

計算機概論

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A World of Computers

What is **computer**?

Pronunciation: kām-'pyū-ter

Function: *noun*

Usage: *often attributive*

Date: 1646

: one that computes; *specifically* : a programmable electronic device that can store, retrieve, and process data

(Source: Merriam-Webster, <http://www.m-w.com/>)

Next >

Calculator

Subject: numbers

Manipulation: arithmetic, functions

Limited use

Modern Computer

Subject: data

> number, text, audio/visual

Manipulation: programmable

> storing, retrieving, all sorts of processing

General purpose

What Is a Computer?

How is a **computer** defined?

- > Electronic device operating under the control of instructions stored in its own memory

Accepts **data**

Raw facts, figures, and symbols

Processes data into **information**

Data that is organized, meaningful, and useful

Produces and stores results

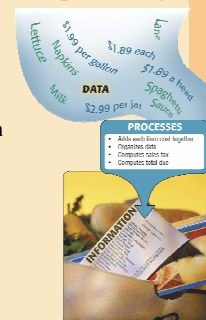
p. 1.04

Next >

What Is a Computer?

What is the **information processing cycle**?

- > Input
- > Process
- > Output
- > Storage
- > Communication



p. 1.04 Fig. 1-2

Next >

The Components of a Computer

What is an **input device**?

- Hardware used to enter data and instructions



p. 1.05 Fig. 1-3

Next >

The Components of a Computer

What is an **output device**?

- Hardware that conveys information to a user



p. 1.06 Fig. 1-3

Next >

The Components of a Computer

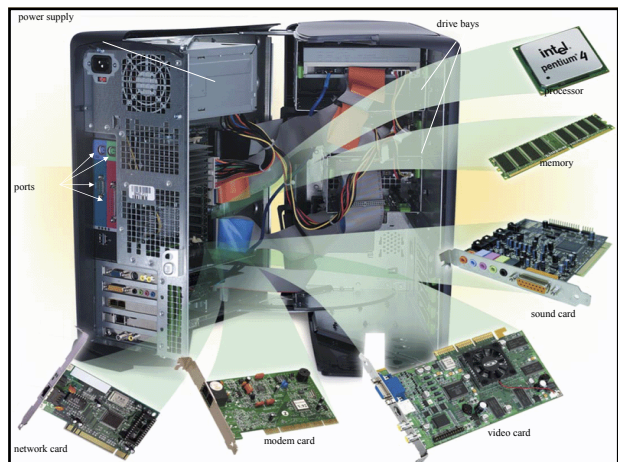
What is the **system unit**?

- Box-like case containing electronic components used to process data

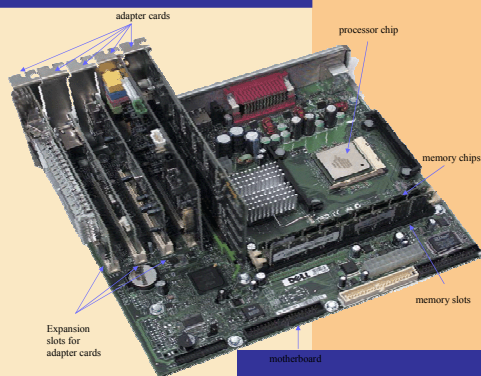


p. 1.06 Fig. 1-3

Next >



The Components of a Computer - Motherboard



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

p. 1.06

Next >

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 (e.g. CD)

Storage device

Records and retrieves items to and from a storage medium (e.g. CD-ROM)

p. 1.06

Next >

The Components of a Computer

What is a **hard disk**?

- Provides much greater storage capacity than a floppy disk or Zip® disk
- Housed inside the system unit



p. 1.07 Fig. 1-5

Next >

The Components of a Computer

What is a **compact disc**?

- Flat, round, portable metal disc
 - CD-ROM
 - CD-R
 - CD-RW
 - DVD-ROM
 - DVD+RW
 - DVD-RAM



p. 1.07 Fig. 1-6

Next >

Computer Software

How do you install a software program?

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

Step 1.
Insert the program disc into the CD-ROM drive



Step 2. Instruct the computer to run the program (setup or install)

Step 3.
The program executes

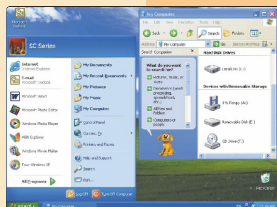
p. 1.12 Fig. 1-12

Next >

Computer Software

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

- Allows you to interact with the software using graphics and icons
- Controls how you enter data and how the screen displays information



p. 1.12 Fig. 1-13

Next >

Computer Software

What is **system software**?

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

Operating System (OS)

is a set of programs that coordinates all activities among computer hardware devices and allows users to run application software

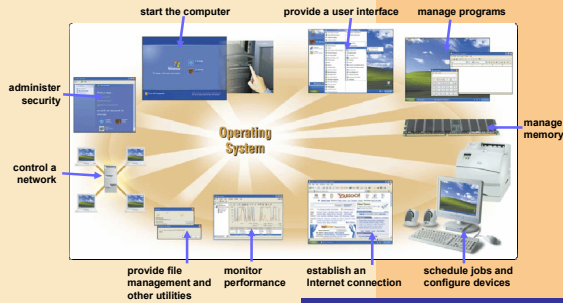
Utility Programs allow the user to perform maintenance-type tasks usually related to managing a computer, its devices or its programs

p. 1.13

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Operating Systems

What are the functions of an operating system?



p. 8.02 Fig. 8-1

Next >

Computer Software

What is application software?

- Programs that perform specific tasks for users
 - **Suite**
Popular software applications bundled together as a single unit



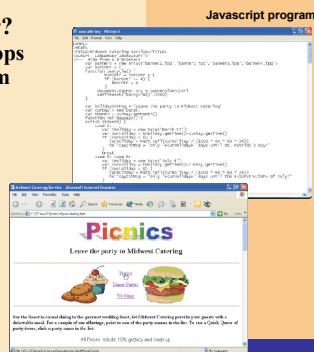
p. 1.14 Fig. 1-14

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Computer Software

What is a programmer?

- Someone who develops application or system software
 - Programmer writes instructions to direct computer to process data into information



p. 1.15 Fig. 1-15

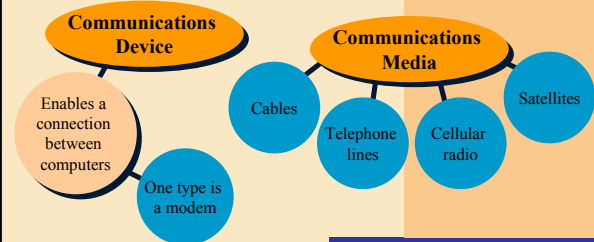
Resulting Internet application

Next >

Networks and the Internet

What is a network?

- Collection of computers and devices connected together

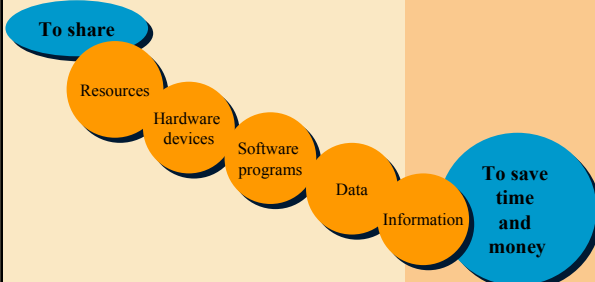


p. 1.08

Next >

Networks and the Internet

What are the reasons to network?



p. 1.08

Next >

Networks and the Internet

What is a server?

- Manages the resources on a network
- A client accesses the resources on the server



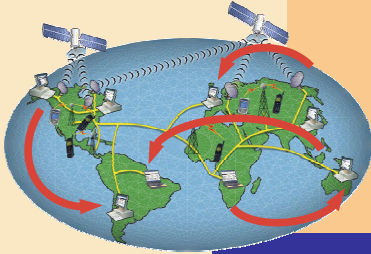
p. 1.08 Fig. 1-7

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Networks and the Internet

What is the **Internet**?

- Worldwide collection of networks that connects millions of computers



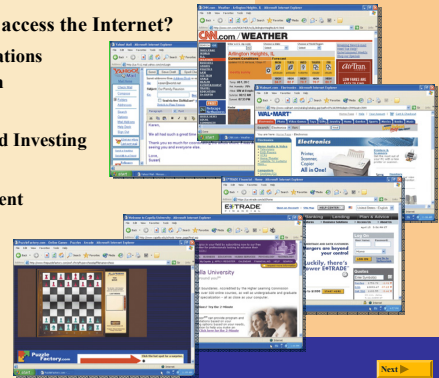
p. 1.09 Fig. 1-8

Next >

Networks and the Internet

Why do users access the Internet?

1. Communications
2. Information
3. Shopping
4. Banking and Investing
5. Classes
6. Entertainment



p. 1.10 Fig. 1-9

Next >

Networks and the Internet

What is the **World Wide Web (WWW)**?

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

A Web site is a collection of related Web pages

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

You can share information by creating Web pages or posting photos on a photo community

p. 1.11 Fig. 1-10

Next >

Categories of Computers

What are the categories of computers?

Personal computers (desktop)

Mobile computers and mobile devices

Midrange servers

Mainframe computers

Supercomputers

p. 1.16

Next >

Personal Computers

What are the two most popular series of personal computers?

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



p. 1.17 Figs. 1-17-1-18

Next >

Personal Computers

What is a **desktop computer**?

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



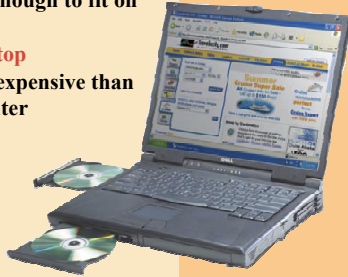
p. 1.17 Fig. 1-19

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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



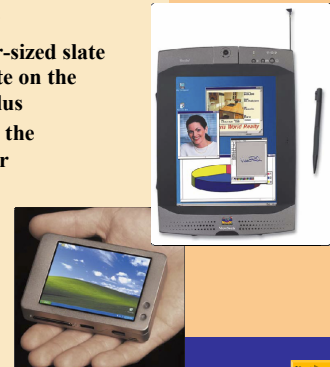
p. 1.18 Fig. 1-20

Next >

Handheld Computers

What is a **tablet PC**?

- Resembles a letter-sized slate
- Allows you to write on the screen using a stylus
- Smaller version is the **modular computer**



p. 1.18 Figs. 1-21-1-22

Next >

Handheld Computers

What is a **handheld computer**?

Small enough to fit in your hand

Used by mobile employees such as meter readers and delivery people

p. 1.19

Next >

Handheld Computers

What is a **personal digital assistant (PDA)**?

- Provides **personal organizer functions**
 - Calendar
 - Appointment book
 - Address book
 - Calculator
 - Notepad
- **Web-enabled**



p. 1.19 Fig. 1-23

Next >

Servers

What types of servers are there?

Midrange server Powerful, large computer that supports up to a few thousand computers

Mainframe Very powerful, expensive computer that supports thousands of computers

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



p. 1.20 and 1.21 Figs. 1-25-1-27

Next >

Examples of Computer Usage

What are five categories of computer users?



Home



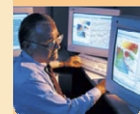
Small Office/
Home Office (SOHO)



Mobile



Large Business



Power

p. 1.23 Fig. 1-29

Next >

Examples of Computer Usage

What software is available for a home user?

- Web access
- entertainment
- communications
- personal finance management

p. 1.24 Fig. 1-30

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

p. 1.26 Figs. 1-33-1-34

Examples of Computer Usage

What is available for a mobile user?

- Hardware
- Software
 - Productivity
 - Presentation
 - Personal information manager

Web-enabled cellular phones

Notebook computers

Handheld computers

p. 1.27 Fig. 1-35

Examples of Computer Usage

What are the needs of the large business user?

- Web access
- Network Productivity software Scheduling
- Public kiosk
- Telecommuting

p. 1.28 Figs. 1-37-1-40

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

p. 1.30 Fig. 1-41

Computer Applications in Society

What are some examples of computer applications in society?

- Education
- Finance
- Government
- Healthcare
- Science
- Publishing
- Travel
- Industry

p. 1.31 Figs. 1-42-1-49

Home Work #1

購買你自己的電腦

1. 報價單 (至少兩張)

各種零組件、準系統等

2. 估價單 (蓋店章)

CPU、memory、motherboard、monitor、case、HDD、
DVD/CD (-RW)、printer、network

<http://cc.ee.ntu.edu.tw/~ypchiou>