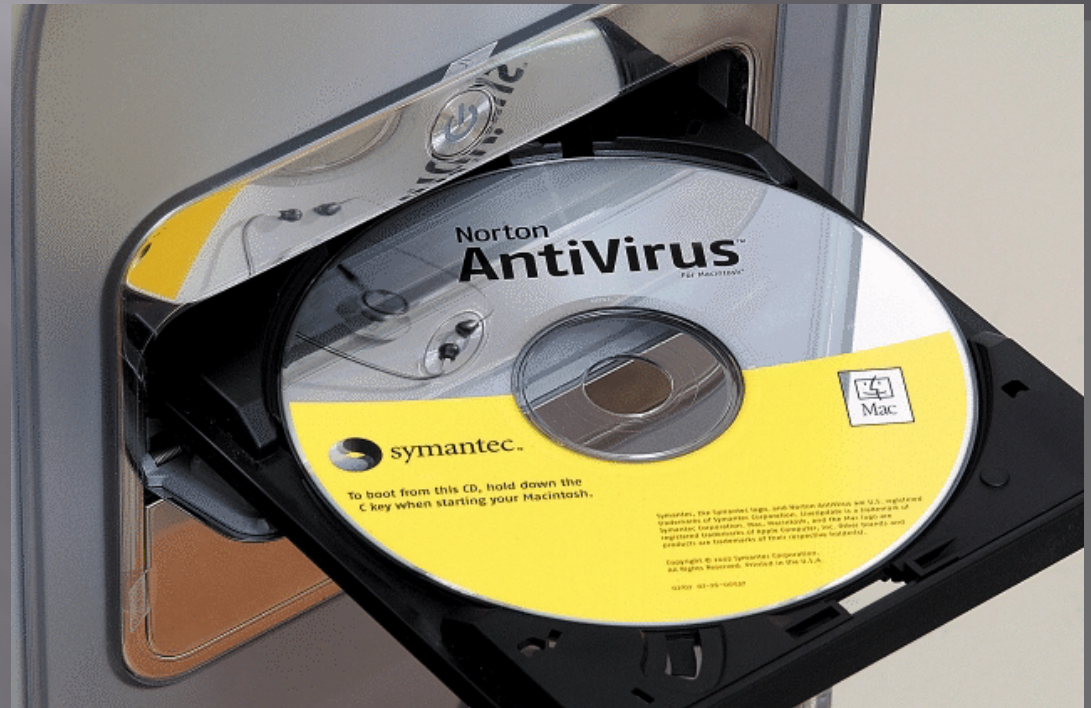


The Components of a Computer

What is a compact disc?

➤ **Flat, round, portable metal disc**

- CD-ROM
- DVD-ROM



The Components of a Computer

What is a **communications device**?

Hardware component that enables a computer to send and receive data, instructions, and information

Occurs over cables, telephone lines, cellular radio networks, satellites, and other transmission media

Networks and the Internet

- A **network** is a collection of computers and devices connected together

Used to share

Resources

Hardware
devices

Software
programs

Data

Information

**To save
time
and
money**

Networks and the Internet

What is the **Internet**?

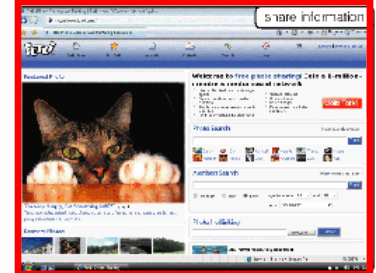
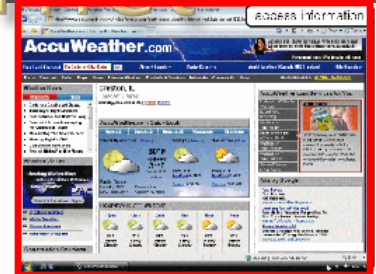
- **Worldwide collection of networks that connects millions of businesses, government agencies, educational institutions, and individuals**



Networks and the Internet

Why do users access the Internet?

1. Communications
2. Information
3. Shopping
4. Banking and Investing
5. Education
6. Entertainment
7. Download Music
8. Share Information



Networks and the Internet

What is the **Web**?

- Billions of documents, called **Web pages**, available to anyone connected to the Internet

A **Web site** is a collection of related Web pages

You can share information on a **social networking Web site**

A **podcast** is recorded audio stored on a Web site that can be downloaded

A **Web page** contains text, graphics, audio, video, and links to other Web pages

A **blog** consists of time-stamped articles in a journal format

Computer Software

What is **software**?

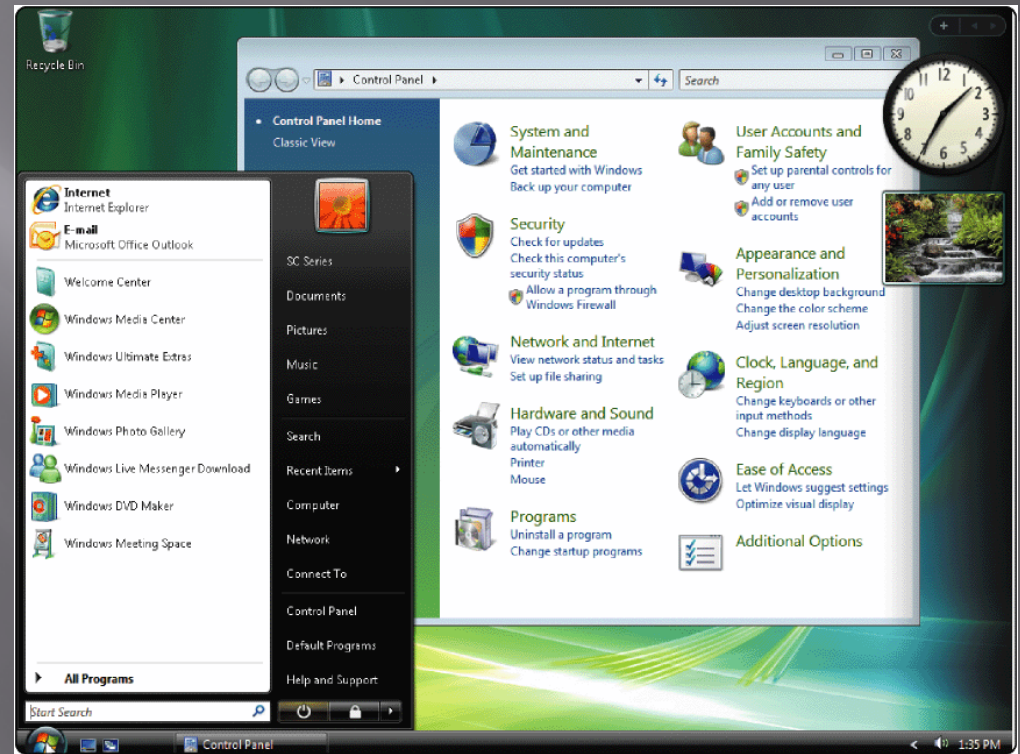
Consists of a series
of instructions that
tells the computer
what to do and
how to do it

Also called a
program

Computer Software

What is a **graphical user interface (GUI)**?

- Allows you to interact with the software using graphics and visual images such as icons
- Controls how you enter data and instructions and how the screen displays information



Computer Software

What is **system software**?

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

Operating System (OS)

is a set of programs that coordinates all activities among computer hardware devices

Utility Programs allow the user to perform maintenance-type tasks usually related to managing a computer, its devices or its programs

Computer Software

What is **application software**?

- Programs designed to make users more productive



Computer Software

How do you **install** and **run** programs?

Step 1: INSTALL

When you insert a greeting card program disc in the CD drive for the first time, the computer begins the procedure of installing the greeting card program on the hard disk.



Step 2: RUN

Once installed, you can instruct the computer to run the greeting card program. The computer transfers instructions from the hard disk to memory.

Step 3: USE

The greeting card program executes. Using this program, you can create custom greeting cards.




Computer Software

What is a **programmer**?

➤ Someone who develops application or system software

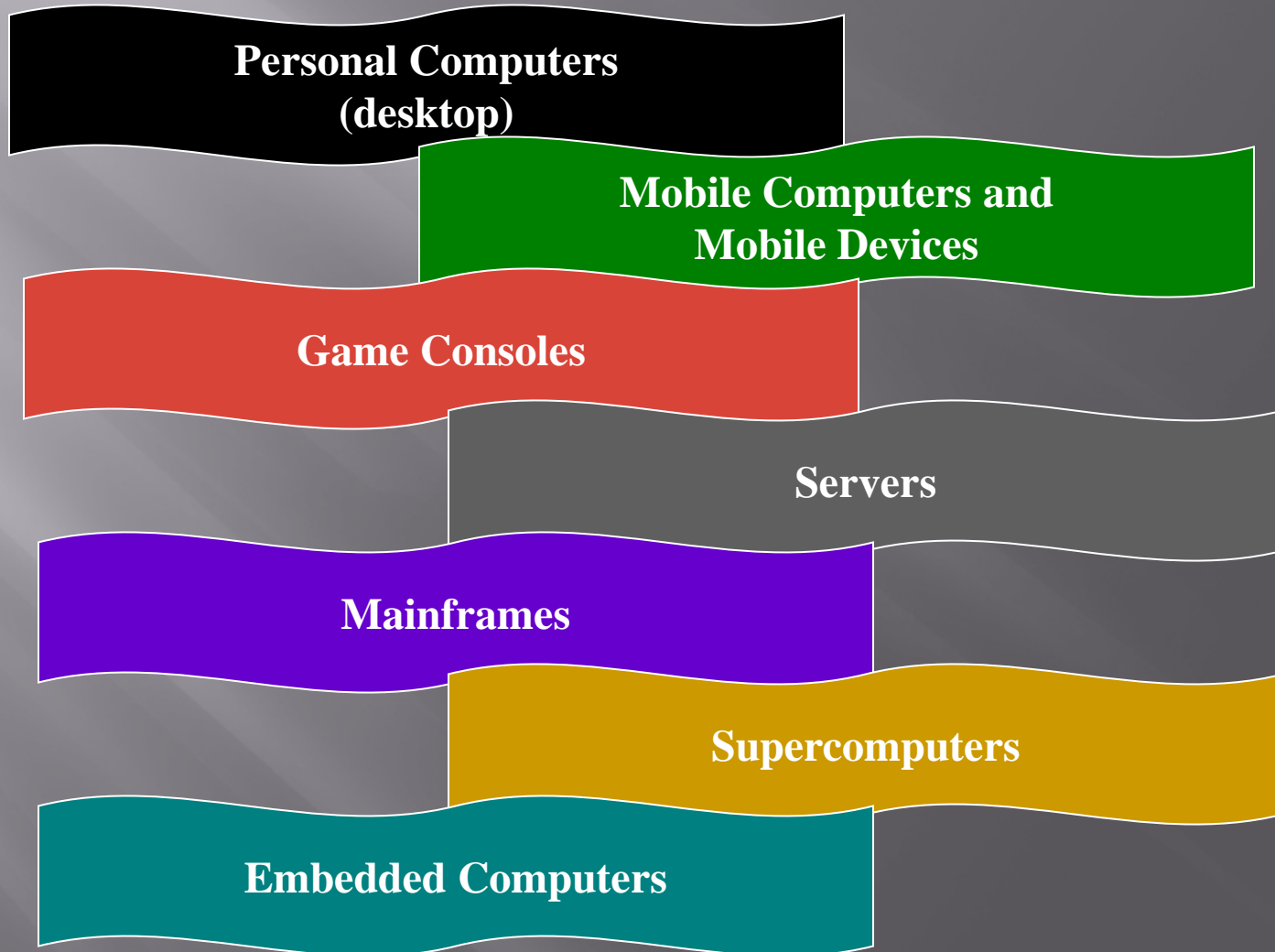
- Programmer writes the instructions to direct the computer to process data into information



```
pcworld[1] - Notepad++
File Edit Format View Help
<script src="http://www.google-analytics.com/urchin.js" type="text/javascript"></script>
<script type="text/javascript">_uacct="UA-739745-1";urchinTracker();</script>
<meta http-equiv="content-type" content="text/html; charset=iso-8859-1" />
<meta name="keywords" content="" />
<meta name="description" content="" />
<!--stopindex-->
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<script type="text/javascript" language="javascript" src="http://s.pcworld.com/script/proto"></script>
<script type="text/javascript" language="javascript" src="http://s.pcworld.com/script/main"></script>
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pcw_ad_zone="home/index";
pcw_ad_cats="";
pcw_ad_sec="";
pcw_ad_aid="";
pcw_AdOverride();
// ==>
</script>
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<script type="text/javascript" src="http://s.pcworld.com/script/dhtmlpopup.js"></script>
<!-- the pcw style sheet links MUST come AFTER the about styles -->
<link href="/style/main.css" rel="stylesheet" type="text/css" media="all" />
<link href="http://s.pcworld.com/style/pfv.css" rel="stylesheet" type="text/css" media="pr
</head>
<body>
<script type="text/javascript">document.write(pcw_AdRender("script","interstitial"));</scri
<!--WEBSIDESTORY CODE HBX2.0 (Universal)-->
<!--COPYRIGHT WEBSIDESTORY, INC. ALL RIGHTS RESERVED, U.S.PATENT No. 6,393,479B1.
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var _hbEC=0,_hbE=new Array;function _hbEvent(a,b){b=_hbE[_hbEC++]=new Object();b._N=a;b._C=
var Fbx=_hbEvent("pv");hb.x.vpc="HBX0200u";hb.x.gn="hb.pcworld.com";
```

Categories of Computers

What are the categories of computers?



Personal Computers

What are the two most popular series of **personal computers**?

- PC and compatibles use the Windows operating system
- Apple Macintosh usually uses the Macintosh operating system (Mac OS X)



Personal Computers

What is a **desktop computer**?

- Designed so all of the components fit on or under a desk or table



Mobile Computers and Mobile Devices

What is a **notebook computer**?

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



Mobile Computers and Mobile Devices

What is a **Tablet PC**?

- Resembles a letter-sized slate
- Allows you to write on the screen using a digital pen
- Especially useful for taking notes



Mobile Computers and Mobile Devices

What is a **handheld computer**?

**Small
enough to fit
in one
hand**

**Sometimes referred to
as an ultra-personal
computer (uPC), or an
Ultra-Mobile PC
(UMPC), or a handtop
computer**

Mobile Computers and Mobile Devices

What is a personal digital assistant (PDA)?

➤ **Provides personal organizer functions**

- Calendar
- Appointment book
- Address book
- Calculator
- Notepad



Mobile Computers and Mobile Devices

What are smart phones?

A smart phone is
an Internet-enabled
telephone that usually
provides PDA capabilities



Game Consoles

What are **game consoles**?

Mobile computing device designed for single-player or multiplayer video games



Servers

What types of servers are there?

A **server** controls access to network resources and provides centralized storage

Mainframe Very powerful, expensive computer that supports thousands of connected users

Supercomputer The fastest, most powerful, most expensive computer. Used for applications requiring complex mathematical calculations



Embedded Computers

What is an **embedded computer**?

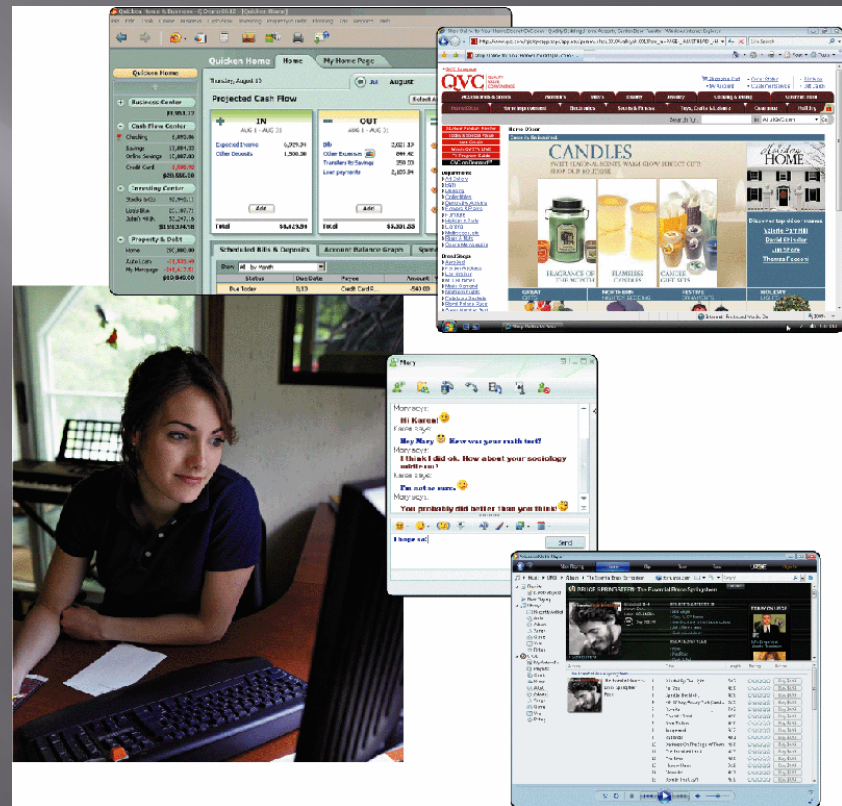
- A special-purpose computer that functions as a component in a larger product



Examples of Computer Usage

What software is available for a **home user**?

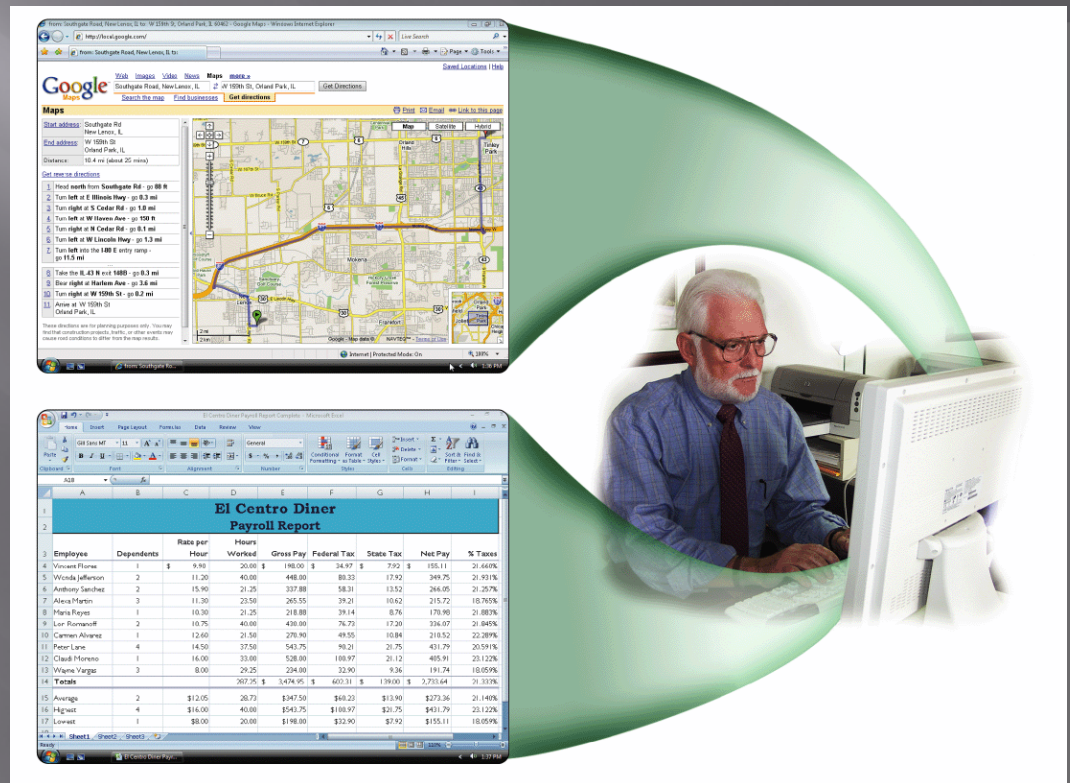
- Personal Finance Management
- Web access
- Communications
- Entertainment



Examples of Computer Usage

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

- Productivity software
- Specialty software
- Web usage
- E-mail

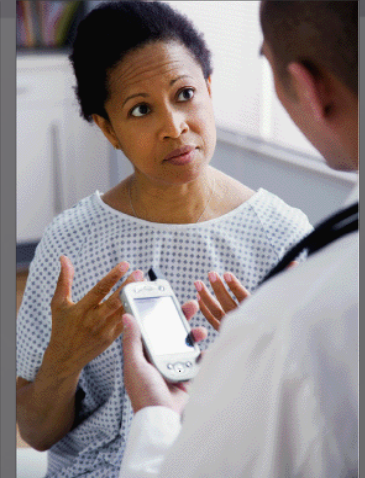
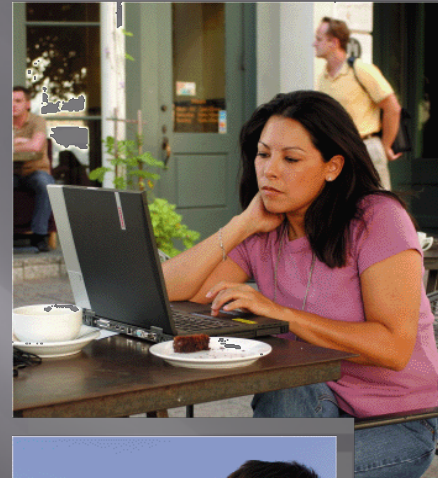


Examples of Computer Usage

What is available for a **mobile user**?

➤ Hardware

- Notebook computers
- Tablet PCs
- Internet-enabled PDAs
- Smart phone



➤ Software

- Word processing
- Spreadsheet
- Presentation graphics software

Examples of Computer Usage

What are the needs of a **power user**?

- **Extremely fast processors**
- **Types of power users**
 - Engineers
 - Scientists
 - Architects
 - Desktop publishers
 - Graphic artists



Examples of Computer Usage

What are the needs of the **large business user**?

- Payroll
- Inventory
- E-commerce
- Desktop publishing



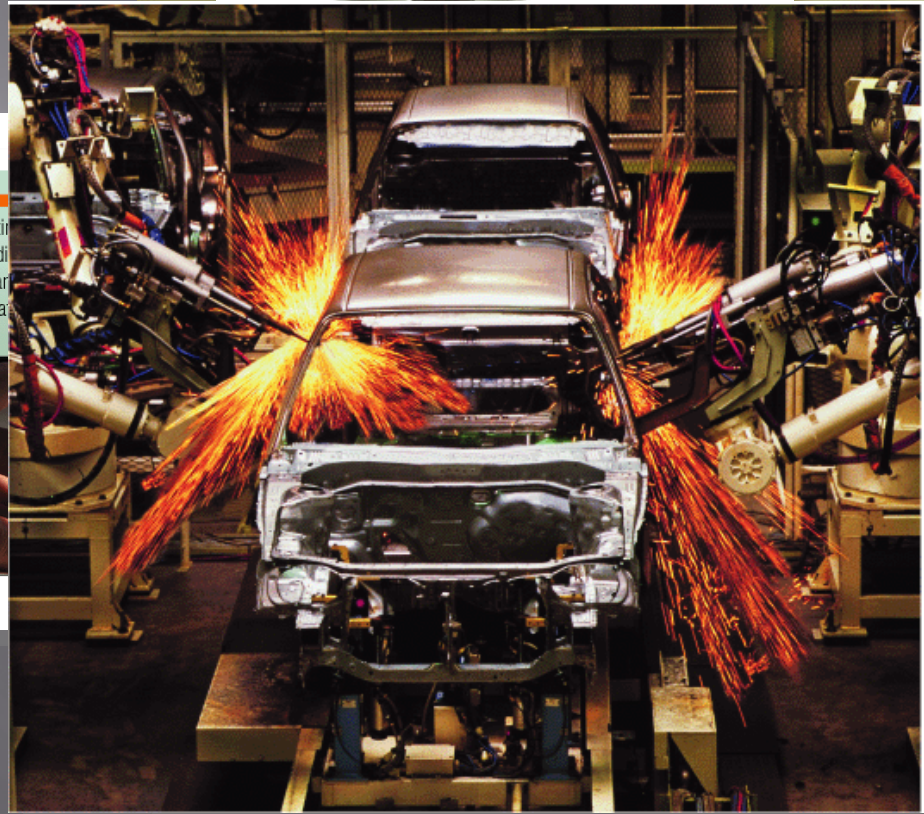
Computer Applications in Society

What are some examples of computer applications in society?

- Education
- Finance
- Government
- Health Care
- Science
- Publishing
- Travel
- Manufacturing

Step 1:

A patient swallows a tin
contains a miniature di
lights, a transmitter, an
camera is positioned at
the capsule.



a on the
ter so
lyzed.



Summary of Introduction to Computers

The computer and its components

What is a network?

The Internet

Types of software

Categories of computers

Types of computer users

Computer applications in society

Assignment 1

- Create and signup for Email account on Gmail.com
- Last day to receive your Email account is the next Thursday 12-6-2012
- Send your Email and (your name in Arabic) for my Email
it.info.networks@gmail.com

Assignment 1

- ▣ MARKING CRITERIA
- ▣ This assignment will be given marks based on the following scheme:

Criteria

Time of receive

“Any Plagiarism in any assignment will be penalized. A Zero grade will be awarded. No negotiations will be entertained.”