

TRƯỜNG CAO ĐẲNG NGHỀ CÔNG NGHIỆP HÀ NỘI
Chủ biên: Hứa Thị Mai Hoa



GIÁO TRÌNH
TIẾNG ANH CHUYÊN NGÀNH THIẾT KẾ ĐỒ HỌA
ENGLISH FOR GRAPHIC DESIGN
Mã số môn học: MH07



Hanoi 11/2012

LỜI NÓI ĐẦU

Giáo trình “ TIẾNG ANH CHUYÊN NGÀNH THIẾT KẾ ĐỒ HỌA” được biên soạn theo chương trình đào tạo nghề thiết kế đồ họa của tổng cục nghề, giảng dạy cho sinh viên hệ Cao đẳng nghề của trường Cao đẳng Nghề Công nghiệp Hà nội.

Học đến phần tiếng Anh chuyên ngành, sinh viên đã được học những kiến thức nhất định về nghề cũng như có một số kiến thức tiếng Anh cơ bản, do đó mục tiêu của giáo trình là:

- Phát triển những kỹ năng như: đọc hiểu, dịch các tài liệu tiếng Anh chuyên ngành thiết kế đồ họa.
- Phát triển các kỹ năng theo một hệ thống các chủ điểm gắn liền với các hoạt động chuyên ngành, đặc biệt phát triển kỹ năng đọc, dịch hiểu.
- Xây dựng và rèn luyện các kỹ năng học tập ngoại ngữ đồng thời hình thành và phát triển khả năng độc lập suy nghĩ và sáng tạo trong giao tiếp bằng tiếng Anh cho sinh viên.
- Vì đây là giáo trình chuyên ngành, trong giáo trình có nhiều tranh ảnh minh họa, chúng tôi đề nghị những trang có tranh ảnh được in màu để giáo trình tăng tính hiệu quả và giúp sinh viên nắm từ và khái niệm tốt hơn.

Cùng giúp chúng tôi biên soạn giáo trình là các giáo viên tổ môn Tiếng Anh và tổ môn Thiết kế đồ họa của nhà trường. Chắc chắn giáo trình không tránh khỏi thiếu sót. Chúng tôi mong nhận được ý kiến đóng góp để giáo trình được chỉnh sửa và ngày càng hoàn thiện hơn.

Xin trân trọng cảm ơn

Hà Nội, ngày 25 tháng 11 năm 2012

Biên soạn giáo trình

Hứa Thị Mai Hoa - Chủ biên

Tuyên bố bản quyền

Tài liệu này là loại giáo trình nội bộ dùng trong nhà trường với mục đích làm tài liệu giảng dạy cho giáo viên và học sinh, sinh viên nên các nguồn thông tin có thể được tham khảo.

Tài liệu phải do trường Cao đẳng nghề Công nghiệp Hà Nội in ấn và phát hành.

Việc sử dụng tài liệu này với mục đích thương mại hoặc khác với mục đích trên đều bị nghiêm cấm và bị coi là vi phạm bản quyền.

Trường Cao đẳng nghề Công nghiệp Hà Nội xin chân thành cảm ơn các thông tin giúp cho nhà trường bảo vệ bản quyền của mình.

Địa chỉ liên hệ:

Trường Cao đẳng nghề Công nghiệp Hà Nội.

131 – Thái Thịnh – Đống Đa – Hà Nội

Điện thoại: (84-4) 38532033

Fax: (84-4) 38533523

Website: www.hnivc.edu.vn

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TỪ VIẾT TẮT DÙNG TRONG GIÁO TRÌNH

<i>Tên đầy đủ</i>	<i>Viết tắt</i>
Central Processing Unit	CPU
Compact Disk	CD
Cathode Ray Tube	CRT
Digital Versatile Disk	DVD
Graphical User Interface	GUI
Hard Disk Drive	HDD
Modulator-Demodulator	Modem
Operating System	OS
Random Access Memory	RAM
Read Only Memory	ROM
Software Development Life Cycle	SDLC
Static Random Access Memory	SRAM
Thin Film Transistor Liquid Crystal Display	TFT-LC
World Wide Web	WWW

CHƯƠNG TRÌNH MÔN HỌC ANH VĂN CHUYÊN NGÀNH

Mã số môn học: MH07

Thời gian môn học: 120 giờ

(Lý thuyết: 60 giờ; Thực hành: 60 giờ)

I. VỊ TRÍ, TÍNH CHẤT CỦA MÔN HỌC:

- Vị trí của môn học: Môn học được bố trí sau khi học xong các môn học chung, trước các môn học và mô đun đào tạo chuyên môn nghề.
- Tính chất của môn học: Là môn học cơ sở chuyên ngành bắt buộc

II. MỤC TIÊU MÔN HỌC:

- Phát triển những kỹ năng như: đọc hiểu, dịch các tài liệu tiếng Anh chuyên ngành Thiết kế đồ họa.
- Đọc hiểu các thông báo của hệ thống và các phần mềm ứng dụng khi khai thác và cài đặt. Có số vốn từ vựng và ngữ pháp tiếng Anh đủ để tham khảo tài liệu phục vụ nghề thiết kế đồ họa.

III. NỘI DUNG MÔN HỌC:

1. Nội dung tổng quát và phân bổ thời gian:

Số TT	Tên chương, mục	Thời gian			
		Tổng số	Lý thuyết	Thực hành bài tập	Kiểm tra*
I	Hardware (phần cứng)	20	10	9	1
	Computer Architecture (kiến trúc máy tính)				
	Peripheral devices (Thiết bị ngoại vi)				
	Configurating a Computer (cấu hình một máy tính)				
II	Software (phần mềm)	20	9	9	2
	Operating systems (hệ điều hành)				
	Application programs (các phần mềm ứng dụng)				
	Utilities programs (các phần mềm tiện ích)				
	Databases (các cơ sở dữ liệu)				
III	Network (mạng máy tính)	20	9	9	2
	Local Area Network (mạng cục bộ)				
	Internet, Intranet (Internet và Intranet)				
	Communication (truyền thông)				
IV	Design graphics (thiết kế đồ họa)	60	28	27	5

	Multimedia Data (dữ liệu multimedia)				
	Computer graphics (đồ họa vi tính)				
	Fundamental Art (mỹ thuật căn bản)				
	Technical Design (thiết kế kỹ thuật)				
Cộng		120	55	55	10

**Ghi chú: Thời gian kiểm tra lý thuyết được tính vào giờ lý thuyết, kiểm tra thực hành được tính vào giờ thực hành.*

2. Yêu cầu về đánh giá hoàn thành môn học

2.1. Về kiến thức:

Được đánh giá qua bài viết, kiểm tra vấn đáp hoặc trắc nghiệm, tự luận, thực hành đạt các yêu cầu

- Nói và viết về ứng dụng máy tính trong cuộc sống hàng ngày.
- Trình bày được cấu trúc của máy tính và các chức năng của nó để có thể mua máy tính tại cửa hàng kinh doanh máy tính.
- Sử dụng các từ viết tắt khi nói về máy tính.
- Xây dựng các từ mới bằng cách sử dụng tiếp đầu ngữ, đuôi từ và ghép từ

2.2. Về kỹ năng:

Đánh giá kỹ năng thực hành của người học trong bài thực hành Anh văn đạt được các yêu cầu sau:

- Phân biệt các thiết bị ngoại vi: Bàn phím, màn hình, máy in, ổ đĩa, và các thành phần bên trong máy tính.
- Nói về mạng máy tính và ứng dụng của INTERNET
- Đọc hiểu được một số tài liệu chuyên ngành CNTT

2.3. Về thái độ:

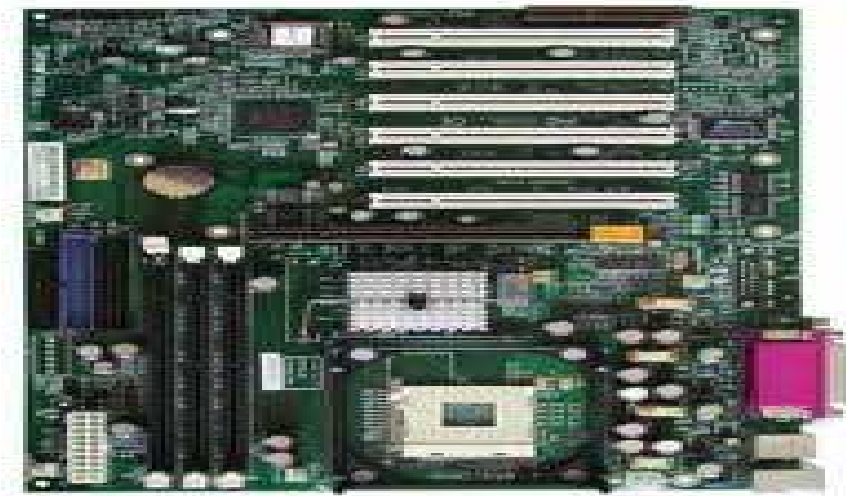
- Chăm thận, tự giác, chính xác.

Chapter 1. HARDWARE

Unit 1

COMPUTER ARCHITECTURE

I. READING COMPREHENSION



1. CPU

The **central processing unit (CPU, occasionally central processor unit)** is the hardware within a computer system which carries out the instructions of a computer program by performing the basic arithmetical, logical, and input/output operations of the system.



The CPU plays a role somewhat analogous to the brain in the computer. The term has been in use in the computer industry at least since the early 1960s.

The form, design, and implementation of CPUs have changed dramatically since the earliest examples, but their fundamental operation remains much the same.



2. Main board

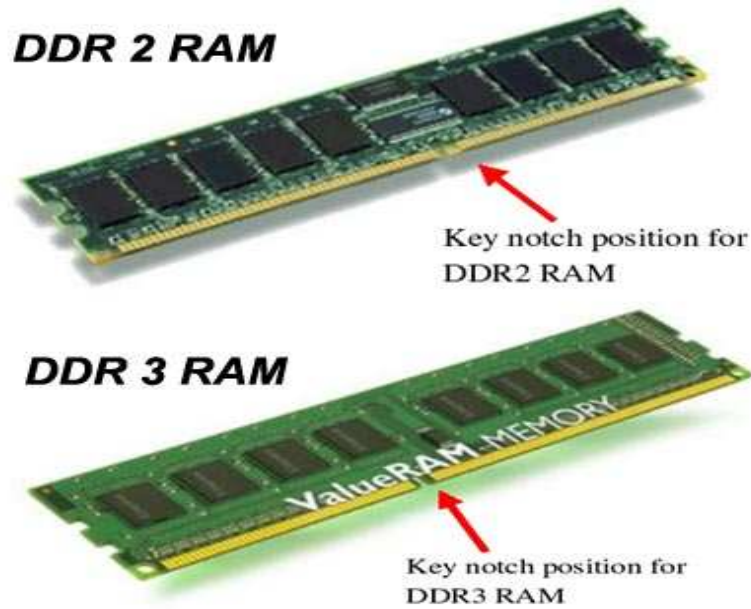
In personal computers, a **motherboard** is the central printed circuit board in many modern computers and holds many of the crucial components of the system, providing connectors for other peripherals. The motherboard is sometimes alternatively known as the **mainboard**, **system board**, **planar board** or, on Apple computers, the logic board. It is also sometimes casually shortened to **mobo**.

The term mainboard is applied to devices with a single board and no additional expansions or capability. In modern terms this would include embedded systems and controlling boards in televisions, washing

machines, etc. A motherboard specifically refers to a printed circuit board with expansion capability.



3. RAM



Random access memory (RAM) is a form of computer data storage. Today, it takes the form of integrated circuits that allow stored data to be accessed in any order with a worst case performance of constant time. Strictly speaking, modern types of DRAM are not random access, as data is read in bursts, although the name DRAM / RAM has stuck.



4. Disk drive



A **hard disk drive (HDD)**; also **hard drive**, **hard disk**, or **disk drive**) is a device for storing and retrieving digital information, primarily computer data. It consists of one or more rigid (hence "hard") rapidly rotating discs (platters) coated with magnetic material, and with magnetic heads arranged to write data to the surfaces and read it from them.



5. Monitor



A **monitor** or **display** (also called **screen** or **visual display unit**) is an electronic visual display for computers. The monitor comprises the display device, circuitry, and an enclosure. The display device in modern monitors is typically a thin film transistor liquid crystal display (TFT-LCD) thin panel, while older monitors use a cathode ray tube about as deep as the screen size.



6. Keyboard and mouse



In computing, a **keyboard** is a typewriter-style keyboard, which uses an arrangement of buttons or keys, to act as mechanical levers or electronic switches. Following the decline of punch cards and paper tape, interaction via teleprinter-style keyboards became the main input device for computers.





A **mouse** is a pointing device that functions by detecting two-dimensional motion relative to its supporting surface. Physically, a mouse consists of an object held under one of the user's hands, with one or more buttons.



UNDERSTANDING THE PASSAGE

Task 1. Answer the following questions

1. How many types of Computer architecture do we remind in this passage?
What are they?

.....

.....
2. What does the CPU perform?

.....
.....

3. How can you describe the mainboard?

.....
.....

4. What does RAM mean?

.....
.....

5. What does the monitor comprise?

.....
.....

6. What are the Hard drives?

.....
.....

7. What is a keyboard?

.....
.....

8. What does a mouse consist of?

.....
.....

Task 2. Are the following statements true or false? Correct the false sentences.

1. Computer monitors were used for entertainment.
.....

2. The mouse's motion typically translates into the motion of a pointer on a display.
.....

.....

3. Interaction via teleprinter-style monitors became the main input device for computers.
.....

.....
.....

4. ROM is often associated with volatile types of memory.

.....
5. The term CPU is applied to devices with a single board and no additional expansions or capability.

.....
.....
6. The CPU plays a role somewhat analogous to the brain in the computer.

.....
Task 3. Choose the best answer

1. Theremains the most commonly used and most versatile device used for direct (human) input into computers.

- A. motherboard B. keyboard C. a pointer D. monitors

2. The mouse's motion typically translates into the motion of..... on a display.

- A. motherboard B. keyboard C. a pointer D. monitors

3. Keyboards are the only way tocommands on a command-line interface.

- A. enter B. produce C. access D. point

4. In the distributed computing model, problemsby a distributed interconnected set of processors.

- A. are produced B. are made C. are given D. are solved

5. Other memory devices canthe storage data only in a predetermined order.

- A. enter B. produce C. access D. point

II. LANGUAGE WORK

THE PRESENT SIMPLE

FORM [VERB] + s/es in third person

Use the Simple Present to express the idea that an action is repeated or usual. The action can be a habit, a hobby, a daily event, a scheduled event or something that often happens.

Examples:

- The CPU **plays** a role somewhat analogous to the brain in the computer.

- A motherboard specifically **refers** to a printed circuit board with expansion capability.

ACTIVE / PASSIVE

- The mouse's motion typically **translates** into the motion of a pointer on a display. *ACTIVE*

- RAM **is often associated** with volatile types of memory (such as DRAM memory modules) *PASSIVE*

III. PRACTICE

Exercise 1. *Rearrange these words to make the sentences*

1. is / device /A disk /hard /drive/ storing / a /for / computer/ and/ data./ retrieving

.....

2. of / object /A/ consists/ mouse /an /held / the /under / hands./one / user's /of

.....

3. uses /A / an /keyboard /arrangement / or /of/keys./ buttons

.....

4. comprises /The/ display/ monitor /the /circuitry, and /enclosure./ device,/ an

.....

5. DRAM// types /Modern/ of / are / access./ random / not

.....

Exercise 2. *Match a word in A to the appropriate phrase in B*

A	B
1. alternative input devices	a. devices with a single board
2. Keyboards	b. a device for storing and retrieving digital information
3. a mouse	c. the mouse, touchscreen, pen devices, character recognition and voice recognition

4. RAM	d. used for computer gaming
5. hard drive	e. allows for fine control of a graphical user interface.
6. mainboard	f. information is lost if the power is removed.

Exercise 3. Read these sentences, and say what computer element they refer to. (is done for you)

1	a. consists of an object held under one of the user's hands	(mouse)
	b. functions by detecting two-dimensional motion	
2	a. hardware within a computer system	_____
	b. plays a role somewhat analogous to the brain in the computer.	
3	a. a typewriter-style keyboard	_____
	b. uses an arrangement of buttons or keys	
4	a. an electronic visual display for computers	_____
	b. comprises the display device, circuitry, and an enclosure	
5	a. a device for storing and retrieving digital information	_____
	b. consists of one or more rigid (hence "hard") rapidly rotating discs	
6	a. a printed circuit board with expansion capability.	_____
	b. devices with a single board and no additional expansions or capability	
7	a. a form of computer data storage	_____
	b. takes the form of integrated circuits	

Exercise 4. Put a word to a suitable space to complete the passage

realistic ; digital; brushes; projects; creativity
--

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the most digital painting experience. With its impressive array of_....., paper textures, paints, oils, watercolors and more, there are no limits to what you can create! And thanks to extensive file support, you can also build uponyou've started in other programs, making Painter a great complement to Adobe® Photoshop®. This latest version helps artists evolve their creative possibilities more than ever! See it for yourself with a free trial—Painter is changing what's possible in art.



Exercise 5. *Translate the sentences into Vietnamese*

1. A computer keyboard distinguishes each physical key from every other and reports all key presses to the controlling software. Keyboards are also used for computer gaming, either with regular keyboards or by using keyboards with special gaming features, which can expedite frequently used keystroke combinations.

.....
.....
.....
.....
.....

2. The mouse sometimes features other elements, such as "wheels", which allow the user to perform various system-dependent operations, or extra buttons or features that can add more control or dimensional input

.....
.....
.....
.....
3. Not all computational systems rely on a central processing unit. An array processor or vector processor has multiple parallel computing elements, with no one unit considered the "center". In the distributed computing model, problems are solved by a distributed interconnected set of processors

.....
.....
.....
.....
Exercise 6. *Translate the sentences into English*

1. Bàn phím cũng được sử dụng để ra lệnh cho hệ điều hành của máy tính, chẳng hạn như sự kết hợp tổ hợp phím "Control-Alt-Delete", sẽ đóng một cửa sổ hoặc tắt máy.

.....
.....
.....
.....
2. RAM thường được liên kết với các loại bộ nhớ dễ mất dữ liệu (chẳng hạn như các module bộ nhớ DRAM), nơi mà thông tin được lưu trữ của nó sẽ bị mất khi tắt nguồn.

.....
.....
.....
.....
3. Ổ đĩa cứng đã được coi như là các thiết bị lưu trữ dữ liệu thứ cấp trong máy tính đa dụng kể từ đầu những năm 1960.

.....
.....
Exercise 7. *Think about technological achievements then answer the questions*

1. What are some of the greatest technological achievements?

.....
2. What are the advantages of technology?

.....
3. What are the disadvantages of technology?

.....
4. In your opinion, what is the greatest technological invention? Why?

.....
5. What do you think are the three most important or interesting inventions since 1950?

.....
IV. FURTHER READING

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V. VOCABULARY

- accessed	sự truy cập
- alternatively	sự lựa chọn; Ngoài ra
- analogous	tương tự, giống nhau
- architecture	cấu trúc (máy tính)
- arithmetical	số học
- array	dãy (sắp xếp)
- Bursts	khối lỗi
- Cathode ray tube (CRT)	ống tia cathode
- circuitry	hệ mạch điện

- combination	sự phối hợp; sự tổ hợp
- constant time.	thời gian liên tục
- corresponds	tương ứng, phù hợp
- crucial	cốt yếu, chủ yếu
- Data Storage	bộ nhớ thông tin
- decline	từ chối
- detecting	khám phá ra, phát hiện ra
- dimensional	kích thước, kích cỡ
- distinguish	phân biệt
- dramatic	kịch
- embedded	được lồng vào
- enclosure	bộ tiêu âm; khoang kín
- expansion	mở rộng, phát triển
- hard disk drive	ổ đĩa cứng
- hence	Do đó, vì thế, vì vậy
- implementation	thực hiện; bổ sung
- industry	công nghiệp
- integrated circuits	Mạch tích hợp
- Main board	bảng mạch chính
- monitor	màn hình
- parallel	Song song; vĩ tuyến
- peripherals	các thiết bị ngoại vi
- performing	thực hiện
- platters	đĩa hát
- predetermined	xác định trước
- Random access memory (RAM; DRAM)	bộ nhớ truy xuất ngẫu nhiên
- remind	Nhắc nhở (ai)
- remain	còn lại
- retrieving	truy lại
- ROM (read only memory)	bộ nhớ chỉ đọc
- rotating	sự quay; sự xoay
- sequence	sự liên tiếp, sự liên tục
- simultaneously	đồng thời

- specifically Đặc trưng, riêng biệt
- SRAM (static random access memory) bộ nhớ truy cập ngẫu nhiên tĩnh
- Strictly speaking nói đúng ra
- The central processing unit (CPU) bộ xử lý trung tâm
- Thin film transistor liquid crystal display (TFT-LCD) màn hình tinh thể lỏng bóng bán dẫn
- vector processor bộ xử lý vectơ
- versatile không ổn định
- volatile thay đổi được
- visual display bộ hiển thị

Unit 2

PERIPHERAL DEVICES

I. READING COMPREHENSION



1. Printer

In computing, a printer is a peripheral which produces a text or graphics of documents stored in electronic form, usually on physical print media such as paper or transparencies. Many printers are primarily used as local peripherals, and are attached by a printer cable or, in most new printers, a USB cable to a computer which serves as a document source.



Some printers, commonly known as *network printers*, have built-in network interfaces, typically wireless or Ethernet based, and can serve as a hard copy device for any user on the network. Individual printers are often designed to support both local and network connected users at the same time.



2. Scanner

In computing, an image scanner—often abbreviated to just scanner—is a device that optically scans images, printed text, handwriting, or an object, and converts it to a digital image. Common examples found in offices are variations of the *desktop (or flatbed) scanner* where the document is placed on a glass window for scanning.



Hand-held scanners, where the device is moved by hand, have evolved from text scanning "wands" to 3D scanners used for industrial design, reverse engineering, test and measurement, orthotics, gaming and other applications. Mechanically driven scanners that move the document are typically used for large-format documents, where a flatbed design would be impractical.



3. Modems



A modem (modulator-demodulator) is a device that modulates an analog carrier signal to encode digital information, and also demodulates such a carrier signal to decode the transmitted information. The goal is to produce a signal that can be transmitted easily and decoded to reproduce the original digital data. Modems can be used over any means of transmitting analog signals, from light emitting diodes to radio

The most familiar example is a voice band modem that turns the digital data of a personal computer into modulated electrical signals in the voice frequency range of a telephone channel. These signals can be transmitted over telephone lines and demodulated by another modem at the receiver side to recover the digital data.



4. Plotters

The plotter is a computer printer for printing vector graphics. In the past, plotters were used in applications such as computer-aided design, though they have generally been replaced with wide-format conventional printers. It is now commonplace to refer to such wide-format printers as "plotters," even though they technically are not.

Pen plotters print by moving a pen or other instrument across the surface of a piece of paper. This means that plotters are restricted to line art, rather than raster graphics as with other printers. Pen plotters can draw complex line art, including text, but do so slowly because of the mechanical movement of the pens. They are often incapable of efficiently creating a solid region of color, but can hatch an area by drawing a number of close, regular lines.



UNDERSTANDING THE PASSAGE

Task 1. *Answer the following questions*

1. How many types of peripheral devices do we remind in this passage?
What are they?

.....
.....

2. What is the printer?

.....
.....

3. How can you describe the scanner?

.....
.....

4. What do modems mean?

.....
.....

5. What are the plotters?

.....
.....

6. What can pen plotters draw?

.....
.....

Task 2. *Are the following sentences true or false? Correct the false sentences.*

1. Some printers have built-in network interfaces, typically wireless or Ethernet based, and can serve as a hard copy device for any user on the network.

.....
.....

2. Individual printers are often designed to support only local because of their security.

.....
.....

3. Pen plotters are restricted to line art, rather than raster graphics as with other printers.

.....
.....

4. Pen plotters can draw simple line text, but do so slowly because of the mechanical movement of the pens.

5. The goal of modems is to eliminate signal that is transmitted easily and decoded to reproduce the original digital data.

6. Mechanically driven scanners that move the document are typically used for large-format documents, where a flatbed design would be impractical.

Task 3. Choose the best answer

1. The plotters were used insuch as computer-aided design.
A. document B. applications C. region D. images
2. The printers are used to attach by a USB cable to a computer which serves as a ...source.
A. applications B. images C. document D. region
3. The signals can be transmitted over telephone lines and demodulated by anotherat the receiver side.
A. modem B. images C. document D. applications
4. An image scanner optically scans, printed text, handwriting, or an object, and converts it to a digital image.
A. applications B. region C. modem D. images
5. Pen plotters are often incapable of efficiently creating a solidof color.
A. document B. images C. region D. applications

II. LANGUAGE WORK

THE MODAL VERBS

Modal verbs, also called *modal auxiliaries* or simply *modals*, are a type of auxiliary verb or helping verb. English has ten modal verbs:

can	Could
may	Might
shall	Should

will	Would
must	ought to

Modals express the mood a verb, such as ability, possibility, necessity, or another condition. They are used with a main verb to form a sentence or a question. Modals are not conjugated, have no tense, and cannot be used without a main verb.

Examples - Pen plotters **can draw** complex line art, including text, but do so slowly because of the mechanical movement of the pens.

- These signals **can be transmitted** over telephone lines and demodulated by another modem at the receiver side to recover the digital data.

III. PRACTICE

Exercise 1. *Rearrange these words to make the sentences*

1. serve /a /Some/can /as /hard/ printers/ copy /for / device/any/ network./ user/ the/ on

.....

2. often / to /Individual/ are/ printers //designed /support /network./both/ and/ local

.....

3. the / modem /A / band/ voice / turns/ digital/electrical signals./ data/ modulated/ into

.....

4. a / plotter /The / is /computer/vector graphics./ printer / printing / for

.....

5. can / plotters /Pen /art,/draw/ line /complex

.....

Exercise 2. *Match a word in A to the appropriate phrase in B*

A	B
1. The plotter	a. print by moving a pen or other instrument
2. Modems	b. produces a text or graphics of documents

	stored in electronic form
3. Pen plotters	c. a device that optically scans images, printed text, handwriting, or an object
4. A modem (modulator-demodulator)	d. can be used over any means of transmitting analog signals
5. an image scanner	e. attached by a printer cable or a USB cable to a computer
6. the desktop (or flatbed) scanner	f. where the document is placed on a glass window for scanning.
7. a printer	g. a computer printer for printing vector graphics.
8. network printers	h. modulates an analog carrier signal to encode digital information.
9. Hand-held scanners	i. have built-in network interfaces, typically wireless or Ethernet based
10. new printers	j. where the device is moved by hand

Exercise 3. *Put a word to a suitable space to complete the passage*

creativity; impressive; artists; limits; realistic

Painter 12 Anniversary Edition Paint Can (Windows/Mac)



Designed forby artists, Painter 12 opens up a world ofby offering progressive drawing tools, lifelike Natural-Media® brushes and the most....._digital painting experience. With its..... array of brushes, paper textures, paints, oils, watercolors and more, there are no..... to what you can create!

Exercise 4. Match the terms in the box with appropriated explanation or definition below.

a) A plotter	b) A modem (modulator-demodulator)	c) a voice band modem
d) an image scanner	e) a printer	f) Pen plotters
g) network printers	h) Hand-held scanners	i) A scanner
1. print by moving a pen or other instrument across the surface of a piece of paper.		(i)
2. a device that optically scans images, printed text, handwriting, or an object, and converts it to a digital image.		<input type="checkbox"/>
3. a peripheral which produces a text or graphics of documents stored in electronic form.		<input type="checkbox"/>
4. a computer printer for printing vector graphics.		<input type="checkbox"/>
5. a device that modulates an analog carrier signal to encode digital information.		<input type="checkbox"/>
6. where the document is placed on a glass window for scanning.		<input type="checkbox"/>
7. turns the digital data of a personal computer into modulated electrical signals in the voice frequency range of a telephone channel.		<input type="checkbox"/>
8. have built-in network interfaces, typically wireless or Ethernet based.		<input type="checkbox"/>
9. the device is moved by hand, have evolved from text scanning "wands" to 3D scanners		<input type="checkbox"/>

Exercise 5. Translate the sentences into Vietnamese

1. In computing, a printer is a peripheral which produces a text or graphics of documents stored in electronic form, usually on physical print media such as paper or transparencies. Many printers are primarily used as local peripherals, and are attached by a printer cable or, in most new printers, a USB cable to a computer which serves as a document source.

.....
.....
.....
.....
2. In computing, an image scanner—often abbreviated to just scanner—is a device that optically scans images, printed text, handwriting, or an object, and converts it to a digital image. Common examples found in offices are variations of the *desktop (or flatbed) scanner* where the document is placed on a glass window for scanning.

.....
.....
.....
.....
3. A modem (modulator-demodulator) is a device that modulates an analog carrier signal to encode digital information, and also demodulates such a carrier signal to decode the transmitted information. The goal is to produce a signal that can be transmitted easily and decoded to reproduce the original digital data.

.....
.....
.....
.....
4. The plotter is a computer printer for printing vector graphics. In the past, plotters were used in applications such as computer-aided design, though they have generally been replaced with wide-format conventional printers. It is now commonplace to refer to such wide-format printers as "plotters," even though they technically are not.

.....
...

Exercise 6. Translate the sentences into English

1. Máy in cá nhân thường được thiết kế để hỗ trợ cả nội mạng và mạng lết nối với nhiều người cùng một lúc.

.....
.....
.....
.....
.....

2. Máy quét cơ học điều khiển di chuyển các tài liệu thường được sử dụng đặc biệt cho các định dạng tài liệu lớn, mà những máy quét phẳng thực tế sẽ không quét được.

.....
.....
.....
.....
.....

3. Modem có thể được sử dụng trên bất kỳ phương tiện truyền tín hiệu tương tự, từ các điốt phát ra ánh sáng trên đài phát thanh.

.....
.....
.....

4. Máy vẽ dùng bút là di chuyển một cây bút hay dụng cụ khác trên bề mặt của một mảnh giấy.

.....
.....
.....

Exercise 7. Think about modern technology. Answer the following questions

1. Do you think modern technology reduces or increases stress? Why?

.....

2. Do you think money should be spent to explore space or is it better spent helping people on earth? Why?

.....
3. What is your opinion about children playing violent video games or computer programs?
.....

IV. FURTHER READING

What is computer peripheral device?



A “peripheral device” or “computer device” is a hardware component that is attached to a computer in order to expand its abilities and performing additional features. Computers are able to interact with its external world using the peripherals as mice, monitors, plotters, keyboards, and printers.

Peripheral means “additional but not essential”, so peripherals are not part of the essential computer as are the processor, and the memory. Some peripherals are mounted in the same case with the main part of the computer as are the hard disk drive or CD-ROM drive.



Peripheral devices can also include other computers on a network system. A device can also refer to a non-physical item, such as a pseudo terminal, a RAM drive, or a network adapter.



If a peripheral device is disconnected, the computer will still be able to work. Other peripherals are outside the computer case, such as the printer and image scanner, attached by a wired or wireless connection.

Peripheral can be internal or external devices. It is important to have in mind, when selecting GIS software to ensure that it is compatible with any existing peripherals you use.





Most devices, whether peripheral or not, require a program called a device driver that acts as a translator, converting general commands from an application into specific commands that the device understands.

V. VOCABULARY

- abbreviated	được viết tắt
- ability	khả năng
- adapter	cạc điều hợp
- additional	Thêm vào, phụ vào
- A modem (modulator-demodulator)	bộ điều biến-giải điều biến
- analog	Tín hiệu tương tự
- compatible	tương thích
- conventional	Quy ước; theo tục lệ
- convert	Đổi, biến đổi
- decode	đọc mật mã, giải mã
- emitting	phát, phát hành
- diodes	Điôt, ống hai cực
- efficiently	Có hiệu quả, hiệu nghiệm
- ensure	đảm bảo
- essential	thực chất; cốt yếu
- Ethernet	chuẩn Ethernet
- GIS	Hệ thống thông tin địa lý (GIS)
- hatch	kẻ nét chữ; khắc
- image scanner	máy quét ảnh

- impractical	Không thực tế
- interfaces	(tin học) giao diện
- measurement	phép đo, chiều đo.
- mount	lắp, đặt, cài
- network printers	máy in mạng
- non-physical	phi vật chất
- optically	Về phương diện quang học
- orthotics	môn học dụng cụ chỉnh hình
- Pen plotters	máy vẽ dùng bút
- peripheral	thiết bị ngoại vi
- plotter	máy vẽ, plotter
- primarily	Trước hết, đầu tiên; Chủ yếu
- pseudo	giả (tiếp đầu ngữ)
- raster graphics	đồ họa bằng màn quét
- restrict	hạn chế, thu hẹp
- reverse	Đảo ngược, lộn ngược,
- serve	Phục vụ, phụ trách, đảm nhiệm
- support	Truyền sức mạnh, khuyến khích
- translator	máy dịch
- transparency	giấy acetat; giấy trong
- transmit	truyền, phát
- vector graphics	đồ họa vector

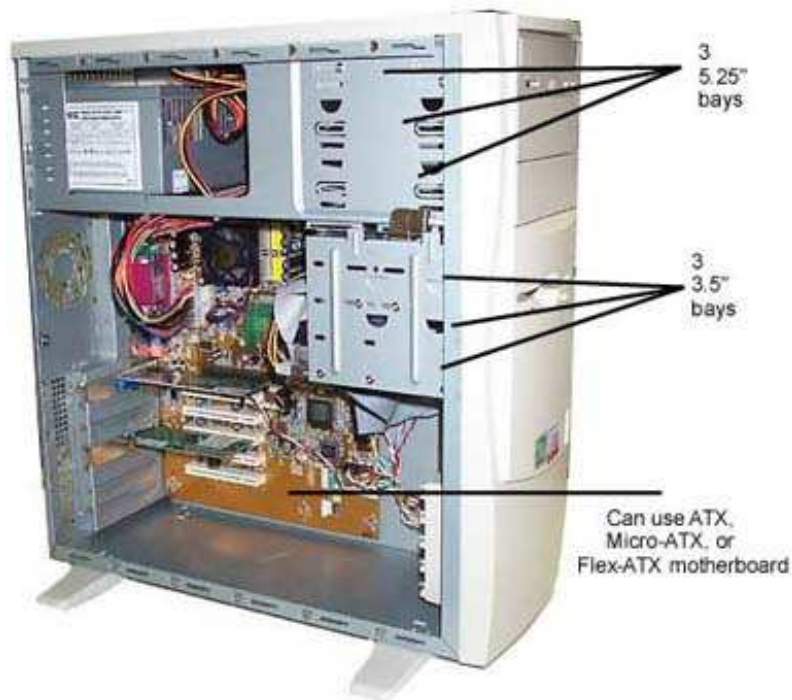
Unit 3 COMPUTER CONFIGURATION

I. READING COMPREHENSION



1. Choosing CPU

When choosing a CPU for a desktop, there are several factors to consider. The most important of these are speed, form factor, architecture, L2 cache, and reputation. Increasingly, computer builders are also concerned about power consumption and energy conservation.



- CPU Speed: The speed of a CPU determines how many computations it can perform per second. Obviously, a faster chip can perform more computations. If you plan to use your computer for pretty

routine, low-resource applications like surfing the web, word processing, and checking email, you can save yourself some money by buying a chip in the 4,000 MHz neighborhood.



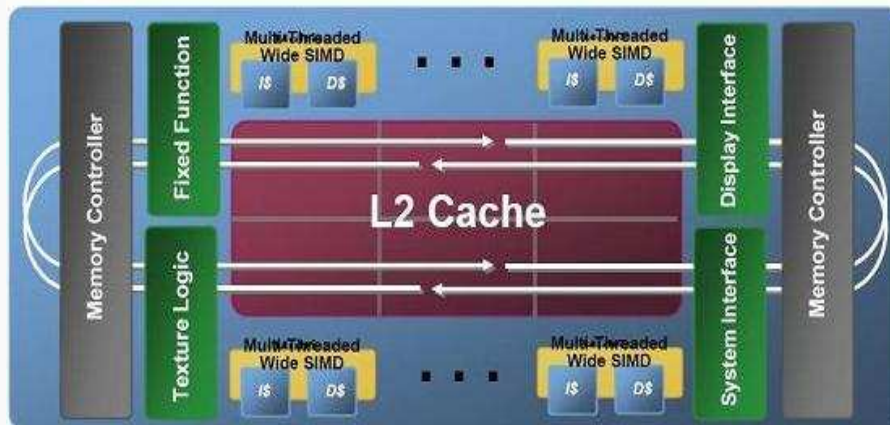
- Form Factor: The form factor of a CPU refers to several things, most important of which for the do-it-yourself computer builder is what socket it fits. You must purchase a motherboard that supports your processor's form factor.

- Architecture: Architecture refers to such things as the number of cores, the bandwidth, and the chip's internal circuitry. In general, multi-core processors out perform single-core processors, and some CPUs have internal circuitry that makes them perform better than other chips running at the same clock speed.



- L2 Cache: The L2 (or Level 2) cache bridges the gap between the very fast CPU and the much slower system RAM bus (and the even slower hard drive) by anticipating and storing data right on the CPU itself. This dramatically increases performance at a given clock speed.

Larrabee Block Diagram



- Cores communicate on a wide ring bus
 - Fast access to memory and fixed function blocks
 - Fast access for cache coherency
- L2 cache is partitioned among the cores
 - Provides high aggregate bandwidth
 - Allows data replication & sharing

2. Choosing Mainboard

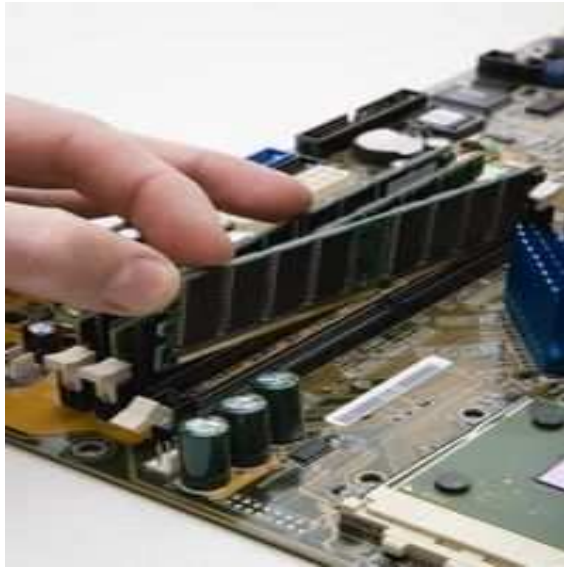
The most vital component of the computer is the motherboard that houses the crucial components of the system. Chipset is the core of the motherboard and is the prime determinant factor in the choice of the processor, and the RAM type etc. Thus, the choice of the right motherboard is of great importance.

Firstly, this should be compatible with other components of the PC, especially with the processor, because a high end processor will never perform well with an old motherboard. It is always better to choose the CPU first, and using the same manufacturer for the processor and the chipset can be helpful. Intel and AMD are two primary manufacturers in this category.

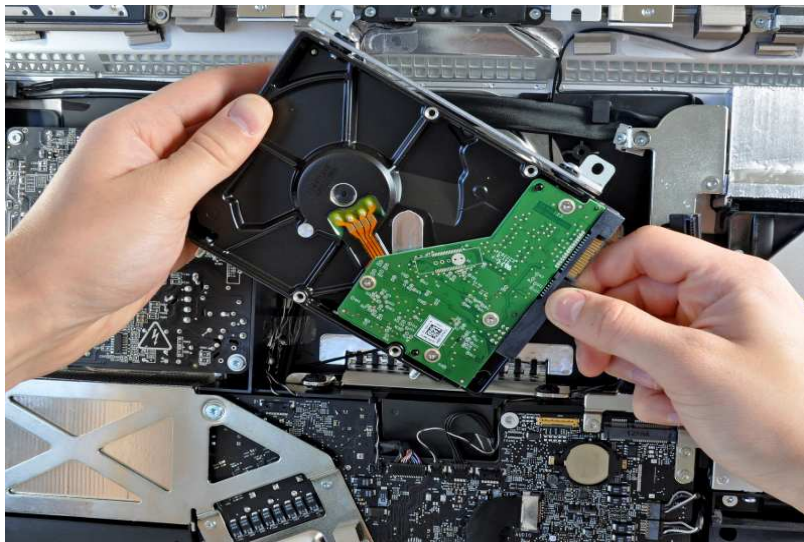


3. Choosing Size of Ram and Harddisk

- Configure RAM: The optimal value to use depends on how much RAM your Mac has, but in general, 512 MB or 1024 MB are good choices. You can always adjust this parameter later, if needed.



- *Specify Hard Drive Options:* Set the virtual hard disk image size to 20 GB. You can of course specify any size you want, but 20 GB is a good minimum size for most individuals.



4. Choosing Monitor

- *LCDs:* Choose a monitor that automatically adjusts to the timing of an analog (VGA) signal. You want to see stable gray and patterned images with no pixel jitter. Find a monitor with good viewing angles. Colors and brightness should not change in the corners of the screen, where the viewing angle is the greatest. Pick a monitor that looks uniformly bright when viewing both dark and light images.



- CRTs: Find a monitor with good convergence (clean white lines with no colors on the edges), as this increases image sharpness. Choose a monitor with good screen geometry, especially if you intend to use it for design or drawing tasks. Pick a monitor with good image regulation; you want an image that does not change its dimensions or distort when the content of the image changes.

UNDERSTANDING THE PASSAGE

Task 1. Answer the following questions

1. What are the most important when choosing a CPU for a desktop?.

.....
.....

2. What are computer builders also concerned?

.....
.....

3. What does the speed of CPU determine?

.....
.....

4. Why must you purchase a motherboard?

.....
.....

5. Why do some CPUs have internal circuitry?

.....
.....

Task 2. Are these sentences true or false. Correct the false sentences.

1. When choosing a CPU for a desktop, the most important of these are speed, form factor, architecture, L2 cache, and reputation.

.....
.....

2. The architecture of a CPU determines how many computations it can perform per second.

.....
.....

3. Chipset is the core of the motherboard and is the prime determinant factor in the choice of the processor, and the ROM type.

4. Some CPUs have internal circuitry that makes them perform better than other chips.

5. The L2 cache bridges the gap between the very fast CPU and the much slower system RAM bus by knowing and answering data right on the CPU itself.

6. Find a monitor with good convergence, as this increases image contrast.

7. The optimal value to use does not concern with how much RAM your Mac has, but in general, 512 MB or 1024 MB are good choices.

8. You can of course specify any size you want, but 20 GB is a good minimum size for most individuals.

Task 3. *Choose the best answer*

1. You can save yourself someby buying a chip in the 4,000 MHz neighborhood.

- A. motherboard B. money C. processors D. factor

2. The choice of the rightshould be compatible with the processor.

- A. factor B. processors C. motherboard D. money

3. You must purchase a motherboard that supports your processor's form

- A. factor B. motherboard C. processors D. money

4. Multi-core..... outperform single-core processors.

- A. motherboard B. money C. factor D. processors

5. Chipset is the prime determinantin the choice of the processor.

- A. money B. factor C. motherboard D. processor

II. LANGUAGE WORK

Gerunds

A gerund is a verbal that ends in *-ing* and functions as a noun. The term *verbal* indicates that a gerund, like the other two kinds of verbals, is based on a verb and therefore expresses action or a state of being. However, since a gerund functions as a noun, it occupies some positions in a sentence that a noun ordinarily would, for example: subject, direct object, subject complement, and object of preposition.

Examples

- Colors and brightness should not change in the corners of the screen, where the viewing angle is the greatest.
- If you plan to use your computer for pretty routine, low-resource applications like surfing the web, word processing, and checking email.
- You can save yourself some money by buying a chip in the 4,000 MHz neighborhood.
- Using the same manufacturer for the processor and the chipset can be helpful.
- Some CPUs have internal circuitry that makes them perform better than other chips running at the same clock speed.

III. PRACTICE

Exercise 1. *Rearrange these words to make the sentences*

1. about/ Computer/ are/ builders/ concerned/ power/ conservation./ consumption/ energy/ and

.....

2. can / faster /A /chip /computations. / more/ perform

.....

3. use /You /to/ plan/ your /routine. /computer /pretty / for

.....

4. a /The/ factor/ form /of /CPU/ things./ refers /several / to

5. never / high /processor/ A/ will /perform/ end/ well/motherboard. / with /old/ an

Exercise 2. Match a word in A to the appropriate phrase in B

A	B
1. LCDs	a. the core of the motherboard
2. The optimal value of RAM	b. what socket it fits.
3. the motherboard	c. can perform more computations.
4. Chipset	d. 512 MB or 1024 MB
5. a faster chip	e. adjusts to the timing of an analog (VGA) signal.
6. The form factor of a CPU	f. the most vital component of the computer

Exercise 3. Put a word to a suitable space to complete the passage

line ; pixels; monitors; screen ; key; tab ; stuck; spots ; button

Assessing LCD image quality

Check for dead, ones that are always off. It's not uncommon for to have one or two defective pixels - especially larger models - but you want as few as possible. Open Internet Explorer, in the address type about: blank, and press Enter. Then press the F11to make it full-screen. Look for small black specks that are not dust or debris on the

Check for pixels, which are always on. Right-click the Windows Desktop, pick Properties, then choose the Screen Saver Choose Blank from the list of screensavers, then hit the Preview Look for any glowing red, green, or blue



Exercise 4. Read these slogans or quotations, and say what computer element they refer to. (is done for you)

1	a) Find a monitor with good convergence	(CRTs)
	b) Pick a monitor with good image regulation	
2	a) Set the virtual hard disk image size to 20 GB.	_____
	b) 20 GB is a good minimum size for most individuals.	
3	a) Choose a monitor that automatically adjusts to the timing of an analog (VGA) signal	_____
	b) Pick a monitor that looks uniformly bright when viewing both dark and light images.	
4	a) 512 MB or 1024 MB are good choices.	_____
	b) You can always adjust this parameter later	
5	a) Chipset is the core of the motherboard	_____
	b) the choice of the processor, and the RAM type etc.	
6	a) the gap between the very fast CPU and the much slower system RAM bus	_____
	b) performance at a given clock speed.	
7	a) the number of cores, the bandwidth, and the chip's internal circuitry.	_____
	b) In general, multi-core processors out perform single-core processors.	

8	a) the do-it-yourself computer builder is what socket it fits.	
	b) You must purchase a motherboard that supports your processor's form factor.	
9	a) how many computations it can perform per second.	
	b) Obviously, a faster chip can perform more computations.	

Exercise 5. *Translate the sentences into Vietnamese*

1. The speed of a CPU determines how many computations it can perform per second. Obviously, a faster chip can perform more computations. If you plan to use your computer for pretty routine, low-resource applications like surfing the web, word processing, and checking email, you can save yourself some money by buying a chip in the 4,000 MHz neighborhood.

.....
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.....
.....

2. The L2 cache bridges the gap between the very fast CPU and the much slower system RAM bus (and the even slower hard drive) by anticipating and storing data right on the CPU itself. This dramatically increases performance at a given clock speed.

.....
.....
.....
.....

3. The choice of the right motherboard should be compatible with other components of the PC, especially with the processor, because a high end processor will never perform well with an old motherboard. It is always better to choose the CPU first, and using the same manufacturer for the processor and the chipset can be helpful.

.....

.....
.....
.....
.....
4. The form factor of a CPU refers to several things, most important of which for the do-it-yourself computer builder is what socket it fits. You must purchase a motherboard that supports your processor's form factor.
.....
.....
.....

.....
.....
5. You want to see stable gray and patterned images with no pixel jitter. Find a monitor with good viewing angles. Colors and brightness should not change in the corners of the screen, where the viewing angle is the greatest. Pick a monitor that looks uniformly bright when viewing both dark and light images.
.....
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.....
.....

Exercise 6. *Translate the sentences into English*

1. Chọn một màn hình có khối hình tốt, đặc biệt là nếu bạn có ý định sử dụng nó cho các công việc thiết kế hoặc bản vẽ.
.....
.....
.....
.....

2. Bạn muốn nhìn thấy hình ảnh màu xám và khuôn mẫu ổn định với không có điểm ảnh chập chờn. Tìm một màn hình với góc nhìn tốt.
.....
.....

.....
.....
.....

3. Cấu trúc đề cập đến những thứ như số lượng lõi, băng thông, và các mạch nội bộ của chip.

.....
.....
.....
.....

Exercise 7. *Think about the painter, then answer the following questions*

1. Are you a good painter?
.....
2. Can you draw pictures well?
.....
3. What would life be like without art?
.....
- ...
4. When was the last time you went to an art museum?
.....
5. Who are some famous artists in your country?
.....

IV. FURTHER READING

Assessing CRT image quality

Check the convergence of the display. Open Windows Paint and start a new image. Choose Image, then Attributes, and change the size of the image to the same number of pixels as the current resolution (to check the resolution, right-click anywhere on the desktop, select Properties, then choose the Settings tab). Use the Fill tool to fill the screen with black. Then choose the Rectangle tool, set the drawing color to white, and draw a box that fills the screen, starting in the upper-left corner. Scroll to the bottom-right corner of the image and draw another box that fills the screen. Now choose View, then View Bitmap to see the image on the full screen. You

should see a black screen with two intersecting white rectangles. Check the white lines closely; you should not see any areas where the lines separate into colored lines. A slight color tinge along the edges of a line is acceptable, but a pure white line is best.



V. VOCABULARY

- Adjust	(máy tính) điều chỉnh; thiết lập
- anticipate	Dùng trước, hưởng trước
- Architecture	cấu trúc (máy tính)
- Bitmap	ảnh nhị phân; ảnh xạ bit
- Cache	bộ nhớ sẵn; cạc nhớ
- computation	sự tính toán, tính
- consumption	sự tiêu dùng
- convergence	Sự hội tụ; Độ hội tụ
- conservation	(vật lý) bảo toàn
- determine	Định, xác định, định rõ
- debris	Mảnh vỡ, mảnh vụn
- dramatically	Đột ngột
- Chipset	bộ chip; bộ vi mạch
- individual	Riêng, riêng lẻ, cá nhân , tách biệt
- Increasingly	tăng, tăng thêm
- Obviously	một cách rõ ràng hiển nhiên
- parameter	thông số, tham số
- pixel jitter	Ảnh điểm chụp chèn
- Properties	của cái; đặc tính
- purchase	Mua, sắm, tậu
- Reputation	danh tiếng; uy tín
- Scroll	sự xem lướt

Chapter 2. SOFTWARE

Unit 4

OPERATING SYSTEM

I. READING COMPREHENSION



- *Basic functions of the Operating systems*

An operating system is a group of computer programs that coordinates all the activities among computer hardware devices. It is the first program loaded into the computer by a boot program and remains in memory at all times.

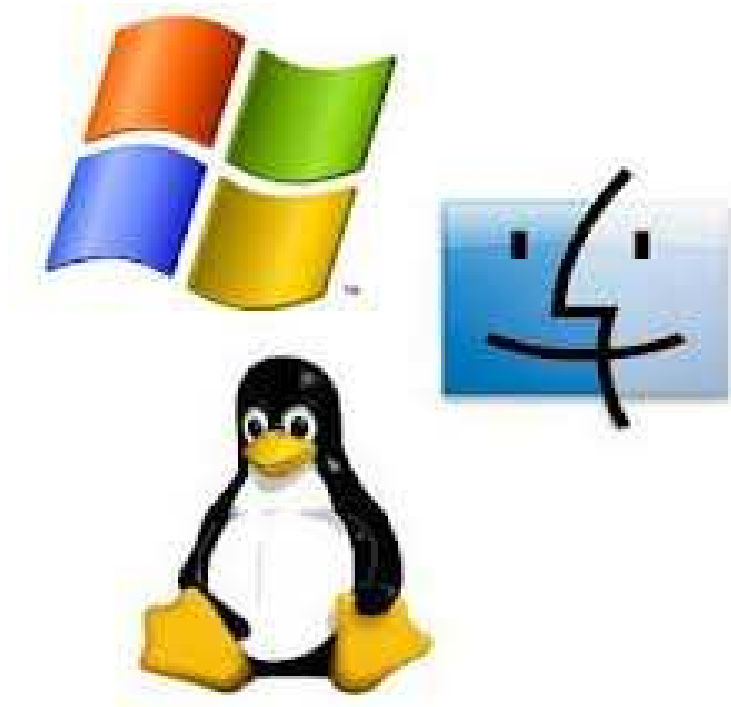
Functions of an operating system

The basic functions of an operating system are:

- . Booting the computer
- Performs basic computer tasks eg managing the various peripheral devices eg mouse, keyboard
- Provides a user interface, e.g. command line, graphical user interface (GUI)
- Handles system resources such as computer's memory and sharing of the central processing unit (CPU) time by various applications or peripheral devices
- Provides file management which refers to the way that the operating system manipulates, stores, retrieves and saves data.

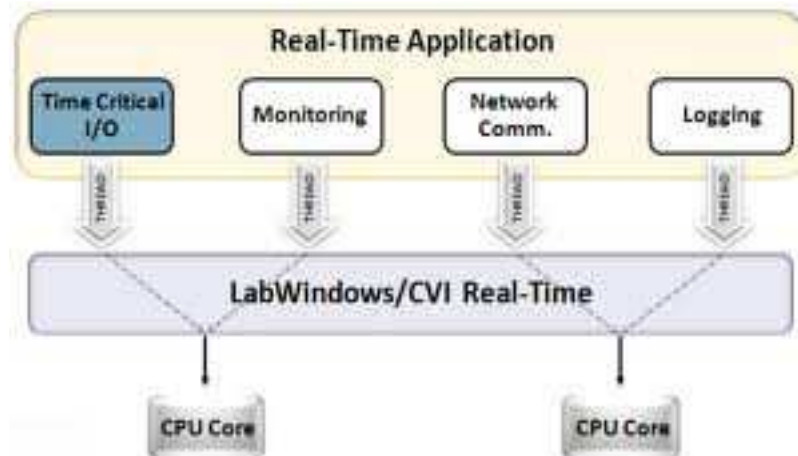
- Operating systems types

The system is capable of identifying times when the processor is idle at which time 'batches' may be processed. Processing is all performed automatically without any user intervention.



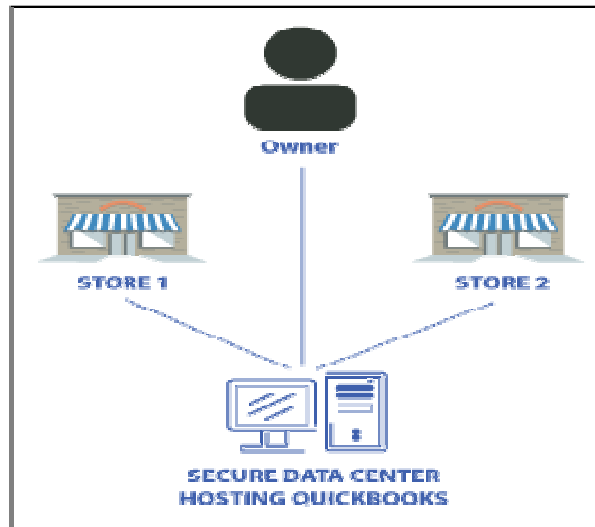
- Real-time Operating System

A real-time operating system processes inputs simultaneously, fast enough to affect the next input or process. Real-time systems are usually used to control complex systems that require a lot of processing like machinery and industrial systems.



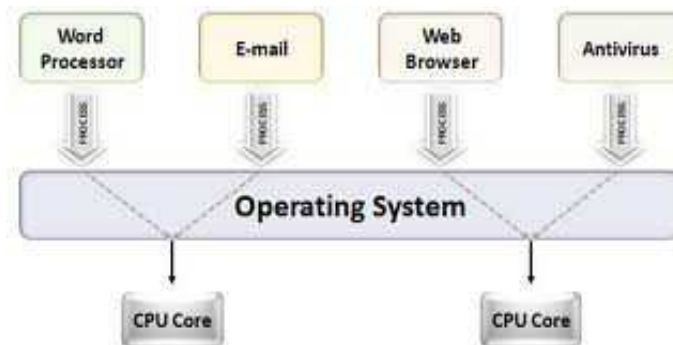
- Single User Operating System

A single user OS as the name suggests is designed for one user to effectively use a computer at a time.



- Multi-Tasking Operating System

In this type of OS several applications may be simultaneously loaded and used in the memory. While the processor handles only one application at a particular time it is capable of switching between the applications effectively to apparently simultaneously execute each application.



- Multi-User Operating System

This type of OS allows multiple users to simultaneously use the system, while here as well, the processor splits its resources and handles one user at a time, the speed and efficiency at which it does this makes it apparent that users are simultaneously using the system, some network systems utilize this kind of operating system.

- Distributed Operating System

In a distributed system, software and data may be distributed around the system, programs and files may be stored on different storage devices

which are located in different geographical locations and may be accessed from different computer terminals.



COURTESY: MICROSOFT

UNDERSTANDING THE PASSAGE

Task 1. *Answer the following questions*

1. What is designed for one user to effectively use a computer at a time?

.....
.....

2. What are real-time systems usually used?

.....
.....

3. Which Operating System maybe simultaneously loaded and used in the memory?

.....
.....

4. Which kind of operating system do some network systems utilize?

.....
.....

5. Where may software and data be distributed around the system.?

.....
.....

Task 2. *Are these sentences true or false. Correct the false sentences.*

1. An operating system is a programs that coordinates all the activities among computer hardware devices.

.....
.....

2. Functions of an operating system provides file management which refers to the way that the operating system manipulates, stores, retrieves and saves data.

.....
.....

3. A single user OS are usually used to control complex systems that require a lot of processing like machinery and industrial systems.

.....
.....

4. Real-time systems is designed for one user to effectively use a computer at a time.

.....
5. Multi-User Operating System allows multiple users to simultaneously use the system.
.....

Task 3. Choose the best answer

1. We are mostly..... to seeing multi-tasking and multi-user operating systems.

- A. allows B. accustomed C. switching D. designed

2. Programs and files may be..... from different computer terminals.

- A. switching B. performed C. allows D. accessed

3. Multi-User Operating System multiple users to simultaneously use the system.

- A. allows B. accustomed C. designed D. performed

4. Multi-Tasking Operating System is capable of between the applications.

- A. performed B. switching C. accessed D. accustomed

5. A single user OS is for one user to effectively use a computer at a time.

- A. accustomed B. accessed C. performed D. designed

6. Processing is allautomatically without any user intervention.

- A. designed B. allows C. performed D. accessed

II. LANGUAGE WORK

Adverbs of frequency

always, usually, regularly, normally, often, sometimes, occasionally, rarely, seldom, never are adverbs of frequency.

The position of these adverbs is:

* **before the main verb**

- They **often** go to school on time.

***after a form of to be (am, are, is, was, were)**

- Real-time systems are **usually** used to control complex systems that require a lot of processing like machinery and industrial systems.

* The adverbs **often, usually, sometimes** and **occasionally** can go at the beginning of a sentence.

- **Sometimes** I go swimming.

* Sometimes these adverbs are put at **the end of the sentence**.
 - We read books **occasionally**.

III. PRACTICE

Exercise 1. *Rearrange these words to make the sentences*

1. operating /is /An /system /a / programs. /group /computer / of

2. coordinates /An /system /all/ operating/ the/ computer. / among/
 activities

3. the /first /An /system/ operating/ is / program/ computer. / loaded /the /
 into

4. operating / type/ This/ of /system/ today/ is /everywhere / seen

5. network /systems /Some /utilize/ system. / this/ of / kind /operating

6. and /may /Programs /files /be / devices /stored/ different/ on/ storage

Exercise 2. *Match a word in A to the appropriate phrase in B*

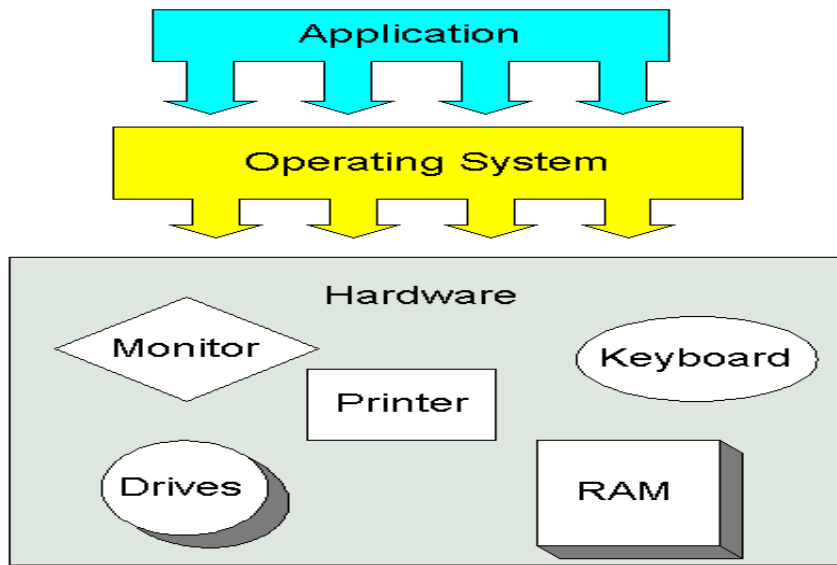
A	B
1. distributed system	a. the first program loaded into the computer
2. Multi-User Operating System	b. used to control complex systems that require a lot of processing like machinery and industrial systems.
3. Multi-Tasking Operating System	c. designed for one user to effectively use a computer at a time.
4. Single User Operating System	d. software and data may be distributed around the system

5. real-time operating system	e. several applications maybe simultaneously loaded and used in the memory.
6. An operating system	f. multiple users to simultaneously use the system

Exercise 3. Put a word to a suitable space to complete the passage

internet ; functions; display ; microwave ; memory;

Operating Systems



Today’s modern operating systems do an amazing variety ofright out of the box. Aside from controlling the most rudimentary computer functions like disk input/output, management, and networking, an OS also allows the user to run a variety of programs or applications which can, among other things,video and play music, create and print complex documents, and of course, access and surf the Indeed, the OS and its associated GUI have made home-based personal computers nearly as ubiquitous as televisions andovens.

Exercise 4. Fill in the gaps in the following sentences using the appropriate form of the verb in brackets

1. When a document arrives in the mail room, the envelope (open) by a machine
2. In the star configuration, all processing and control functions (perform) by the central computer.

3. The address bus (use) to send address details between the memory and the address register.
4. The pixel positions (pass on) to the computer's pattern recognition software
5. An operating system (store) on disk.
6. The part of the processor which controls data transfers between the various input and output devices (call) the control unit.
7. Instructions written in a high-level language (transform) into machine code
8. Once the index (store), a temporary key number (generate) and (write) on the document.

Exercise 5. Read these slogans or quotations, and say what element they refer to. (is done for you)

1	a. Booting the computer	(Functions of an operating system)
	b. Performs basic computer tasks eg managing the various peripheral devices eg mouse, keyboard	
2	a. software and data may be distributed around the system	_____
	b. programs and files may be stored on different storage devices	
3	a. simultaneously loaded and used in the memory.	_____
	b. capable of switching between the applications effectively	
4	a. inputs simultaneously, fast enough to affect the next input or process	_____
	b. used to control complex systems that require a lot of processing like machinery and industrial systems.	
5	a. allows multiple users to simultaneously use the system	_____
	b. the processor splits its resources and handles one user at a time	

6	a. capable of identifying times when the processor is idle at which time 'batches' may be processed.	
	b. all performed automatically without any user intervention.	
7	a. a group of computer programs that coordinates all the activities among computer hardware devices.	
	b. the first program loaded into the computer by a boot program and remains in memory at all times.	

Exercise 6. *Translate the sentences into Vietnamese*

1. The system is capable of identifying times when the processor is idle at which time 'batches' maybe processed. Processing is all performed automatically without any user intervention.

.....

2. Multi-User Operating System allows multiple users to simultaneously use the system, while here as well, the processor splits its resources and handles one user at a time, the speed and efficiency at which it does this makes it apparent that users are simultaneously using the system, some network systems utilize this kind of operating system.

.....

3. In a distributed system, software and data may be distributed around the system, programs and files maybe stored on different storage devices which are located in different geographical locations and maybe accessed from different computer terminals.

.....

.....
.....
Exercise 7. Translate the sentences into English

1. Hệ điều hành là một nhóm các chương trình máy tính phối hợp tất cả các hoạt động giữa các thiết bị phần cứng máy tính.
.....
.....

2. Xử lý hệ thống các tài nguyên như bộ nhớ máy tính và chia sẻ thời gian sử dụng bộ xử lý trung tâm (CPU) cùng các ứng dụng khác nhau hoặc các thiết bị ngoại vi
.....
.....

3. Hệ thống thời gian thực thường được sử dụng để kiểm soát các hệ thống phức tạp đòi hỏi phải xử lý rất nhiều như hệ thống máy móc và công nghiệp.
.....
.....

Exercise 8. Think about Social Networking then answer the questions

1. What social networking sites do you use?
.....

2. What are some good points about social networking?
.....

3. What are some bad points about social networking?
.....

4. Do you have a Facebook page?
.....

5. Do you use Twitter?
.....

6. What information do you have on your webpage?
.....

7. What kind of information are you comfortable releasing to the public?
.....

.....
8. Do your parents use social networking sites?
.....

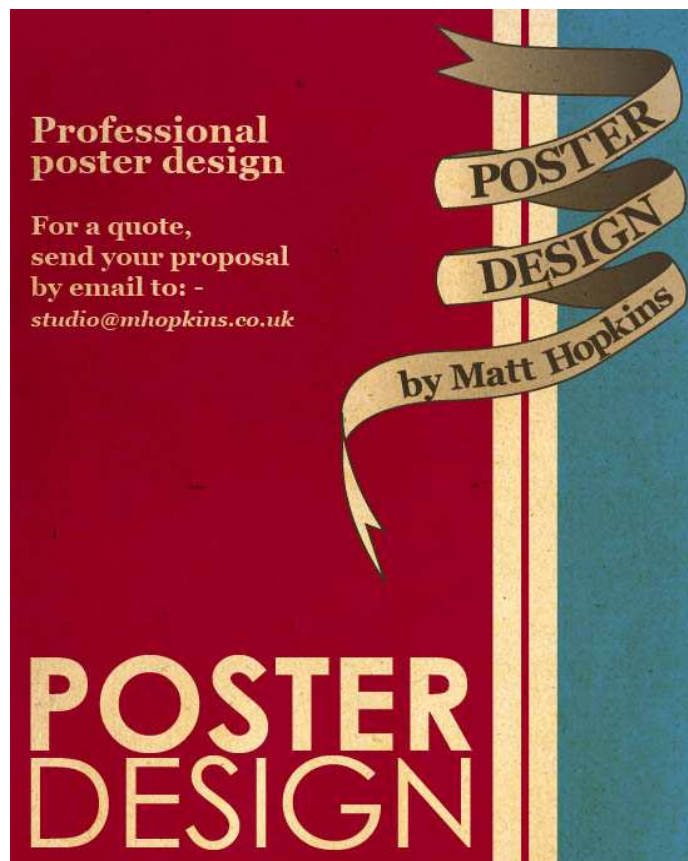
9. What type of information should you put on social networking sites?
.....

IV. FURTHER READING

Creating your poster

You can use Microsoft Word or PowerPoint to create your poster. These are not graphical layout applications, but they are adequate in most cases.

In **PowerPoint**, create your poster as a single slide. You can set the page size when you start using *File > Page Setup*, so if you want an A1 poster (594mm × 840mm), you can specify this before you start (there may not be an A1 option, but you can enter the dimensions manually).

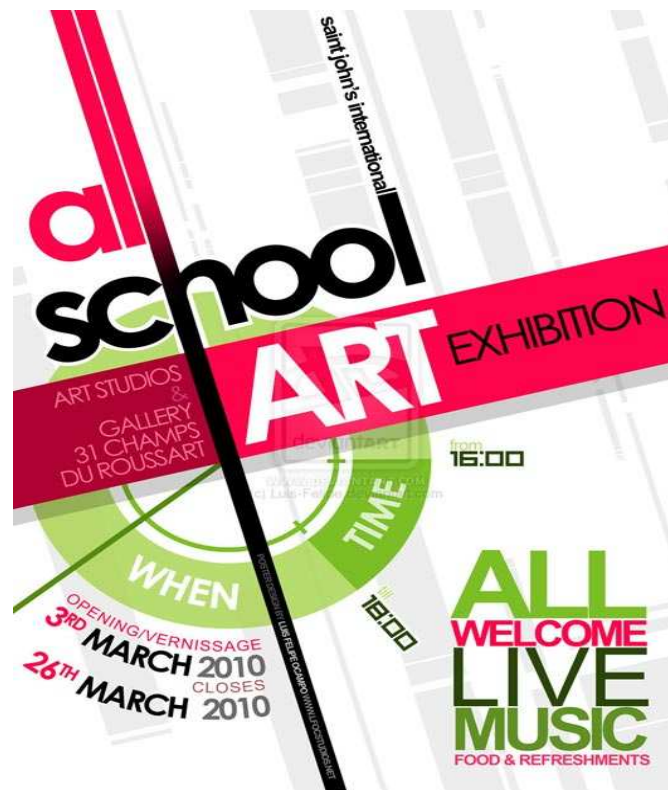


PowerPoint also allows you to add guidelines to help you line up the poster elements. Use *View > Grid and Guides...* and tick the *Display grid on screen* box.

In **Word**, create your poster as a single side of A4. You can always scale it up when you come to print it.

Word does not have guidelines as such, but you can get a grid by showing the Drawing toolbar (*View > Toolbars > Drawing*) which will probably appear at the bottom of the screen, then from that toolbar choose *Draw > Grid...* and tick the *Display gridlines on screen* box.

In **both applications**, use the Drawing toolbar to add text boxes to the screen. This allows you to control the way the text is positioned on the page.



When the poster is designed, you should convert it to PDF for printing, using PDF Creator or Adobe Acrobat. The conversion process can be problematic: edges of words and images may be cut off near to the margins, images may appear degraded or misshapen, poster elements may have shifted and become overlapping. However, by ironing out these problems at the conversion stage, you avoid nasty surprises later when you

come to print it out. When the PDF looks good, you can be pretty confident that the printed version will also be OK.

Test your poster early, and regularly, by converting to PDF and printing to A4, to make sure you're not storing up layout problems that will be difficult to correct later on.

V. VOCABULARY

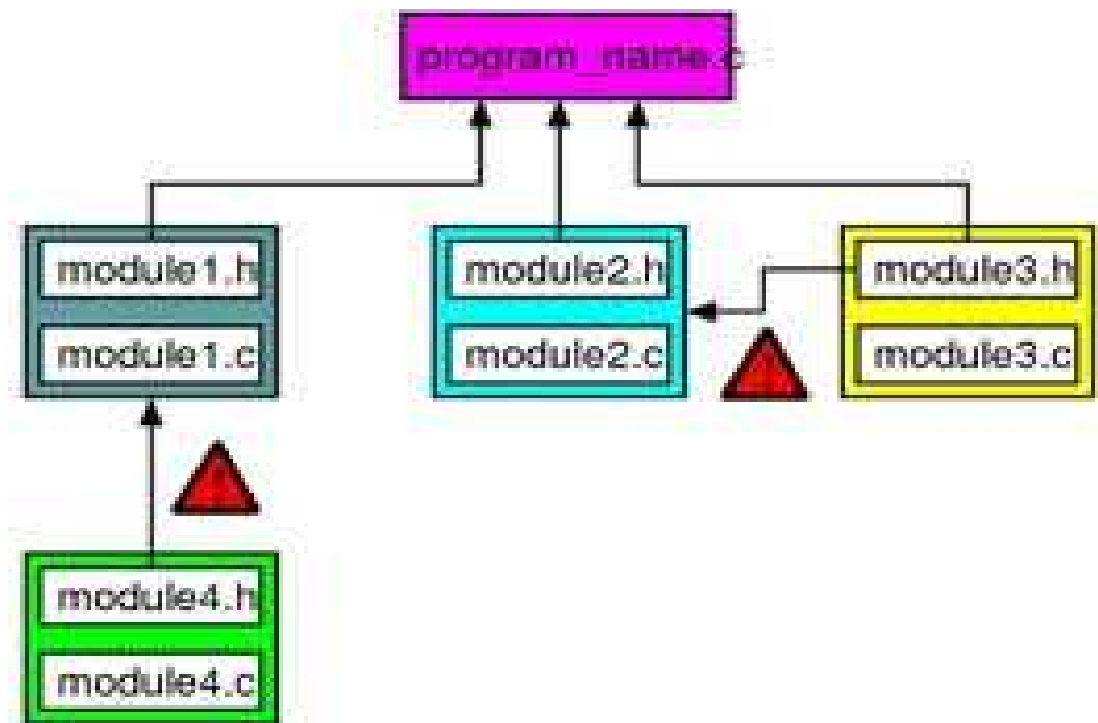
- An operating system	hệ điều hành
- boot program	chương trình khởi động
- concurrently	Đồng thời, kiêm
- categories.	loại; hạng mục
- dial-up port	cổng quay chọn số
- initially	đầu tiên ; trước tiên
- influence	Ảnh hưởng, tác dụng
- emphasis	cường điệu; nhấn mạnh
- rudimentary	thô sơ
- navigated	điều hành; duyệt (thông tin)
- Multithreading	đa luồng; sự đa luồng
- summoning up	Gọi đến, triệu đến; triệu tập
- tinker	Vá dổi, , sửa qua loa, chắp vá, vá vúi
- ubiquitous	đầy rẫy, nơi nơi, nhan nhản



- Basic modules of Application programs

- (1) In software, a module is a part of a program. Programs are composed of one or more independently developed modules that are not combined until the program is linked. A single module can contain one or several routines.
- (2) In hardware, a module is a self-contained component.

Modular programming (also known as top down design and stepwise refinement) is a software design technique that increases the extent to which software is composed of separate, interchangeable components called **modules** by breaking down program functions into modules, each of which accomplishes one function and contains everything necessary to accomplish this.



UNDERSTANDING THE PASSAGE

Task 1. Answer the following questions

1. What is a software development process?

.....
.....

2. How many models are there for such processes?

.....
.....

3. What does ISO/IEC 12207 aim?

.....
.....

4. How many specific software development processes are there?

.....
.....

5. What do modules represent?

.....
.....

6. What does a module interface express?

.....
.....

Task 2. *Are these sentences true or false. Correct the false sentences.*

1. A complex module can contain one or several routines.

.....
.....

2. In software, a module is a self-contained component.

.....
.....

3. In hardware, a module is a part of a program.

.....
.....

4. ISO/IEC 12207 is an international standard for software life-cycle processes.

.....
.....

5. Modules represent a separation of concerns, and improve maintainability by enforcing logical boundaries between components.

.....
.....

Task 3. *Choose the best answer*

1. The elements defined in the are detectable by other modules.

- A. interface B. design C. process D. program
2. Modules are typically incorporated into the through interfaces.
A. program B. calculations C. design D. process
3. Modular programming is a software..... technique
A. calculations B. process C. program D. design
4. A software development is a structure imposed on the development of a software product.
A. program B. process C. design D. pages
5. Some people consider a life-cycle model a more general term and a software developmenta more specific term.
A. design B. track C. process D. program

II. LANGUAGE WORK

Subordinate clause

The subordinate clause is the part of the sentence that comes after the main clause it is used to tell or explain more about the main clause. A clause is a group of words that have something that can work as a **noun** and something else that can work as the *noun's verb*. An independent clause is a clause that can stand alone as a sentence. A dependent (i.e. subordinate) clause is a clause that cannot stand alone as a sentence.

A dependent clause used as an adjective within a sentence. Also known as an *adjectival clause* or a relative clause.

An adjective clause usually begins with a relative pronoun (*which, that, who, whom, whose*), a relative adverb (*where, when, why*), or a zero relative.

Example

- Programs are composed of one or more independently developed modules **that** are not combined until the program is linked.
- A module interface expresses the elements **that** are provided and required by the module.
- The implementation contains the working code **that** corresponds to the elements declared in the interface.

III. PRACTICE

Exercise 1. *Rearrange these words to make the sentences*

1. several /There / models/ processes./ for/ are/ such

.....
.....

2. single /can/ A /module /contain/routines./ one /several / or

.....
.....

3. improve /by /Modules/ maintainability / enforcing/ components. / logical /between / boundaries

.....
.....

4. are /typically /Modules /incorporated/ the/ through/ program/ interfaces./ into/

.....
.....

5. elements/ in /The /defined /the/ are/ interface /detectable/ modules. / by/ other

.....
.....

Exercise 2. Match a word in A to the appropriate phrase in B

A	B
1. Modules	a. a software design technique
2. A module interface	b. a structure imposed on the development of a software product
3. Modular programming	c. expresses the elements that are provided and required by the module
4. A single module	d. typically incorporated into the program through interfaces.
5. A software development process	e. contain one or several routines.

Exercise 3. Match these keys abbreviations with their full names.

1. Esc

a. Altinate

2. Alt

b. Page Up

3. Ctrl

d. Escape

- 4. Pgdn
- 5. Pgup
- 6. Ins
- 7. Del

- f. Control
- e. Delete
- g. Page down
- c. Insert

Exercise4. Use the information in the text above and the diagram to help you match the terms in the box with appropriated explanation or definition below.

a.Modular programming	b. A single module	c. A software development process
d. A software development life cycle	e. modules	f. models
1. one function and contains everything necessary to accomplish this.		(e)
2. a structure imposed on the development of a software product.		<input type="checkbox"/>
3. a software design technique		<input type="checkbox"/>
4. can contain one or several routines		<input type="checkbox"/>
5. software life cycle and software process		<input type="checkbox"/>
6. describing approaches to a variety of tasks or activities		<input type="checkbox"/>

Exercise 5. Put a word to a suitable space to complete the passage

graphic ; endless; artist ; environment; software ;

Versatile and powerful graphic design software

Whether you're an aspiring....._or an experienced designer, CorelDRAW® Graphics Suite X6 is your trusted**design software** solution. With its content-rich....._and professional graphic design, photo-editing and website design you have everything you need to express your style and creativity withpossibilities.



Exercise 6. *Translate the sentences into Vietnamese*

1. Similar terms include *software life cycle* and *software process*. It is often considered a subset of systems development life cycle.

.....
.....
.....
.....
.....

2. There are many specific software development processes that 'fit' the spiral life-cycle model. ISO/IEC 12207 is an international standard for software life-cycle processes

.....
.....
.....
.....
.....

3. **Modular programming** (also known as top down design and stepwise refinement) is a software design technique that increases the extent to which software is composed of separate, interchangeable components called **modules** by breaking down program functions into modules, each of which accomplishes one function and contains everything necessary to accomplish this.

.....
.....
.....

.....
.....
.....
.....
.....

Exercise 7. *Translate the sentences into English*

1. Có một số mô hình cho các quá trình như vậy, mỗi phương pháp tiếp cận mô tả một loạt các nhiệm vụ hoặc các hoạt động diễn ra trong suốt quá trình.

.....
.....
.....
.....
.....

2. Chương trình bao gồm một hoặc nhiều mô-đun phát triển độc lập không kết hợp cho đến khi chương trình được liên kết

.....
.....
.....
.....

3. Module được tích hợp vào chương trình thông qua giao diện. Một mô-đun giao diện thể hiện các yếu tố được cung cấp và yêu cầu của mô-đun

.....
.....
.....
.....

Exercise 8. *Think about Internet then answer the questions*

1. Do you often use the Internet?

.....

2. When did you first use the Internet?

.....

3. About how many hours a day do you use the Internet?

.....

4. About how many hours a week do you use the Internet?

.....

5. Who uses the Internet the most in your family?

.....

6. What computer do you use to access the Internet?

.....

7. What are some security issues you must think about when you access the Internet?

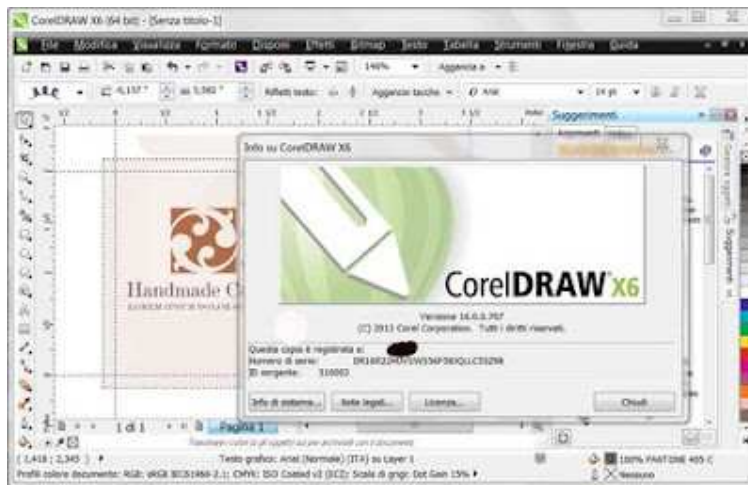
.....

IV. FURTHER READING

CorelDRAW Graphics Suite X6

Professional Graphic Design Software

- Superior vector illustration & page layout
- Versatile drawing and tracing tools
- Professional photo-editing capabilities
- Powerful website design software



Set up and start smoothly

Enrich your designs with extensive built-in learning tools, allowing you to start quickly and design with confidence. Gain new knowledge from valuable video tutorials and tips, insights from experts and an inspiring guidebook.

Create layouts with ease

Give your projects a high-quality look with over 1,000 premium fonts, 1,000 professional, high-resolution digital photos, 10,000 versatile

clipart and 350 professional templates. Efficiently organize your design assets with Corel® CONNECT™ X6, a content finder that instantly locates content on your computer, local network and websites.

Design with style and creativity

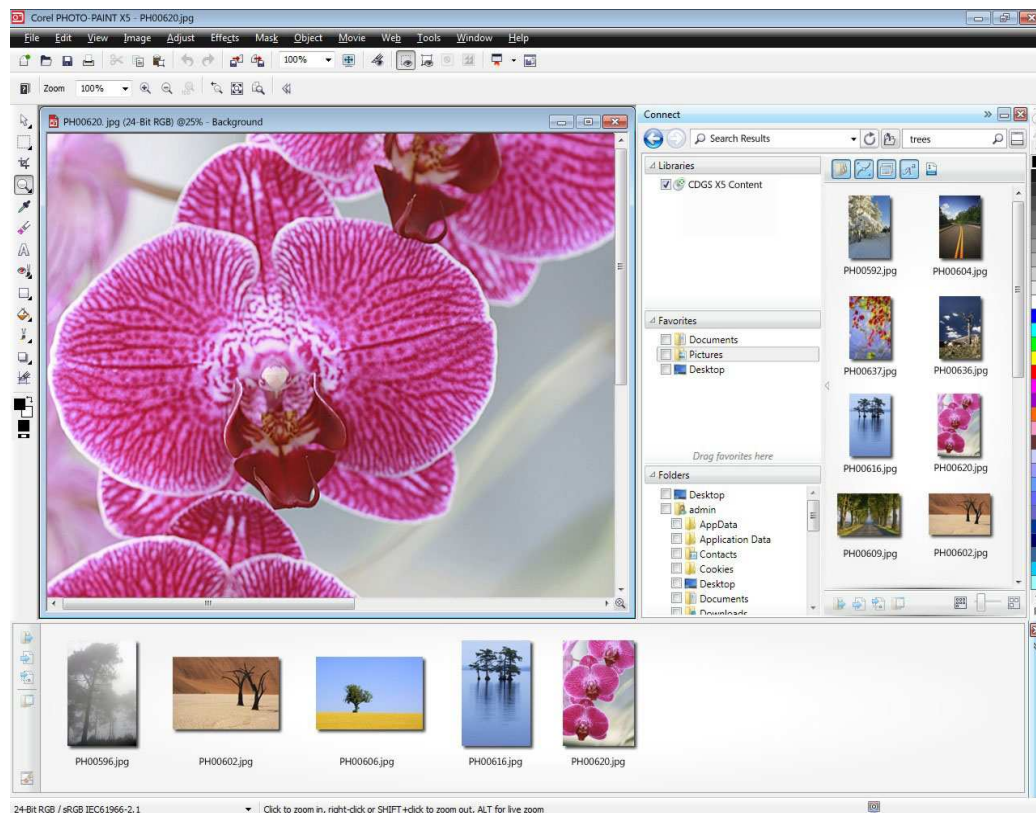
Create beautiful designs for print and web with a complete set of drawing, bitmap-to-vector tracing, photo- editing and web graphics tools. Manage styles and colors easily with property dockers and convenient features, such as Style Sets and Color Harmonies.

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Save time and money with all of the powerful applications in one complete graphic design suite. Plus, enjoy the speed of multi-core processing and native 64-bit support, allowing you to quickly process larger files and images.

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Output to a broad variety of media—from signs and flyers, to business cards, car wraps, web graphics and much more. Re-purpose and share your creations with support for over 100 file formats, including AI, PSD, PDF, JPG, PNG, EPS, TIFF and DOCX.



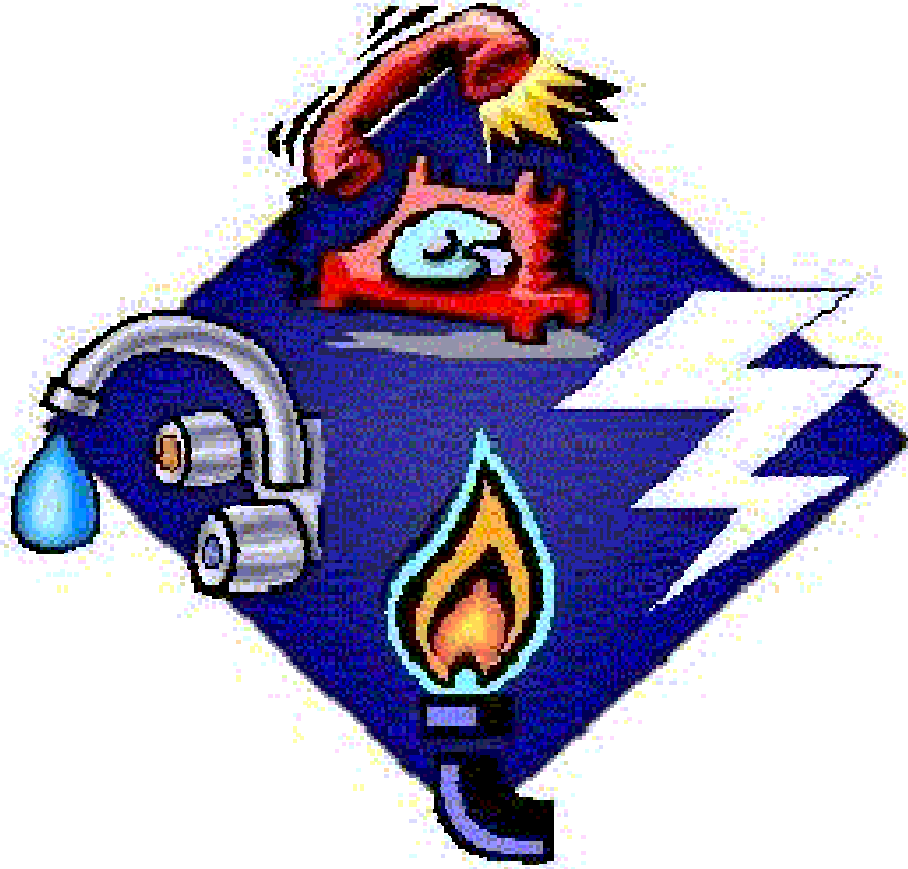
V. VOCABULARY

- animation	Sự sản xuất phim hoạt hoạ
- backwards	lùi về phía sau; về phía sau
- browser	chế độ
- Browse	trình duyệt
- bundled (+ up)	bọc lại, gói lại, bó lại
- defragment	Chống phân tán ổ đĩa
- dozen	một tá (mười hai); (số nhiều) nhiều
- enable	có khả năng; khởi động; kích hoạt
- Feature	Nét đặc biệt, điểm đặc trưng
- flavor	hương vị
- format	dạng mẫu
- handle	Vận dụng, sử dụng, điều khiển (bằng tay)
- Immense	Mênh mông, bao la, rộng lớn
- Inventory	Kiểm kê; (từ Mỹ, nghĩa Mỹ) tóm tắt
- manner	Cách, lối, thói, kiểu
- modify	sửa đổi, biến đổi; sửa; điều chỉnh
- numerous	Đông, đông đảo, nhiều
- session	cuộc giao tiếp; cuộc liên lạc;
- spread	Sự trải ra, sự căng ra, sự giăng ra
- subordinate clause	mệnh đề phụ
- suffice	Đủ, đủ để
- tailored	Do thợ may làm ra
- templates calip	Cỡ; cỡ; khuôn mẫu
- virtual	Thực sự, một cách chính thức

Unit 6

UTILITIES

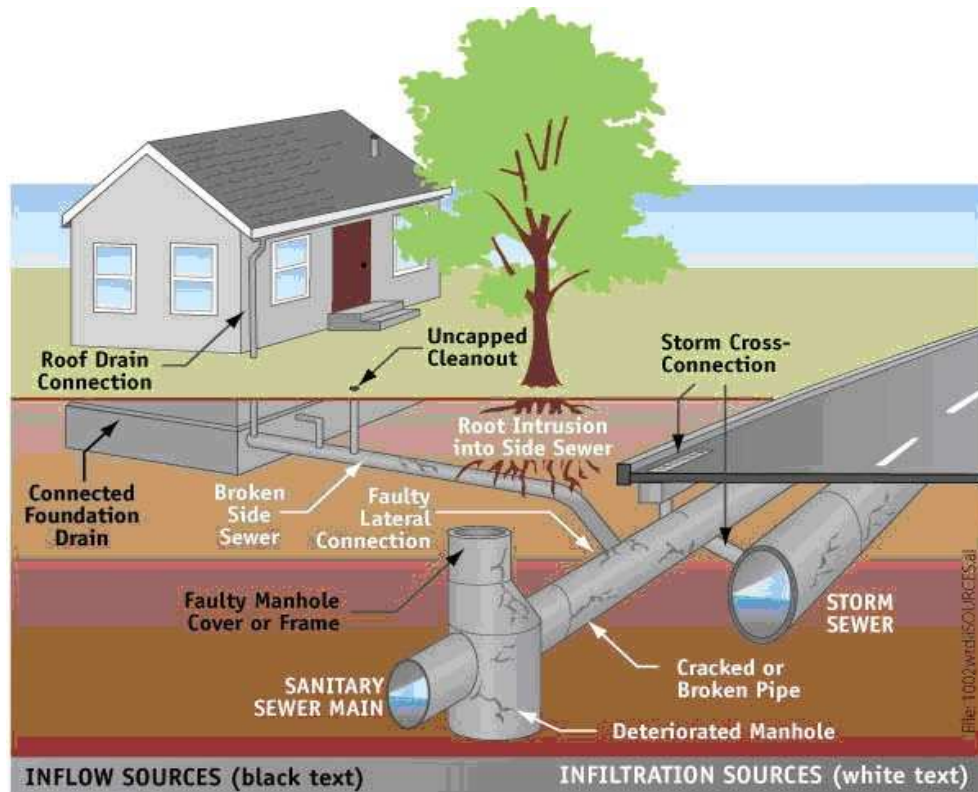
I. READING COMPREHENSION



- *What are utilities?*

The term **utilities** can also refer to the set of services provided by these organizations consumed by the public: electricity, natural gas, water, and sewage. Telephony may occasionally be included within the definition. Utilities are companies that are involved in the delivery, production and service of natural assets. Ranging from water to electricity and natural gas, they are the needed middlemen between consumers and a natural resource. They are often regulated by the government because of their monopolistic position in the market--it would be nearly impossible for a new power company to compete with the one who already has a line running to the

consumer's house. The flip side of this is that their pricing is often controlled and their profits are capped.



As an industry for investment they usually offer some solid benefits. First, they generally pay dividends that are greater than the market at large. Second, their earnings and profits are very consistent, even in times of economic duress, so they are considered a defensive investment.

- Some popular Utilities



Utility services include telecommunications, electrical utilities, natural gas, certain transportation services, and also water and wastewater treatment services provided by private companies. Public utilities are subject to forms of public control and regulation ranging from local community-based groups to state-wide government monopolies.

UNDERSTANDING THE PASSAGE

Task 1. *Answer the following questions*

1. What are utilities?

.....
.....

2. What is the flip side of this?

.....
.....

3. What do utility services include?

.....
.....

4. What is a public utility?

.....
.....

5. What do common arguments in favor of regulation include?

.....
.....

Task 2. *Are these sentences true or false. Correct the false sentences.*

1. Utilities are companies that are involved in the delivery, production and service of natural assets.

.....
.....

2. Ranging from water to electricity and natural gas often regulated in the US because of their general position in the market

.....
.....

3. As an industry for investment they usually offer some solid benefits.

.....
.....

4. Utility subjects include telecommunications, electrical utilities, natural gas, certain transportation services, and also water and wastewater treatment services provided by private companies.

5. Public utilities are service to forms of public control and regulation ranging from local community-based groups to state-wide government monopolies.

Task 3. Choose the best answer

1. Water to electricity and natural gas are needed middlemen between and a natural resource.

- A. services B. profits C. forms D. consumers

2. The flip side of this is that their pricing is often controlled and theirare capped.

- A. consumers B. forms C. services D. profits

3. The water and wastewater..... are provided by city and county government agencies.

- A. consumers B. profits C. services D. forms

4. Public utilities are subject of public control and regulation

- A. forms B. consumers C. profits D. services

5. The term utilities can also refer to the set of provided by public organizations consumed

- A. consumers B. services C. forms D. profits

II. LANGUAGE WORK

Nouns

Definition: A noun is a word used to refer to people, animals, objects, substances, states, events and feelings. Nouns can be a subject or an object of a verb, can be modified by an adjective and can take an article or determiner.

For example:

- delivery
- production side

- side

Nouns also denote abstract and intangible concepts.

For example:

- power
- flip
- service

Noun Plurals

We are going to explain some rules that will help you to form the plural forms of the nouns. The general rule is to add "-s" to the noun in singular.

For example:

- profits
- assets
- monopolies

III. PRACTICE

Exercise 1. *Rearrange these words to make the sentences*

1. in/ delivery /Utilities /involved/ are/ the/, production /assets. /and/ of / service /natural

.....
.....

2. market /Monopolistic /in/ position/ the/ would /nearly/ be/ impossible / company /for/ new/ a/ power

.....
.....

3. an /organization/ A/ utility/ public/ is /that/public service./ maintains/ infrastructure/ the/ a / for

.....
.....

4. to /Public /are / utilities /subject / of /forms / ranging. /public /and / control /regulation

.....
.....

5. may /occasionally /Telephony / be/ definition/ included /the / within

.....

Exercise 2. Match a word in A to the appropriate phrase in B

A	B
1. A public utility	a. the set of services provided by these organizations consumed by the public: electricity, natural gas, water, and sewage.
2. Common arguments in favor of regulation	b. included within the definition the best PC utilities
3. Utilities	c. an organization that maintains the infrastructure for a public service
4. Ranging from water to electricity and natural gas	d. the desire to control market power, facilitate competition, promote investment or system expansion, or stabilize markets.
5. The term utilities	e. the needed middlemen between consumers and a natural resource.
6. Telephony	f. companies involved in the delivery, production and service of natural assets.

Exercise 3. Put a word to complete the passage

assume ; require; potentially ; repair; tools ; getting; utilities;

Why Use PC System Utilities Software?

Computers regular maintenance. Once you realize yours isn't performing like it once did, don't simplyyou need to buy a new one; it might just need a tune-up. A **PC system utilities** application can clean your computer's registry,its hard drive, generate free space on its hard drive, optimize system processes and recover data. These applications will address issues that can diminish your computer's functionality, including registry and hard drive errors, unneeded files that

clutter your disk space, security vulnerabilities and inefficient system settings.



When you purchase PC system utilities, you're virtual computer technicians in a box. In fact, computer technicians regularly use theseto begin their diagnostic process. Using computer diagnostics..... will result in improved system performance, and if you run a utility regularly, your computer will last longer and rarely experience slowdowns. This will save you the time and aggravation sluggish computers can cause.

Exercise 4. *Read these slogans or quotations, and say what computer element they refer to. (is done for you)*

- c) Point and click here for power
- d) Obey every impulse as if it were an extension of (mouse) your hand.
- c) Display your ideas with perfect brilliance
- d) See the difference – sharp images and a fantastic _____ range of colors
- c) I love this drive. It's quiet and fast.
- d) With this it's easy to back up your data before it's _____ too late
- c) Power and speed on the inside _____

- d) Let your computer's brain do the work
- c) ... a big impact on the production of text and graphics.
- d) Your choice: a laser powerhouse

Exercise 5. *Translate the sentences into Vietnamese*

1. Ranging from water to electricity and natural gas, they are the needed middlemen between consumers and a natural resource.

.....

2. The flip side of this is that their pricing is often controlled and their profits are capped.

.....

3. Utility services include telecommunications, electrical utilities, natural gas, certain transportation services, and also water and wastewater treatment services provided by private companies.

.....

Exercise 6. *Translate the sentences into English*

1. Tiện ích này là do các công ty được tham gia trong việc cung cấp, sản xuất và làm dịch vụ với các tài sản thiên nhiên.

.....

2. Tiện ích công cộng là chủ thể để tạo nên các hình thức kiểm soát và các quy định công cộng, từ các nhóm cộng đồng địa phương đến việc độc quyền của chính quyền tiểu bang.

.....

.....
.....
3. Thuật ngữ các tiện ích cũng có thể nói đến các gói dịch vụ được các tổ chức nhà nước cung cấp: điện, khí đốt tự nhiên, nước, và nước thải.
.....
.....
.....

Exercise 7. *Think about Photography then answer the questions*

1. Do you like to take pictures?
.....

2. What kind of photos do you enjoy looking at?
.....

3. What type of pictures do you keep in your family's photo albums?
.....

4. Why do people take photos?
.....

5. What kind of camera do you have?
.....

6. Should pictures be posted on the internet without permission?
.....

7. Have you ever wished you had not been in a particular picture?
.....

8. Do you have a camera?
.....

9. Do you always bring a camera wherever you go for vacation?
.....

III. FURTHER READING

Utility software

Utility software is system software designed to help analyze, configure, optimize or maintain a computer. A single piece of utility software is usually called a **utility** or **tool**.



Utility software usually focuses on *how* the computer infrastructure (including the computer hardware, operating system, application software and data storage) operates.



Due to this focus, utilities are often rather technical and targeted at people with an advanced level of computer knowledge - in contrast to application software, which allows users to do things like creating text documents, playing games, listening to music or viewing websites.

listening to music or viewing websites.

When using PX-series with external USB memory card reader;

External USB memory card reader

Setting with Memory Media Utility OK

Reading/Writing data OK

 The diagram shows a laptop connected to an external USB memory card reader. A memory card is inserted into the reader. Below the diagram, there are two lines of text: "Setting with Memory Media Utility OK" and "Reading/Writing data OK".

V. VOCABULARY

- adware	phần mềm quảng cáo
- ample	Nhiều, phong phú, dư dật
- archive	lưu trữ
- aggravation	sự làm xấu thêm
- assist	Giúp, giúp đỡ
- clutter	Cản trở, làm tắc nghẽn
- compound	(hoá học) hợp chất; (ngôn ngữ học) từ ghép
- concern (+ with)	sự liên quan tới
- Contemporary	Đương đại (lịch sử)
- contrast (+ to)	cái tương phản (với)
- Cryptographic	(thuộc) mật mã; bằng mật mã
- Diagnostics	hệ chuẩn đoán
- deletion	Sự gạch đi, sự xoá đi, sự bỏ đi
- decrypt	giải mật mã
- directory	Sách chỉ dẫn, sách hướng dẫn
- diminish	Bớt, giảm, hạ bớt, giảm bớt; thu nhỏ
- drag	Lôi kéo; Kéo lê
- encrypt	cài mã
- encryption	sự cài mã; sự mã hóa.
- fragments	Mảnh, khúc, đoạn, mảnh vỡ
- Hex	Bùa ma thuật; hình lục giác; hình sáu cạnh
- hog	độ vênh; độ võng; sự lồi; uốn cong
- infected	có nhiều biến tổ
- infrastructure	Cơ sở hạ tầng
- junk	Phế liệu, sắt vụn
- memory-resident	thường trú trong bộ nhớ
- optimize	Lạc quan; theo chủ nghĩa lạc quan
- plasma	thể điện tương; (vật lý) thể plasma (loại khí có số lượng các hạt mang điện âm, dương tương đương nhau trên mặt trời và phần lớn các sao)
- prefix	(ngôn ngữ học) tiền tố, tiếp đầu ngữ
- profilers	máy phay chép hình; máy phay định hình
- registry	Nơi đăng ký; cơ quan đăng ký

- remedy	Cứu chữa, chữa khỏi; Đền bù, bù đắp
- sluggish	Chậm chạp, không nhanh nhẹn
- Spyware	Phần mềm gián điệp
- syllable	âm tiết
- tracking	(vô tuyến) sự tự hiệu chỉnh
- Trojan horse viruses	con ngựa thành Troa (người hay đồ vật dùng để làm hại một đối thủ hay kẻ thù, vốn vẫn tin một cách sai lầm là mình đang được giúp đỡ)
- TSRs(terminate and stay resident)	chương trình cuối thường trú
- tweak	Véo, vặn; Ngắt
- Utilities	các tiện ích
- vulnerabilities	độ nhạy cảm; Lỗ hổng (phần mềm, website...)

Unit 7

COMPUTER DATABASE

I. READING COMPREHENSION



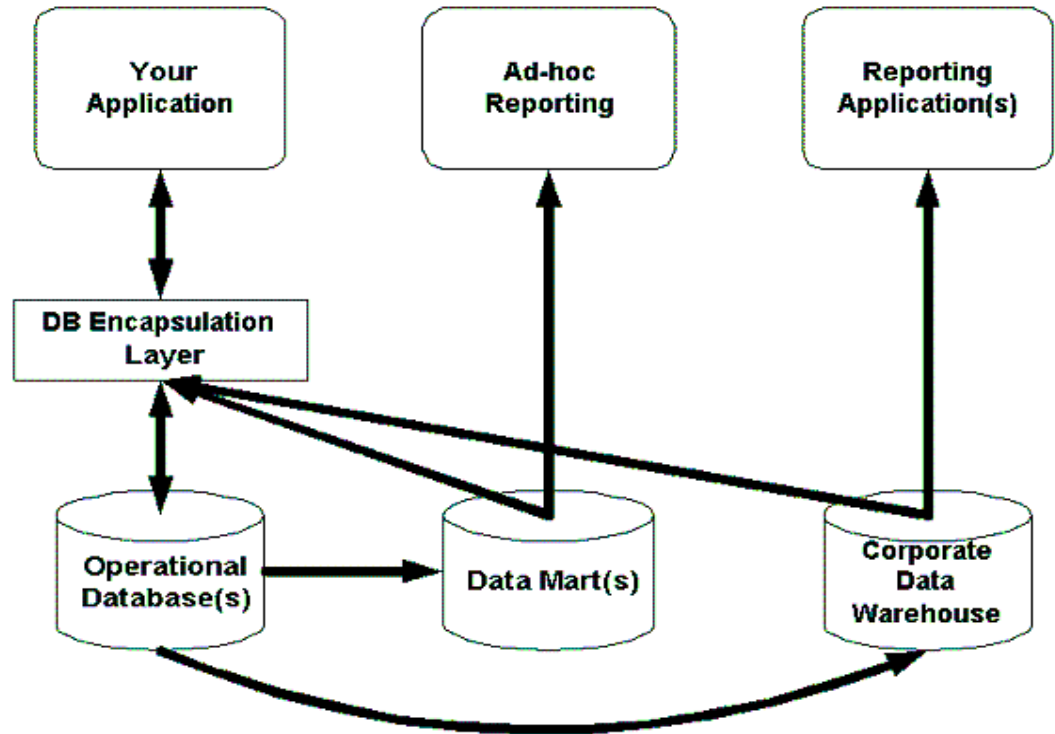
What's database?

A database is a searchable collection of information. In library research, a database is where you find articles. Each database contains thousands of articles from different journals, which you search simultaneously. You can cover a lot of ground quickly using databases, finding more articles with higher relevancy than searching in individual journals. The databases

- Can include journals, newspapers, magazines, reports, newsletters and more
- Sometimes include books, but if you want books specifically, use the library catalogue
- Often give you full text; others show only the abstract and citation

- You can print, save, or email citations and, if available, the full-text article
- May only contain a certain date range (you might miss some content)
- Sometimes leave out article images; if you need to see an important photo or diagram, you will need to find the article in print
- Are also called subscription databases, online databases, article databases, and electronic resources

Types of databases



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*** Flat-File**

A flat file database is a database that stores data in a plain text file. Each line of the text file holds one record, with fields separated by delimiters, such as commas or tabs. While it uses a simple structure, a flat file database cannot contain multiple tables like a relational database can. Fortunately, most database programs such as Microsoft Access and FileMaker Pro can import flat file databases and use them in a larger relational database.

<u>UserName</u>	<u>Password</u>	<u>LastName</u>	<u>FirstName</u>
Mingda	*****	Pan	Mingda
Kim	*****	Abercrombie	Kim
Junmin	*****	Hao	Junmin
David	*****	Pelton	David
Greg	*****	Winston	Greg
Frank	*****	Lee	Frank
Steve	*****	Wilson	Steve

*** Relational database**

Relational databases work on the principle that each table has a key field that uniquely identifies each row, and that these key fields can be used to connect one table of data to another. Thus, one table might have a row consisting of a customer account number as the key field along with address and telephone number. The customer account number in this table could be linked to another table of data that also includes customer account number (a key field), but in this case, contains information about product returns, including an item number (another key field). This key field can be linked to another table that contains item numbers and other product information such as production location, color, quality control person, and other data. Therefore, using this database, customer information can be linked to specific product information.

Database 1			
1	First Name	Last Name	Social Security No.
2	John	Smith	010-22-9432
3	John	Smith	003-63-0037
4	John	Smith	020-45-9326
5	Sally	Smith	
6	Steve	Smith	
7			

Database 2		
1	Date of Birth	Social Security No.
2	6/12/82	010-22-9432
3	5/9/40	003-63-0037
4	12/1/57	020-45-9326
5	8/6	289-56-4321
6	7/9	170-54-2334

Database 3		
1	Address	Social Security No.
2	321 Byberry Road	010-22-9432
3	268 Monroe Avenue	003-63-0037
4	8120 Venshire Drive	020-45-9326
5	207 Congress Drive	289-56-4321
6	1519 Ashbury Lane	170-54-2334

UNDERSTANDING THE PASSAGE

Task 1. Answer the following questions

1. What is a database?

.....

2. What does each database contain?

.....

3. How many types of database are there in this passage?

.....

4. What are the flat-file style of database?

.....

5. What do the relational databases have?

.....

6. What can the databases do?

.....
.....

7. What can most database programs import ?

.....
.....

8. Why does customer use this database?

.....
.....

Task 2. *Are these sentences true or false. Correct the false sentences.*

1. The methods used for storing the more complex data types, are also likely to render the file unreadable and un-editable to anyone looking after the database.

.....
.....

2. The typical relational database is split up using a common delimiter.

.....
.....

3. A table called books could have the columns title, author and MySQL, which describe the details of each book where each row in the table is a new book.

.....
.....

4. If a database is designed efficiently, there should be no columns of any data; helping to maintain database integrity

.....
.....

5. When data is read only, it can be beneficial to have some duplicate data in a relational database.

.....
.....

Task 3. *Choose the best answer*

1. That's not to say that it is to store complex data in a flat-file database.

- A. real B. linked C. impossible D. heavy
2. The typical flat-file database is split up using a delimiter.
A. heavy B. common C. linked D. impossible
3. Tables can be used to representworld objects, with each field acting like an attribute.
A. linked B. impossible C. real D. common
4. The "relation" comes from the fact that the tables can beto each other.
A. impossible B. common C. heavy D. linked
5. Joining large tables to each other to get the data required for a query can be quiteon the processor.
A. heavy B. real C. linked D. common
6. This key field can be linked to anotherthat contains item numbers and other product information.
A. table B. database C. customer D. multiple
7. Using this, customer information can be linked to specific product information.
A. programs B. customer C. table D. database
8. A flat file database cannot contain..... tables like a relational database can.
A. database B. customer C. multiple D. programs
9. Most database..... such as Microsoft Access and FileMaker Pro can import flat file databases.
A. multiple B. programs C. customer D. table
10. The account number in this table could be linked to another table of data.
A. customer B. table C. multiple D. database

II. LANGUAGE WORK

Use of Passive

Passive voice is used when the focus is on the action. It is not important or not known, however, who or what is performing the action.

Example: Tables **can be used** to represent real world objects, with each field acting like an attribute.

Form of Passive

Subject + finite form of *to be* + Past Participle (3rd column of irregular verbs)

Example: Excel **is meant** mainly to store numbers and make calculations,

When rewriting active sentences in passive voice, note the following:

- the object of the active sentence becomes the subject of the passive sentence

- the finite form of the verb is changed (*to be* + past participle)

- the subject of the active sentence becomes the object of the passive sentence (or is dropped)

Passive Sentences with Two Objects

Rewriting an active sentence with two objects in passive voice means that one of the two objects becomes the subject, the other one remains an object. Which object to transform into a subject depends on what you want to put the focus on.

Personal and Impersonal Passive

Personal Passive simply means that the object of the active sentence becomes the subject of the passive sentence. So every verb that needs an object (transitive verb) can form a personal passive.

Example: One or more files **can be parsed** to get the information they store.

III. PRACTICE

Exercise 1. *Rearrange these words to make the sentences*

1. storing /The /used/ methods/ for /the/ types. / more /data / complex

.....
.....

2. can/ used /Tables /be /to/ objects. / represent /world/ real

.....
.....

3. book /could /The /of / author /a /be/ with/ cross-referenced /the /table/ authors

.....
.....

4. be / should /There /no/ data/ duplication /any/ of

.....

 5. can /beneficial /Data /be /to/ some/ have /duplicate/ database. / data /a /
 in /relational

Exercise 2. Match a word in A to the appropriate phrase in B

A	B
1. when data is read only	a. describe the details of each book
2. MySQL, Microsoft SQL Server and Oracle	b. split up using a common delimiter.
3. Tables	c. it can be beneficial to have some duplicate data in a relational database.
4. the columns title, author and ISBN	d. ideal for small amounts of data
5. The typical flat-file database	e. to represent real world objects
6. The flat-file style of database	f. have a much more logical structure

Exercise 3. Put a word to complete the passage

keywords ; database; information ; solution; branches; product ; work

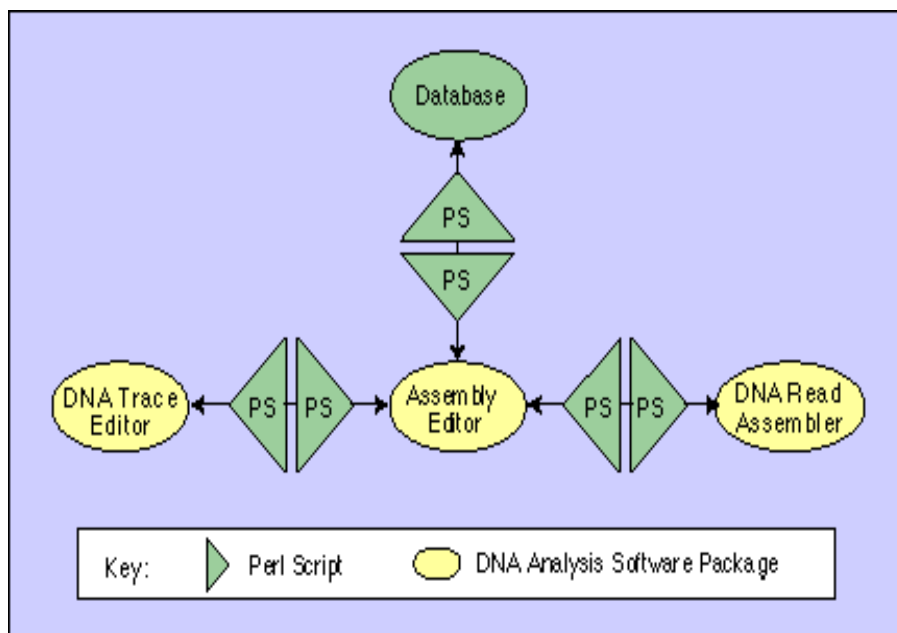
Databases Save Time

Instead of rummaging through endless piles of paperwork, apulls up information with simple query. A user can enter in specificin order to recall information. The database becomes a more efficientthan paper files held in a file folder.

Databases Aid Communication

Larger companies can benefit from databases when must be spread to various users. For example, if a company has twobut must

share central information, it would be prudent to implement a central database that can be viewed by all employees of that company. This way, once information is added, it is viewable by all, aiding in a cohesive environment. By looking at database records and how data has changed over time, you can also track important trends, such as whichis most popular with your customers, which can make your business more competitive.



Exercise 4. Use the information in the text above and the diagram to help you match the terms in the box with appropriated explanation or definition below.

a. Relational databases	b. A flat file database	c. most database programs
d. customer information	e. A database	f. The customer account number in this table
g. The databases	h. Each line of the text file	i. Each database
1. a searchable collection of information.		(e)
2. holds one record, with fields separated by delimiters		<input type="checkbox"/>
3. work on the principle that each table has a key field		<input type="checkbox"/>
4. a database that stores data in a plain text file.		<input type="checkbox"/>
5. can be linked to specific product information.		<input type="checkbox"/>
6. subscription databases, online databases, article databases, and electronic resources		<input type="checkbox"/>
7. can import flat file databases		<input type="checkbox"/>
8. contains thousands of articles from different journals		<input type="checkbox"/>
9. could be linked to another table of data		<input type="checkbox"/>

Exercise 5. Translate the sentences into Vietnamese

1. A database is a searchable collection of information. In library research, a database is where you find articles.

.....

2. If the data is simple enough, this could be a comma, but more complex strings are usually split up using tabs, new lines or a combination of characters not likely to be found in the record itself.

.....

3. Having said that, joining large tables to each other to get the data required for a query can be quite heavy on the processor; so in some cases, particularly when data is read only, it can be beneficial to have some duplicate data in a relational database.

.....
.....
.....
.....
.....

Exercise 6. *Translate the sentences into English*

1. Một lợi thế lớn của mô hình quan hệ là, nếu một cơ sở dữ liệu được thiết kế hiệu quả, không nên có sự trùng lặp của bất kỳ dữ liệu, giúp duy trì tính toàn vẹn cơ sở dữ liệu.

.....
.....
.....
.....

2. Các kiểu tập tin phẳng của cơ sở dữ liệu là lý tưởng cho lượng dữ liệu nhỏ mà mọi người có thể đọc được hoặc thay đổi nội dung bằng tay.

.....
.....
.....

3. Bạn có thể tra cứu rất nhiều vấn đề một cách nhanh chóng bằng cách sử dụng cơ sở dữ liệu, tìm kiếm nhiều hơn với mức độ phù hợp cao hơn so với tìm kiếm trên các tạp chí cá nhân.

.....
.....
.....
.....

Exercise 7. *Think about Photography then answer the questions*

1. What is your favorite "news" site?

.....

2. What Internet sites do you visit regularly?

.....

3. Can your mother and father use a computer?

.....

4. Do you have a computer?

.....

5. Do you have a computer at work and at home?

.....

6. Do you have a laptop or a desktop computer? Do you have both?

.....

7. Do you use your computer when you do homework for school?

.....

8. Have you ever studied English using your computer?

.....

IV. FURTHER READING

What are the advantages and disadvantages of using database?



Advantages



It means all of the information is together.

The information can be portable if on a laptop.

The information is easy to access at any time.

It's more easily retrievable.

Many people can access the same database at the same time.

Improved data security.Reduced data entry, storage, and retrieval costs.

Disadvantages



Database systems are complex, difficult, and time-consuming to design.

Initial training required for all programmers and users.

Suitable hardware and software start-up costs.

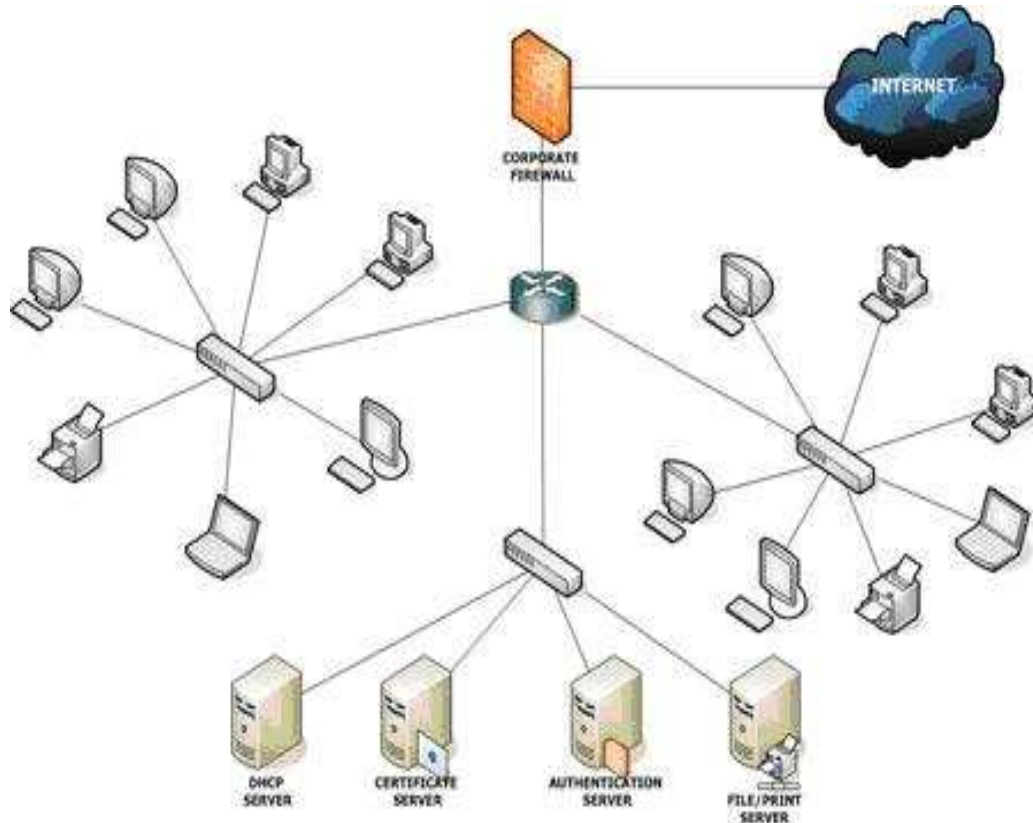
A longer running time for individual applications.

V. VOCABULARY

- associated	liên kết; ghép
- benefit	Lợi, lợi ích
- cohesive	Dính liền, cố kết
- compilation	Tài liệu biên soạn, tài liệu sưu tập
- client	Khách hàng (của luật sư, cửa hàng...)
- database	cơ sở dữ liệu
- hierarchy	hệ thứ bậc; trật tự
- manipulated.	Vận dụng bằng tay, thao tác
- imagination	Khả năng hư cấu; Khả năng sáng tạo
- imply	Ý nói; ngụ ý; bao hàm ý
- index	Bảng mục lục (chỉ dẫn cuối sách); bản kê
- layout	bản thiết kế; bố trí
- model	Kiểu, mẫu, mô hình
- query	Câu hỏi, câu chất vấn; thắc mắc
- prudent	Thận trọng, cẩn thận; khôn ngoan
- statistical	thống kê; được trình bày bằng thống kê
- Unique	Đơn nhất; độc nhất vô nhị, chỉ có một

LOCAL AREA NETWORK

I. READING COMPREHENSION

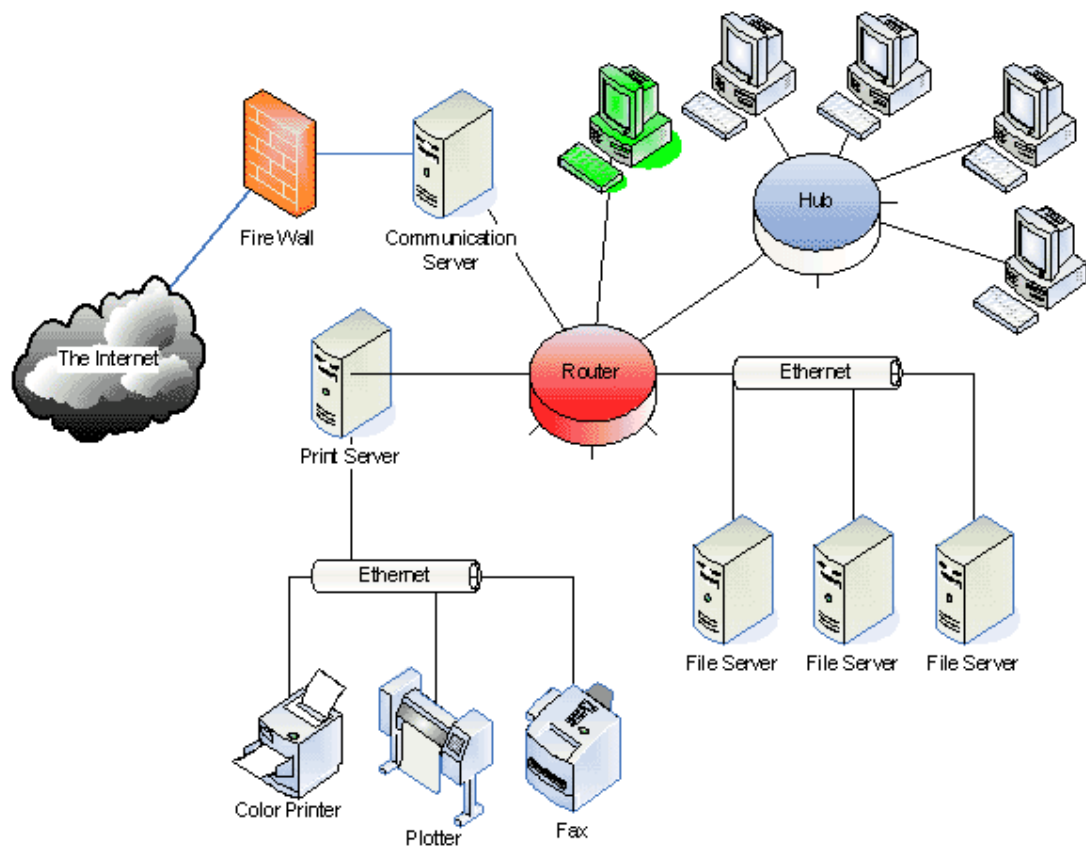


What's Network?

A computer network is nothing more than two or more computers connected together in order to share information. It's a simple but very powerful concept. Networked computers (also called nodes, clients, workstations, and servers) perform three key functions; they share files, resources (printers, disks, etc.), and programs. Each node has its own unique hardware address to identify it on the network.

Types of Networks

- **Local Area Network.** A Local Area Network (LAN) is a relatively small network that is confined to a small geographic area, such as a single office or a building.



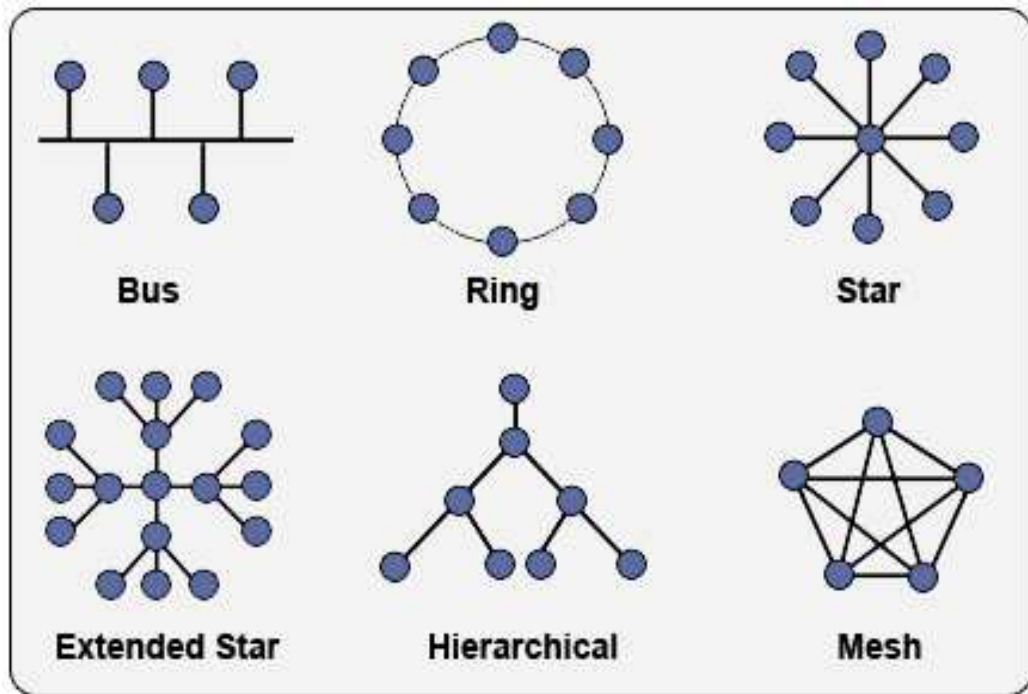
- **Wide Area Network.** A Wide Area Network (WAN) covers a significantly larger geographic area than LANs or MANs.

- **The Internet.** The Internet is an example of a network that connects many WANs, MANs, and LANs into the world's largest global network. Internet Service Providers (ISPs), such as UUNet and QWest connect the networks.

- **Personal Area Network.** A more recent term used to describe a type of network is a Personal Area Network (PAN). PAN networks are usually wireless, established in an on-demand or ad-hoc fashion when needed to communicate between two or more devices.

Topology of Local Area Network

The hardware devices alone are not enough to create a usable local area network. It is also necessary to set a standard access method between computers, so that they know how the computers are exchanging data, especially when more than two computers are sharing the same physical support. This access method is called a **logical topology**.



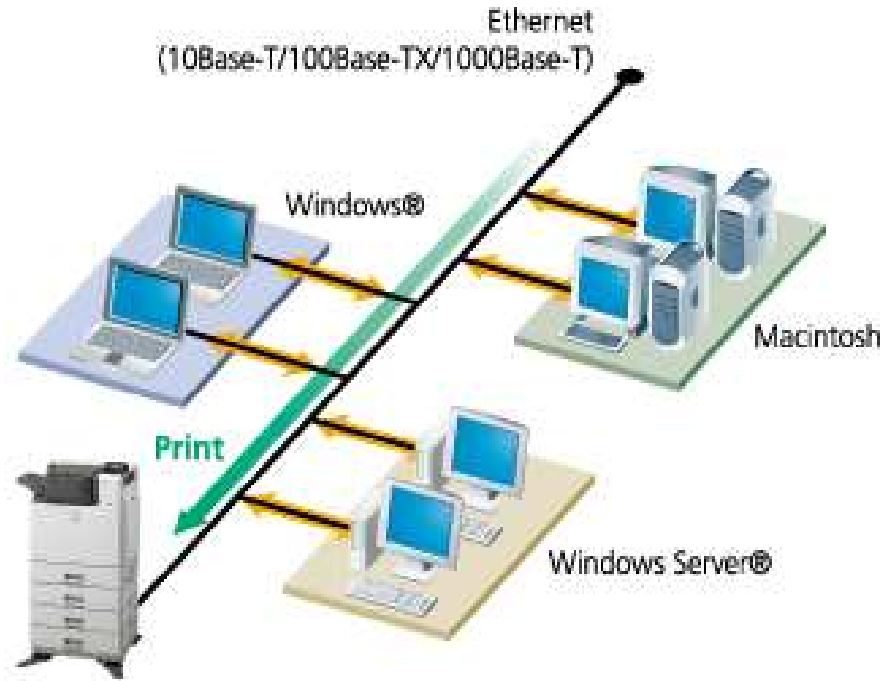
- Network Potocols

Network protocols include mechanisms for devices to identify and make connections with each other, as well as formatting rules that specify how data is packaged into messages sent and received. Some protocols also support message acknowledgement and data compression designed for reliable and/or high-performance network communication. Hundreds of different computer network protocols have been developed each designed for specific purposes and environments.

- Communication Equipments



Communication Devices use specific interfaces and technologies to transmit data in electronic form using either wires and cables or radio signals. These components work on the methodology of converting voice or other signals into a non tangible waves which can be easily transmitted to other devices that receives and reconverts these waves back into sound. They are mostly digital in nature and are known to indicate combination of supported technologies and frequency bands.



UNDERSTANDING THE PASSAGE

Task 1. Answer the following questions

1. What is a computer network?

.....
.....

2. What are the other names of networked computers?

.....
.....

3. How many key functions do networked computers perform?

.....
.....

4. What do they share?

.....
.....

5. How many types of networks are there in this passage?

.....
.....

6. What are they?

.....
.....

Task 2. *Are these sentences true or false. Correct the false sentences.*

1. A Wide Area Network (WAN) covers a significantly smaller geographic area than LANs or MANs.

.....
.....

2. PAN networks are usually wireless, established in an on-demand or ad-hoc fashion when needed to communicate between two or more devices.

.....
.....

3. The logical topology is carried out using an access protocol.

.....
.....

4. Some networks also support message acknowledgement and data compression designed for reliable and/or high-performance network communication

.....
.....

5. Compression Devices are mostly digital in nature and are known to indicate combination of supported technologies and frequency bands.

.....
.....

Task 3. Choose the best answer

1. MANs are larger than traditional LANs and predominantly use high-speed, such as fiber optic cable, for their backbones.

A. telephone B. create C. media D. connect

2. Internet Service Providers (ISPs), such as UUNet and QWest the networks.

A. media B. connect C. create D. network

3. The hardware devices alone are not enough to..... a usable local area network.

A. telephone B. network C. connect D. create

4. Hundreds of different computer..... protocols have been developed each designed for specific purposes and environments.

A. network B. media C. connect D. telephone

5. The phone switchboards are used largely for routing..... calls and adding advanced features to telephone systems.

A. telephone B. create C. network D. media

II. LANGUAGE WORK

Can, could, be able to

We use can to say that something is possible or that somebody has the ability to do something. We use can + infinitive (can do / can see etc.):

- One LAN can be connected to other LANs over any distance via telephone lines and radio waves.

- Each *node*(individual computer) is able to access data and devices anywhere on the LAN.

The negative is can't (= cannot):

• I'm afraid I can't come to the party on Friday.

(Be) able to... is possible instead of can, but can is more usual:

• Are you able to speak any foreign languages?

But can has only two forms, can (present) and could (past). So sometimes it is necessary to use (be) able to..

Could and was able to...

Sometimes could is the past of can. We use could especially with:

See/ hear/ smell/ taste/ feel/ remember/ understand

We use could for general ability. But if we are talking about what happened in a particular situation, we use was/were able to... or managed to... (Not could)

III. PRACTICE

Exercise 1. *Rearrange these words to make the sentences*

1. its /node /unique /Each/ has /own /hardware/ to/ address /identify/ network. / it /the/ on

.....
.....

2. Local/ Network /A/ Area /is / network /a /small / relatively

.....
.....

3. Area /Wide / a/ Network/ A/ covers /significantly / area / geographic/ larger

.....
.....

4. are /The/ devices/ hardware /alone /not/ to/ enough /create/ network. / a /local/ usable/ area

.....
.....

5. is /The /topology/ carried/ logical/ out / protocol. /using /access/ an

.....
.....

Exercise 2. *Match a word in A to the appropriate phrase in B*

A	B
1. Network protocols	a. Internet Service Providers
2. The most common access protocols	b. include mechanisms for devices to identify and make connections with each other
3. PAN	c. Wide Area Network
4. ISPs	d. describe a network that spans a citywide area or a town.
5. WAN	e. Ethernet; Token ring
6. Metropolitan Area	f. confined to a small geographic area, such as a

Network (MAN)	single office or a building.
7. Local Area Network (LAN)	g. Personal Area Network

Exercise 3. *Put a word to complete the passage*

corporate ; responsibilities ; administrator; ensure ; computers

LAN network administrator

The LAN networkis responsible for maintaining an organization's local area network. The local area network connectsand other equipment that shares a common communications line or network server. In most cases, the LAN spans a single geographical site, such as a office. A LAN network administrator's job..... include: installing LAN network components, tracking and renewing licenses for software and equipment,



monitoring LAN performance, upgrading LAN network software and hardware, creating network redundancy and backups to ensure continuity in the event of network failure, and installing software and hardware tolocal area network security.

Exercise 4. *Use the information in the text above and match the terms in the box with appropriated explanation or definition below.*

a. Network protocols	b. Communication Devices	c. a logical topology.
d. A computer network	e. Internet Service Providers (ISPs)	f. a non tangible waves
g. A Local Area Network (LAN)	h. different computer network protocols	i. Personal Area Network.
1. two or more computers connected together in order to share information.		(d)
2. use specific interfaces and technologies to transmit data in electronic form		<input type="checkbox"/>
3. include mechanisms for devices to identify and make connections with each other		<input type="checkbox"/>
4. connect the networks.		<input type="checkbox"/>
5. can be easily transmitted to other devices that receives and reconverts these waves back into sound.		<input type="checkbox"/>
6. a relatively small network that is confined to a small geographic area, such as a single office or a building.		<input type="checkbox"/>
7. how the computers are exchanging data, especially when more than two computers are sharing the same physical support.		<input type="checkbox"/>
8. wireless, established in an on-demand or ad-hoc fashion when needed to communicate between two or more devices.		<input type="checkbox"/>
9. have been developed each designed for specific purposes and environments.		<input type="checkbox"/>

Exercise 5. *Fill in the gaps in the following sentences using the appropriate form of the verb in brackets*

1. Microsoft (found) by Bill Gates.
2. C language (develop) in the 1970s.
3. During that period enormous advances (make) in computer technology.
4. The following year,twice as many PCs (sell)
5. In the 1980s, at least 100,000 LANs..... (set up) in laboratories and offices around the world.

6. The first digital computer (build) by the University of Ppennsylvannia in 1994
7. Last year, more software companies (launch) than ever before.
8. IBM's decision not to continue manufacturing mainframes (reverse) the year after it (take).

Exercise 6. *Translate the sentences into Vietnamese*

1. Networked computers perform three key functions; they share files, and programs. Each node has its own unique hardware address to identify it on the network.

.....

2. A Local Area Network (LAN) is a relatively small network that is confined to a small geographic area, such as a single office or a building.

.....

3. The Internet is an example of a network that connects many WANs, MANs, and LANs into the world's largest global network. Internet Service Providers (ISPs), such as UUNet and QWest connect the networks.

.....

Exercise 7. *Translate the sentences into English*

1. Một số giao thức cũng hỗ trợ xác nhận tin nhắn và nén dữ liệu được thiết kế cho truyền thông mạng đáng tin cậy và / hoặc có hiệu suất cao.

.....

2. Thiết bị truyền thông sử dụng giao diện và các công nghệ cụ thể để truyền dữ liệu dưới dạng điện tử bằng cách sử dụng dây và cáp điện hoặc các tín hiệu vô tuyến điện.

.....
.....
.....

3. Một số trong những ví dụ phổ biến của các thiết bị thông tin liên lạc là điện thoại, điện thoại di động, máy trả lời tự động, và tổng đài điện thoại.

.....
.....
.....

Exercise 8. *Think about your computer then answer the questions*

1. How many times have you upgraded your computer?

.....

2. How powerful is your computer?

.....

3. What company made your computer?

.....

4. What kind of computer do you have?

.....

5. What size is your computer screen?

.....

6. What do you think is the best size to have?

.....

7. Where do you use your computer?

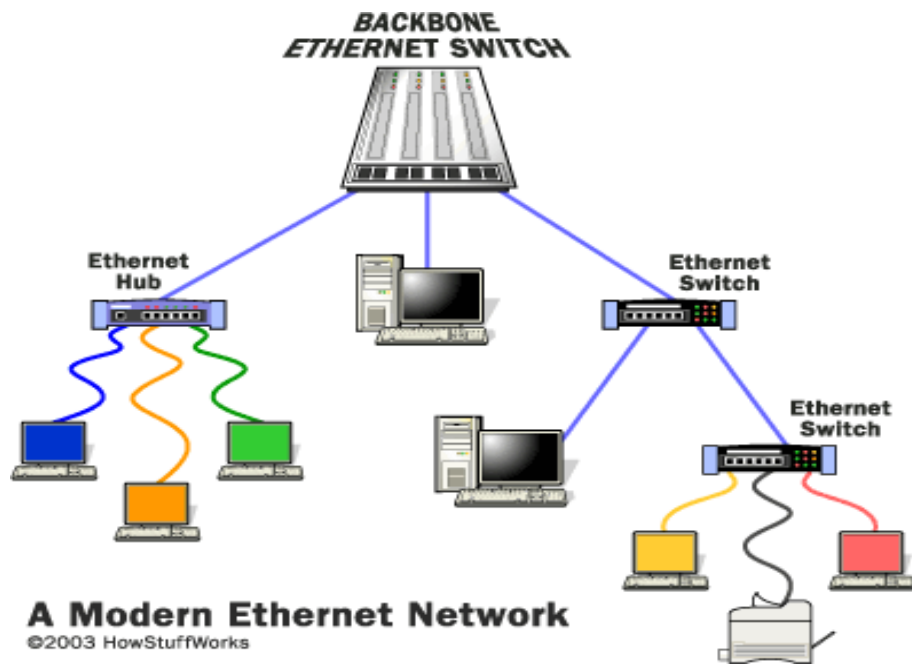
.....

8. Why did you buy your computer?

.....

IV. FURTHER READING

Local area network (LAN)



A local area network (LAN) is a group of computers and associated devices that share a common communications line or wireless link. Typically, connected devices share the resources of a single processor or server within a small geographic area (for example, within an office building). Usually, the server has applications and data storage that are shared in common by multiple computer users. A local area network may serve as few as two or three users (for example, in a home network) or as many as thousands of users (for example, in an FDDI network).

Major local area network technologies are: Ethernet; Token Ring; FDDI

Ethernet is by far the most commonly used LAN technology. A number of corporations use the Token Ring technology. FDDI is sometimes used as a backbone LAN interconnecting Ethernet or Token Ring LANs. Another LAN technology, ARCNET, once the most commonly installed LAN technology, is still used in the industrial automation industry.

A Small Token Ring Network

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V. VOCABULARY

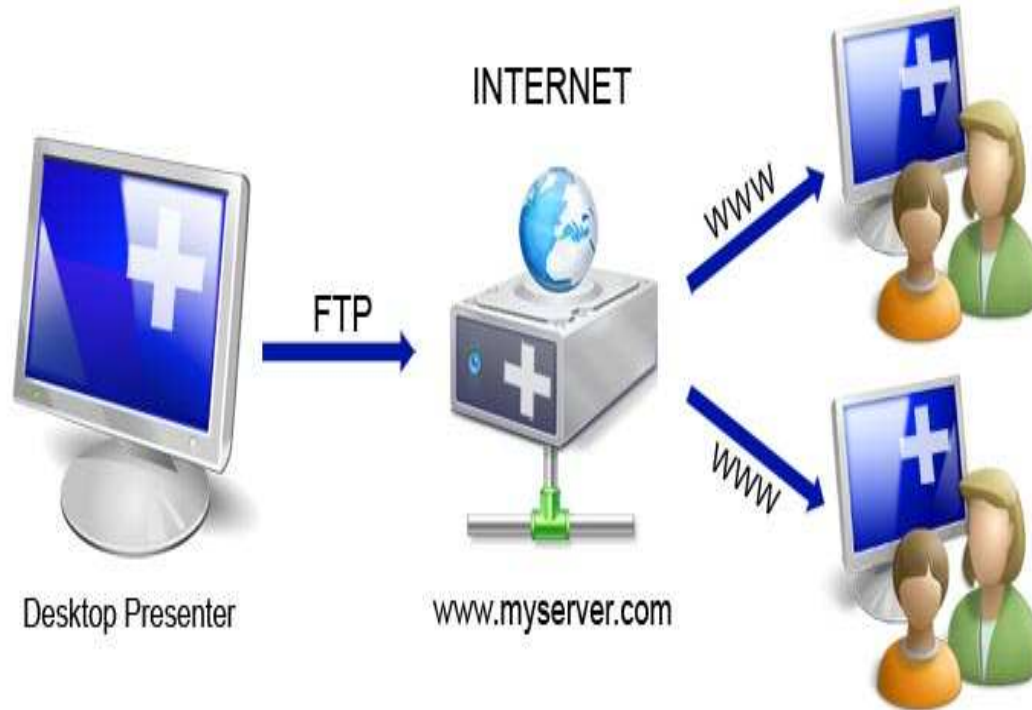
- Adapter	(kỹ thuật) thiết bị tiếp hợp
- administrator	người quản trị
- attach	Gắn, dán, trói buộc
- automation	sự tự động; tự động học
- backups	bản sao dự trữ; ghi lưu
- characteristic	Đặc tính, đặc điểm
- coaxial cables	cáp đồng trục
- confine	giới hạn; giữ; hạn chế
- distance	Khoảng cách, tầm xa
- engage	Thu hút (sự chú ý...); giành được
- Ethernet	chuẩn Ethernet
- executes	Thực hiện, chấp hành
- flavor	mùi thơm; vị ngon
- fiber optic	sợi quang
- FDDI	một mạng vòng token sợi quang
- geometric	(thuộc) hình học
- Hub	Trục bánh xe, moayơ. hộp chia
- license	cấp quyền; bản quyền

- participant	Người tham gia, người tham dự
- peer-to-peer	cùng mức; đồng cấp
- preferable	được thích hơn, được ưa hơn
- proximity	sự lân cận, trạng thái gần
- protocol	bản ghi viết; chỉ lệnh
- redundancy	độ dư thừa
- site	Nơi, chỗ, vị trí
- temporary	Tạm thời, nhất thời, lâm thời
- Token Ring	vòng mã thông báo; vòng thẻ bài
- topology	cấu trúc liên kết
- twisted-pair wire	dây xoắn đôi
- via	Qua; theo đường (gì)
- workstations	trạm làm việc

Unit 9

INTERNET AND INTRANET

I. READING COMPREHENSION



1. What are Internet and Intranet?

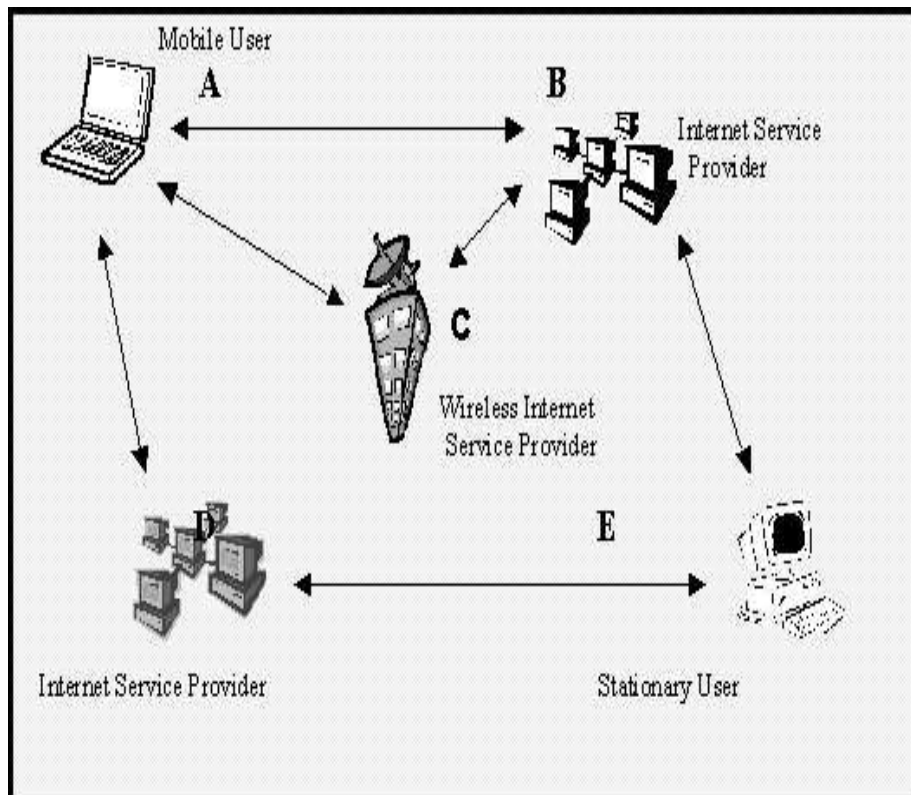
“Internet” is the proper name of the network most people connect to, and the word needs to be capitalized. However “intranet,” a network confined to a smaller group, is a generic term which does not deserve capitalization. In the information age that we live in today, the speed at which information can travel inside a company would often indicate the productivity of that company. Computers make this possible and there are multiple ways to implement such a network. An Intranet is a computer network that is designed to work like the internet but in a much smaller scale and is restricted only to the employees of the company. This allows the employees to send progress reports to their manager even when they cannot meet in person. Workers could also work collaboratively on a certain project while keeping their paperwork properly synchronized. It is often necessary to have access to the internet from within your intranet, which is why intranets are placed behind a firewall.



3. *Basic services on Internet*

Basic services are those services that are part of the fundamental suite of internet applications (e.g. FTP, gopher). These services grew with the internet and are often part of the package of offerings included with the browser or TCP/IP package.

Identify what services are provided in the packages being purchased. Consider the services and their features with respect to the requirements. For example, is there a requirement to provide access to files for people to download? Implementing an FTP service can accomplish this. Is there a requirement for remote access to a site? Perhaps Telnet services would be appropriate.



2. Effectiveness of Internet

A variety of technologies are currently being used to deliver education on the Internet. These technologies include the use of the World Wide Web (WWW) for online lecture notes, newsgroups for collaborative discussions and class announcements, e-mail correspondence between students and instructors, interactive video over the Internet for remote participation in classes and discussions, and virtual reality for exploring three dimensional scenes. Multimedia is increasingly being used in online education to enhance the learning process.

UNDERSTANDING THE PASSAGE

Task 1. *Answer the following questions*

1. What is Internet?

.....
.....

2. What is intranet?

.....
.....

3. Why wouldn't an intranet be very effective?

.....
.....

4. Why is the internet the massive network of computers?

.....
.....

5. What has Email and VoIP allowed?

.....
.....

Task 2. *Are these sentences true or false. Correct the false sentences.*

1. Internet confined to a smaller group, is a generic term which does not deserve capitalization.

.....
.....

2. In the information age that we live in today, the speed at which information can travel inside a company would often indicate the productivity of that company.

.....
.....
3. An Intranet is a computer network that is designed to work like the internet but in a much smaller scale and is rejected only to the employees of the company.
.....
.....

4. Workers could also work collaboratively on a certain project while keeping their paperwork properly synchronized.
.....
.....

5. An intranet, although very helpful, would be very effective if it is independent from the internet.
.....
.....

Task 3. Choose the best answer

1. The speed would often indicate theof the company.
A. intranet B. productivity C. internet D. touch
2. It is possible to run FTP, HTTP, and mail servers in the
A. productivity B. touch C. intranet D. internet
3. It is often necessary to have access to the internet from within your
A. internet B. touch C. productivity D. intranet
4. The is the massive network of computers from all around the world.
A. internet B. productivity C. intranet D. touch
5. Email and VoIP has allowed many people to keep indespite geographical locations.
A. intranet B. touch C. internet D. productivity

II. LANGUAGE WORK

Make someone do something

Make someone do something = Force someone to do something.

Make your son behave himself. He is causing a disturbance.

It's always have/make someone do something, but get somebody to do something.

Ex: She could make me sleep

1. They _____ them everything.
A. made him to tell B. made him tell
2. I was made _____ my clothes from the floor.
A. to pick up B. pick
3. It was a terribly sad story. It _____.
A. made me to cry B. made me cry
4. I was made _____ guilty and irresponsible [by him].
A. feel B. to feel

III. PRACTICE

Exercise 1. *Rearrange these words to make the sentences*

1. ways /There / multiple /are /to / network./implement/ a/ such
.....
.....
2. designed /An/ is/ Intranet /to/ internet./work/ the/ like
.....
.....
3. of /The/ is/ internet /massive/ the /network /computers/ world. / from / round / the /all
.....
.....
4. are /The / and /Intranet /the/ segregated/ Internet/ often /in/ maintain/ order/ security. / to
.....
.....
5. management /It /be/ to/ up/ should / the /to/Sure/ make .that / taken./all/ are/ precautions
.....
.....

Exercise 2. *Match a word in A to the appropriate phrase in B*

A	B
1. The internet	a. the proper name of the network most people connect

	to
2. Email and VoIP	b. a network confined to a smaller group
3. An Intranet	c. the massive network of computers from all around the world.
4. "Internet"	d. allowed many people to keep in touch despite geographical locations and time zones.
5. "intranet"	e. restricted only to the employees of the company

Exercise 3. *Put a word to complete the passage*

customers ; applications ; employees; information; support ; resource

The Difference Between Intranet and Internet Design



Intranet users are your ownwho know a lot about the company, its organizational structure, and special terminology and circumstances. Your Internet site is used by who will know much less about your company and also care less about it. The intranet is used for everyday work inside the company, including some quite complex; the Internet site is mainly used to find out about your products. The

intranet will have many draft reports, project progress reports, human information, and other detailed information, whereas the Internet site will have marketing information and customer information.

Exercise 4. Translate the sentences into Vietnamese

1. An Intranet is a computer network that is designed to work like the internet but in a much smaller scale and is restricted only to the employees of the company.

.....
.....
.....

2. The internet is the massive network of computers from all around the world. It allows people to virtually any point in the world at a very minimal cost. Services like Email and VoIP has allowed many people to keep in touch despite geographical locations and time zones.

.....
.....
.....
.....
.....

3. The Intranet and the Internet are two domains that are very alike but are often segregated in order to maintain security.

.....
.....
.....

Exercise 5. Translate the sentences into English

1. "Internet" là mạng mà hầu hết mọi người kết nối, và từ cần phải được viết hoa.

.....
.....

2. Công nhân cũng có thể cộng tác làm việc trong một dự án nhất định trong khi vẫn giữ giấy tờ của họ đúng cách đồng bộ.

.....
.....
.....

3. Được kết nối với internet, một công ty có thể có người của họ trong các lĩnh vực khác nhau hoặc những người đang làm việc ở nhà vẫn có thể làm những gì họ thường làm khi họ đang ở trong văn phòng.

.....
.....
.....
.....
.....

Exercise 6. *Think about Commuting then answer the questions*

1. How do you commute to your school or your place of work?

.....

2. How far do you travel and how long does it take you?

.....

3. How do you travel? Is it expensive? Is it tiring?

.....

4. What are some of the reasons why people commute?

.....

5. Would you rather work in a nearer place?

.....

6. If you work far from your house, why have you chosen to commute a long way to work?

.....

7. Would you ever travel between countries or states in order to keep a better job? Why or why not?

.....

8. In your viewpoint, what are the advantages and disadvantages of commuting?

.....

IV. FURTHER READING

What are the differences between Internet and Intranet and Extranet?

There's one major distinction between an intranet and the Internet: The Internet is an open, public space, while an intranet is designed to be a private space. An intranet may be accessible from the Internet, but as a rule

it's protected by a password and accessible only to employees or other authorized users. From within a company, an intranet server may respond much more quickly than a typical Web site.

This is because the public Internet is at the mercy of traffic spikes, server breakdowns and other problems that may slow the network. Within a company, however, users have much more bandwidth and network hardware may be more reliable.



This makes it easier to serve high bandwidth content, such as audio and video, over an intranet. (unless you work for the United States Marine Corps. Then you don't get to watch video's. And they Block 80% of any kind of "fun" or entertaining website available on the Internet) The Extranet is a portion of an organization's Intranet that is made accessible to authorized outside users without full access to an entire

V. VOCABULARY

- | | |
|-----------------|-----------------------------------|
| - authorization | Sự cho phép |
| - bound | (số nhiều) giới hạn |
| - capitalized | Viết bằng chữ hoa |
| - circumstances | hoàn cảnh; tình huống; trường hợp |

- collaboratively	Cộng tác
- confidential	tâm phúc; được tin cẩn
- configured	thiết lập cấu hình
- deserve	Đáng, xứng đáng
- deploy	dàn quân, triển khai
- distinction khác nhau	Sự phân biệt; điều phân biệt, điều
- employees	Người lao động, người làm công
- haphazardly	Bừa bãi, lung tung
- implement	thực thi; tài sản, thiết bị; cài đặt
- instantaneously	Ngay lập tức, tức thời
- leaps	nhảy qua; sự biến vị
- malicious	Hiểm độc, có ác tâm
- massive	To lớn, đồ sộ; chắc nịch
- mention	Kể ra, nói đến, đề cập
- mercy	Lòng tốt; lòng nhân từ
- implement	thực thi; tài sản, thiết bị; cài đặt
- instantaneously	Ngay lập tức, tức thời
- portion (+ out)	chia thành từng phần, chia phần
- precautions	sự phòng ngừa
- productivity	năng suất (của hệ thống)
- progress	Sự tiến tới, sự tiến bộ
- proper	Đúng, đúng đắn, chính xác
- reliable	Chắc chắn, đáng tin cậy
- recipient	người tiếp nhận; người nhận
- spike	Đâm, làm bị thương
- steal	Ăn cắp, lấy trộm
- submit	Trình, đệ trình
- synchronized	Đồng bộ hoá
- The Internet Protocol (IP)	bộ giao thức Internet.
- The Transmission Control Protocol (TCP) :	giao thức kiểm soát truyền
- virtually	Thực sự, gần như
- unimpeded	Không bị ngăn trở

Unit 10

COMMUNICATION

I. READING COMPREHENSION

Relationship between Communication and Informatic technology



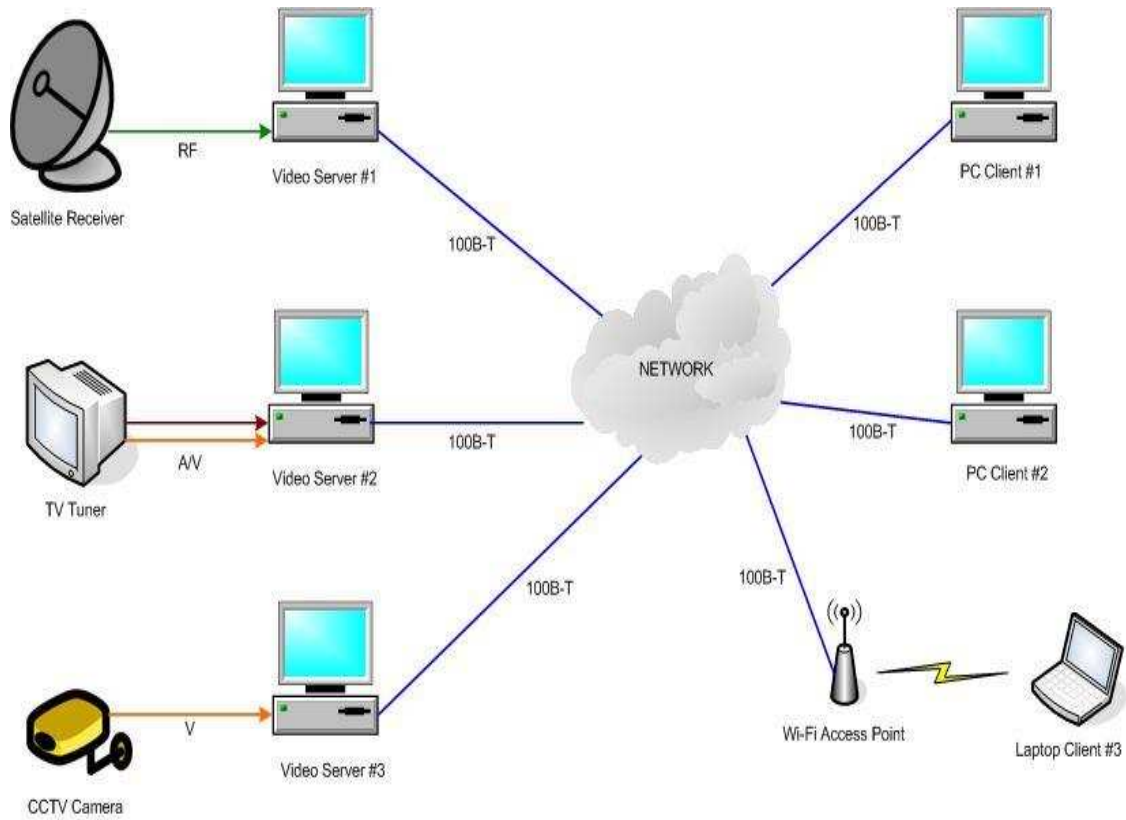
ICT is an acronym that stands for **Information Communications Technology**. A good way to think about ICT is to consider all the uses of digital technology that already exist to help individuals, businesses and organizations use information. ICT covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form. For example, personal computers, digital television, email, robots. So ICT is concerned with the storage, retrieval, manipulation, transmission or receipt of digital data. Importantly, it is also concerned with the way these different uses can work with each other.

Communication Services on Internet



The **Internet** is a global system of interconnected computer networks that use the standard Internet protocol suite (often called TCP/IP, although not all applications use TCP) to serve billions of users worldwide. It is a *network of networks* that consists of millions of private, public, academic, business, and government networks, of local to global scope, that are linked by a broad array of electronic, wireless and optical networking technologies. The Internet carries an extensive range of information resources and services, such as the inter-linked hypertext documents of the World Wide Web (WWW) and the infrastructure to support email.

Most traditional communications media including telephone, music, film, and television are reshaped or redefined by the Internet, giving birth to new services such as Voice over Internet Protocol (VoIP) and Internet Protocol Television (IPTV). Newspaper, book and other print publishing are adapting to Web site technology, or are reshaped into blogging and web feeds. The Internet has enabled and accelerated new forms of human interactions through instant messaging, Internet forums, and social networking. Online shopping has boomed both for major retail outlets and small artisans and traders. Business-to-business and financial services on the Internet affect supply chains across entire industries.



SAMPLE IPTV SYSTEM

UNDERSTANDING THE PASSAGE

Task 1. Answer the following questions

1. What does ICT stand for?
.....
.....
2. What does ICT cover?
.....
.....
.....
3. What is the standard Internet protocol suite called?
.....
.....
.....
4. What does the Internet carry?
.....
.....
.....

5. What has the Internet enabled and accelerated?

.....
.....

Task 2. Are these sentences true or false. Correct the false sentences.

1. ICT is an acronym that stands for Information Communications Technology.

.....
.....

2. ICT is also concerned with the way these different uses never meet with each other.

.....
.....

3. It is a *network of networks* that only works one of millions of private, public, academic, business, and government networks, of local to global scope.

.....
.....

4. The Internet has enabled and accelerated new forms of human interactions through instant messaging, Internet forums, and social networking.

.....
.....

5. Business-to-business and financial services on the Internet affect supply a shop across entire industries.

.....
.....

Task 3. Choose the best answer

1. ICTany product that will store, retrieve, manipulate, transmit or receive information.

A. supply B. carries C. covers D. enabled

2. ICT is with the storage, retrieval, manipulation, transmission or receipt of digital data.

A. concerned B. covers C. carries D. supply

3. The Internetan extensive range of information resources and services.

- A. carries B. supply C. covers D. concerned

4. The Internet hasand accelerated new forms of human interactions through instant messaging, Internet forums, and social networking.

- A. concerned B. covers C. carries D. enabled

5. Business-to-business and financial services on the Internet affect chains across entire industries.

- A. covers B. supply C. carries D. enabled

II. LANGUAGE WORK

THERE IS/THERE ARE

There is/There are is a common phrase in English, used to indicate that something "exists" or is in a certain location. The main subject *follows* the verb when *there is/are* is used.

- **There are** many ways to provide communication from the organization to the people of your community.

- **There is** no way to express thoughts, ideas and feelings.

Other forms of "be" can also be used with there is/there are.

- There will be a party at Bill's house on Saturday.

- There were four witnesses at the crime scene.

- There have been two robberies in the last five months.

Contractions are possible, but they are mostly used informally in speech.

- There's a fly in my soup.

- There're plenty of oranges left.

- There'll be a lot of people in attendance.

***There's is* by far the most common contraction, and it is sometimes used inadvertently with plural subjects by native speakers.**

- There's ten people outside!

III. PRACTICE

Exercise 1. *Rearrange these words to make the sentences*

1. global /The / is/ Internet/ a /system /computer networks / interconnected/ of

.....
.....

2. extensive /The /carries/ Internet/ an /range / resources / information/ of

.....
.....

3. traditional /Most /communications/ Internet. / media /redefined/ are/ the / by

.....
.....

4. Internet/ has /The /enabled/ interactions/ new /of / forms /human

.....
.....

5. both/ Online / has/ shopping/ boomed /for /traders. /small/ and /artisans

.....
.....

Exercise 2. Match a word in A to the appropriate phrase in B

A	B
1. VoIP	a. the standard Internet protocol suite
2. IPTV	b. Information Communications Technology
3. WWW	c. Internet Protocol Television
4. TCP/IP	d. World Wide Web
5. ICT	e. Voice over Internet Protocol

Exercise 3. Put a word to complete the passage

activities ; employees; practices ; outcomes; workplace
--

Assessing the needs ofand involving them in the development and implementation of psychologically healthy workplace practices. Using multiple channels to communicate the importance of a psychologically healthyto employees. Leading by example, by encouraging

key organizational leaders to regularly participate in psychologically healthy workplace in ways that are visible to employees. Communicating information about theand success of specific psychologically healthy workplaceto all members of the organization.



Exercise 4. *Translate the sentences into Vietnamese*

1. A good way to think about ICT is to consider all the uses of digital technology that already exist to help individuals, businesses and organisations use information.

.....
.....
.....

2. The Internet carries an extensive range of information resources and services, such as the inter-linked hypertext documents of theWorld Wide Web (WWW) and the infrastructure to support email.

.....
.....
.....
.....

3. Online shopping has boomed both for major retail outlets and smallartisans and traders. Business-to-business and financial services on the Internet affect supply chains across entire industries.

.....
.....
.....
Exercise 5. Translate the sentences into English

1. Công nghệ thông tin bao gồm bất kỳ sản phẩm sẽ lưu trữ, truy xuất, thao tác, truyền tải hoặc nhận được thông tin điện tử trong một hình thức kỹ thuật số.

.....
.....
.....
2. Internet là một hệ thống toàn cầu của các mạng máy tính kết nối với nhau sử dụng bộ giao thức standardInternet (thường được gọi là TCP / IP, mặc dù không phải tất cả các ứng dụng sử dụng TCP) để phục vụ cho hàng tỷ người dùng trên toàn thế giới.

.....
.....
.....
3. Internet mang một loạt các tài nguyên thông tin và dịch vụ, chẳng hạn như các liên kết siêu văn bản tài liệu liên TheWorld Wide Web (WWW) và cơ sở hạ tầng để hỗ trợ email.

.....
.....
.....
Exercise 6. Think about New Media then answer the questions

1. Would you ever consider being a journalist? Why or why not?

.....
2. Would you ever consider being a newscaster?

.....
3. If someone asked you to be a journalist, what kind of stories would you write about?

.....
4. Would you prefer being a newscaster or a journalist?

.....
5. When you watch the news, are you interested in the story or the newscaster who presents it?
.....

6. Do you think journalists tell the truth when they write?
.....

7. Do you think journalists add more information to make the story interesting?
.....

IV. FURTHER READING

The Role of Communication

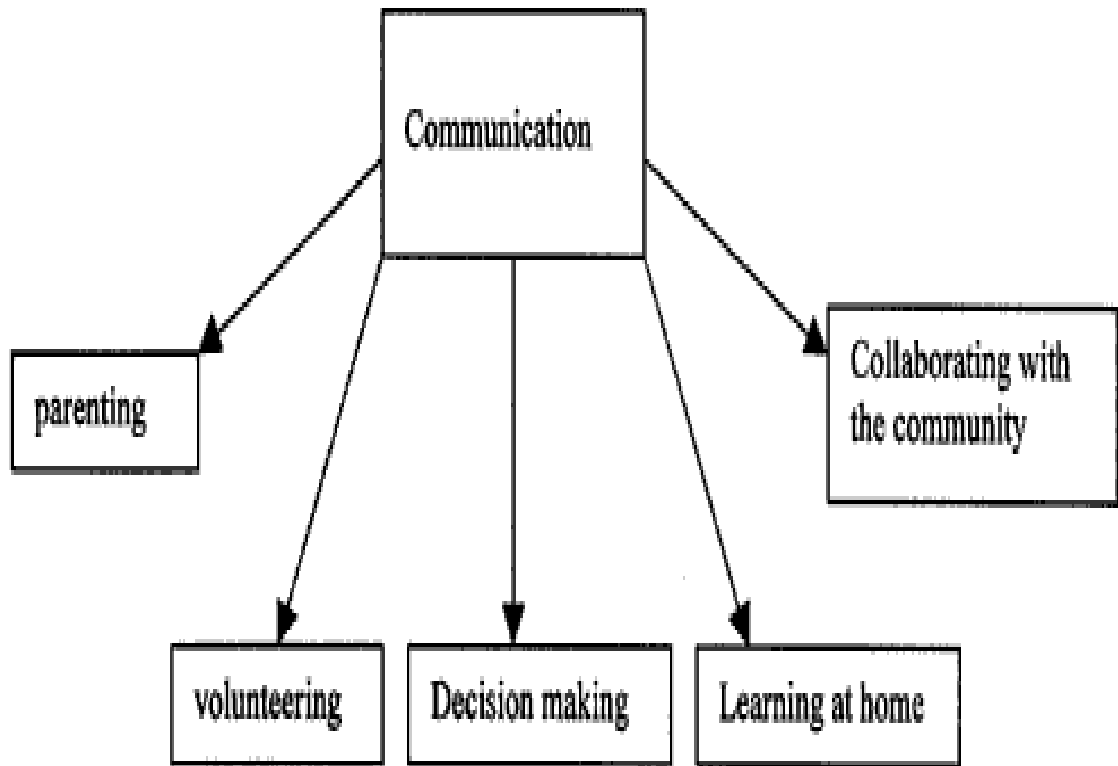


Communication plays a key role in the success of any workplace program or policy and serves as the foundation for all five types of psychologically healthy workplace practices. Communication about workplace practices helps achieve the desired outcomes for the employee and the organization in a variety of ways:

- Bottom-up communication (from employees to management) provides information about employee needs, values, perceptions and

opinions. This helps organizations select and tailor their programs and policies to meet the specific needs of their employees.

- Top-down communication (from management to employees) can increase utilization of specific workplace programs by making employees aware of their availability, clearly explaining how to access and use the services, and demonstrating that management supports and values the programs.



V. VOCABULARY

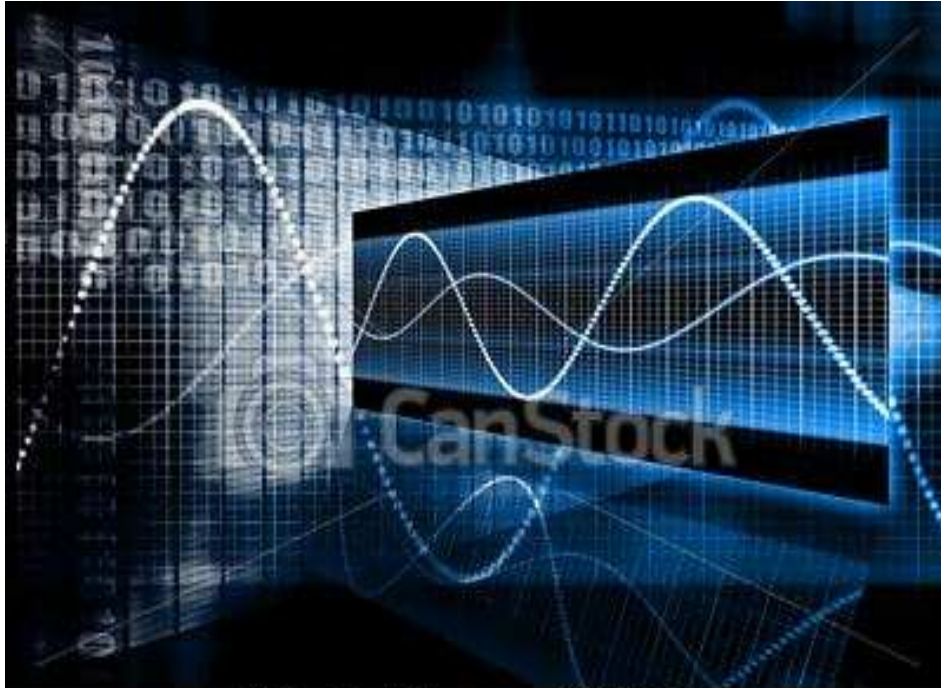
- abbreviated	Tóm tắt; viết tắt; rút ngắn lại
- Assessing	đánh giá; ước định
- aware	Biết, nhận thấy, nhận thức thấy
- Behavior	thái độ; ứng xử
- channels	kênh truyền dữ liệu; truyền theo kênh
- critical	Phê bình, phê phán, trí mạng
- Derive	(toán logic) suy ra; bắt nguồn từ
- Feedback	Thông tin phản hồi; ý kiến phản hồi
- facilitate	Tạo điều kiện thuận lợi
- Implementation	cài đặt; hệ thống xử lý

- integration	sự kết hợp.; sự tích hợp
- isolated	cách ly, cách biệt
- issues	lợi tức; sản phẩm; thu nhập
- opportunities	Cơ hội, thời cơ, dịp may
- outcomes	kết quả; hậu quả; hiệu quả
- orientation	Sự định hướng
- perceptions	sự nhận thức; sự tri thức
- precisely	Đúng, chính xác, cẩn thận
- promote	Thăng chức, thăng cấp; đề bạt
- psychologically	(thuộc) tâm lý
- Surveys	Sự khảo sát; sự điều tra
- synonym	Từ đồng nghĩa, ngữ đồng nghĩa
- tailor	Làm thợ may; Biến đổi, đáp ứng nhu cầu
- transparency	giấy trong; sự trong suốt
- unified communications	truyền thông hợp nhất
- vast	Rộng lớn, mênh mông, bao la
- vehicles	phương tiện vận chuyển; vật truyền

MULTIMEDIA DATA

I. READING COMPREHENSION

1. What is Multimedia Data?



© Can Stock Photo - csp1470763

Multimedia data typically means digital images, audio, video, animation and graphics together with text data. The acquisition, generation, storage and processing of multimedia data in computers and transmission over networks have grown tremendously in the recent past. This astonishing growth is made possible by three factors. Firstly, personal computers usage becomes widespread and their computational power gets increased.

Also technological advancements resulted in high-resolution devices, which can capture and display multimedia data (digital cameras, scanners, monitors, and printers). Also there came high-density storage devices. Secondly high-speed data communication networks are available nowadays. The Web has wildly proliferated and software for manipulating multimedia data is now available. Lastly, some specific applications

(existing) and future applications need to live with multimedia data. This trend is expected to go up in the days to come.

2. *What's multimedia technology?*



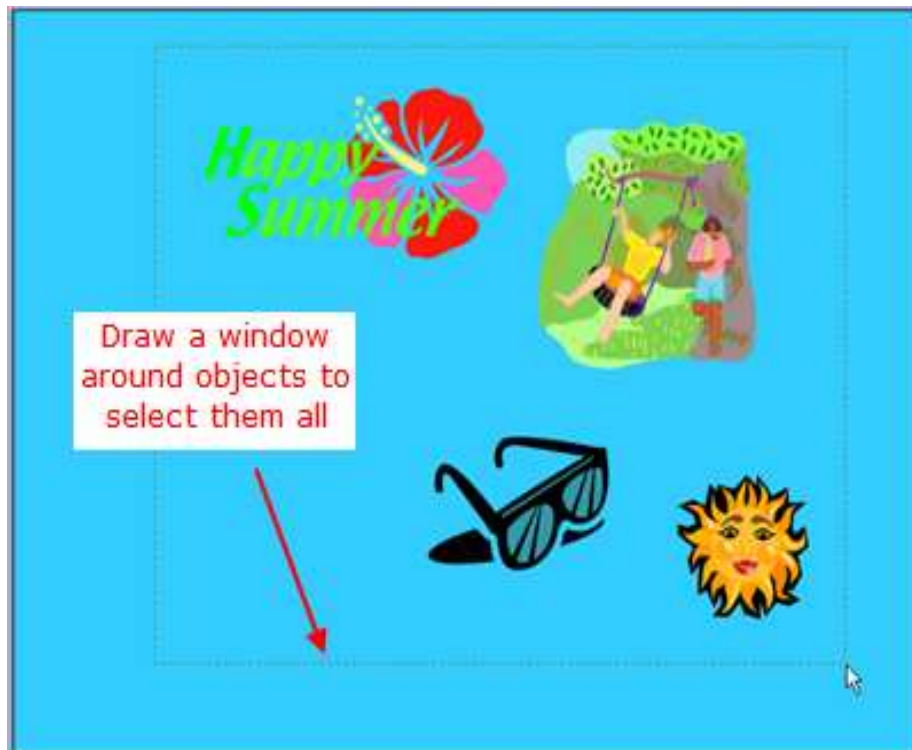
Multimedia technology applies interactive computer elements, such as graphics, text, video, sound and animation, to deliver a message. If you have a knack for computer work and are interested in digital media, read on to discover career and education opportunities available in this growing specialty. Schools offering communication & technology degrees can also be found in these popular choices.

3. *Multimedia Services*

- **Text** : The form in which the text can be stored can vary greatly. In addition to ASCII based files, text is typically stored in processor files, spreadsheets, databases and annotations on more general multimedia objects.

- **Images** : There is great variance in the quality and size of storage for still images. Digitalized images are sequence of pixels that represents a region in the user's graphical display.

- **Audio** : An increasingly popular datatype being integrated in most of applications is Audio. Its quite space intensive.
- **Video** : One on the most space consuming multimedia data type is digitalized video. The digitalized videos are stored as sequence of frames.



- **Graphic Objects:** These consists of special data structures used to define 2D and 3D shapes through which we can define multimedia objects. These includes various formats used by image, video editing applications.

UNDERSTANDING THE PASSAGE

Task 1. *Answer the following questions*

1. How many data types are there?

.....
.....

2. What is the text?

.....
.....

3. What is text typically stored?

.....
.....

4. What is the image?

.....
.....

5. What can one minute of sound take?

.....
.....

6. What are the digitalized videos stored?

.....
.....

7. What do graphic objects consist of?

.....
.....

Task 2. *Are these sentences true or false. Correct the false sentences.*

1. With availability and proliferation of GUIs, text fonts the job of storing text is becoming complex allowing special effects(color, shades..).

.....
.....

2. Digitalized types are sequence of pixels that represents a region in the user's graphical display.

.....
.....

3. An increasingly popular datatype being integrated in most of applications is images.

.....
.....

4. The digitalized videos are stored as sequence of frames. Depending upon its resolution and size a single frame can consume upto 1 MB.

.....
.....

5. These consists of special data designs used to define 2D and 3D shapes through which we can define multimedia objects.

.....
.....

Task 3. Choose the best answer

1. Text is typically stored infiles, spreadsheets, databases and annotations

- A. structures B. processor C. region D. datatype

2. Digitalized images are sequence of pixels that represents a ... in the user's graphical display.

- A. region B. structures C. datatype D. processor

3. An increasingly popularbeing integrated in most of applications is Audio.

- A. processor B. region C. datatype D. resolution

4. Depending upon itsand size a single frame can consume upto 1 Mb.

- A. structures B. processor C. resolution D. datatype

5. Graphic Objects consist of special dataused to define 2D and 3D shapes

- A. processor B. region C. datatype D. structures

II. LANGUAGE WORK

What is an Adverb?

An **adverb** can modify a verb, an adjective, another adverb, a phrase, or a clause. An adverb indicates manner, time, place, cause, or degree and answers questions such as "how," "when," "where," "how much".

While some adverbs can be identified by their characteristic "ly" suffix, most of them must be identified by untangling the grammatical relationships within the sentence or clause as a whole. Unlike an adjective, an adverb can be found in various places within the sentence.

In the following examples, each of the **highlighted** words is an adverb:

- The form in which the text can be stored can vary **greatly**.
- In addition to ASCII based files, text is **typically** stored in processor files, spreadsheets, databases and annotations on more general multimedia objects.

Conjunctive Adverbs

You can use a **conjunctive adverb** to join two clauses together. Some of the most common conjunctive adverbs are "also," "consequently," "finally," "furthermore," "hence," "however," "incidentally," "indeed," "instead," "likewise," "meanwhile," "nevertheless," "next," "nonetheless," "otherwise," "still," "then," "therefore," and "thus." A conjunctive adverb is *not* strong enough to join two independent clauses without the aid of a semicolon.

The **highlighted** words in the following sentences are conjunctive adverbs:

- **Also** to have realistic video playback, the transmission, compression, and decompression of digitalized require continuous transfer rate.
- There is great variance in the quality and size of storage for **still** images.

III. PRACTICE

Exercise 1. *Rearrange these words to make the sentences*

1. is /Text /typically/ processor/ stored/ files/ in

.....

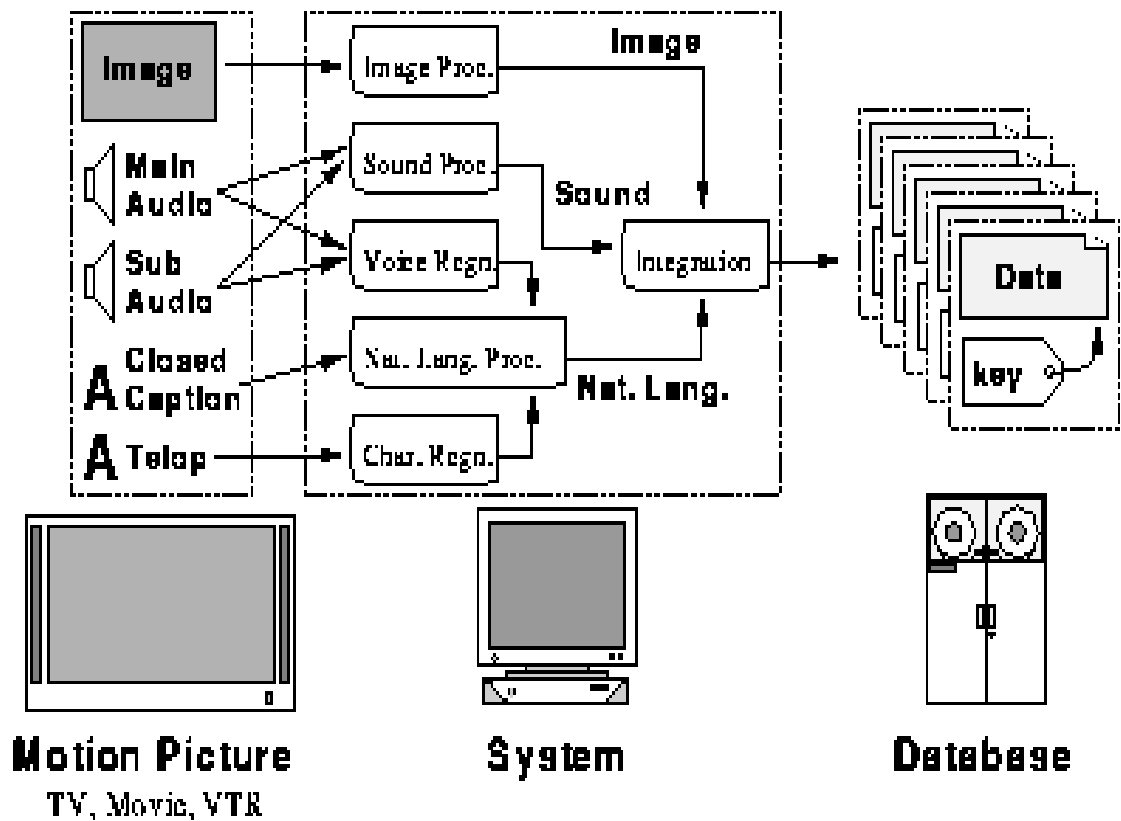
-
2. complex /Text/ becoming/ is /allowing/ effects/ special
-
3. in /There/ great/ is /variance /the/ and/ quality /size/ images. / of / for / storage /still
-
-
4. images /are /Digitalized / sequence/ pixels/ of
-
-
5. techniques /used /Several /are /to/ suitable/ compress/ in /format./ audio
-

Exercise 2. Match a word in A to the appropriate phrase in B

A	B
1. Graphic Objects	a. great variance in the quality and size of storage
2. Video	b. Graphic User Interface
3. Audio	c. special data structures used to define 2D and 3D shapes
4. Images	d. the most space consuming multimedia data type
5. Text	e. popular datatype being integrated in most of applications
6. GUI	f. stored in processor files, spreadsheets, databases and annotations
7. Multimedia technology	g. resulted in high-resolution devices
8. technological advancements	h. applies interactive computer elements

Exercise 3. Put a word to complete the passage

<p>development ; multimedia; variety; database; functionalities ; libraries</p>



MultiMedia Databases (MMDBs) have to cope up with the increased usage of a large volume of data being used in various software applications. The applications include digital, manufacturing and retailing, art and entertainment, journalism and so on. Some inherent qualities of multimedia data have both direct and indirect influence on the design and of a multimedia database. MMDBs are supposed to provide almost all the functionalities, a traditional database provides. Apart from those, a MMDB has to provide some new and enhancedand features. MMDBs are required to provide unified frameworks for storing, processing, retrieving, transmitting and presenting a variety of media data types in a wide of formats. At the same time, they must adhere to numerical constraints that are normally not found in traditional databases.

Exercise 4. Think about a typical workstation. Match the items (1-7) to the guidelines (a-g).

- | | | |
|---------------------|--------------------------|-------------------------------|
| 1. Images | 2. Audio | 3. video |
| 4. Graphic Objects: | 5. Multimedia technology | 6. technological advancements |

7. Text

- a. includes various formats used by image, video editing applications.
- b. An increasingly popular datatype being integrated in most of applications
- c. typically stored in processor files, spreadsheets, databases and annotations on more general multimedia objects.
- d. represents a region in the user's graphical display.
- e. One on the most space consuming multimedia data type
- f. applies interactive computer elements
- g. capture and display multimedia data

Exercise 5. *Translate the sentences into Vietnamese*

1. **Text** : The form in which the text can be stored can vary greatly. In addition to ASCII based files, text is typically stored in processor files, spreadsheets, databases and annotations on more general multimedia objects.

.....

.....

.....

.....

2. **Images** : There is great variance in the quality and size of storage for still images. Digitalized images are sequence of pixels that represents a region in the user's graphical display.

.....

.....

.....

.....

.....

3. **Audio** : An increasingly popular datatype being integrated in most of applications is Audio. Its quite space intensive. One minute of sound can take up to 2-3 Mbs of space.

.....
.....
.....
.....
.....

Exercise 6. *Translate the sentences into English*

1. Khoảng trống dành cho hình ảnh thay đổi trên cơ sở của độ phân giải, độ phức tạp, kích thước, và chương trình nén được sử dụng để lưu trữ hình ảnh. Các định dạng ảnh phổ biến là jpg, png, bmp, tiff.

.....
.....
.....
.....

2. Video: Một trong các các loại dữ liệu đa phương tiện chiếm nhiều không gian nhất là đoạn video được số hóa. Các video số hóa được lưu trữ như chuỗi các khung.

.....
.....
.....
.....

3. Đối tượng đồ họa: Chúng bao gồm các cấu trúc dữ liệu đặc biệt được sử dụng để xác định định dạng 2D và 3D thông qua đó chúng ta có thể định nghĩa các đối tượng đa phương tiện.

.....
.....
.....
.....

Exercise 7. *Think about advertisement then answer the questions*

1. What is the most shocking advertisement you have seen?

.....

2. What is the funniest advertisement you have seen? Describe it.

.....

3. What makes an ad memorable?

.....
4. What are the different types of advertising? (Eg. TV)
.....

5. What types of companies choose each type?
.....

6. Do you buy products because of advertising?
.....

7. Do you find advertising persuasive?
.....

8. Why do you buy one product over another?
.....

9. Should advertisers be allowed to advertise to children?
.....

10. Should alcohol or tobacco companies be allowed to advertise? Why or why not?
.....

VI. FURTHER READING

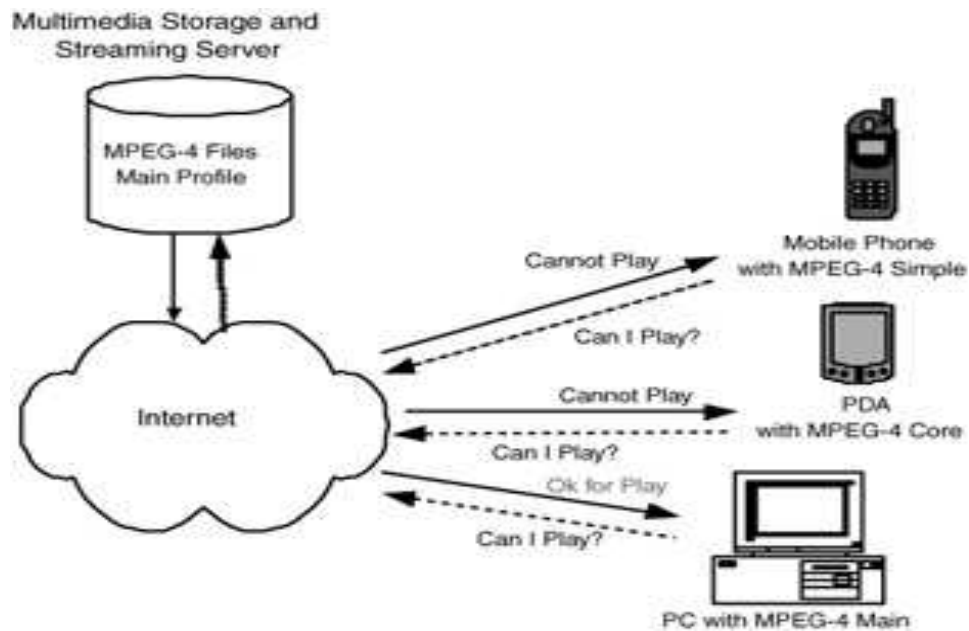
Multimedia Database

Multimedia data typically means digital images, audio, video, animation and graphics together with text data. The acquisition, generation, storage and processing of multimedia data in computers and transmission over networks have grown tremendously in the recent past. This astonishing growth is made possible by three factors. Firstly, personal computers usage becomes widespread and their computational power gets increased.

Multimedia data are blessed with a number of exciting features. They can provide more effective dissemination of information in science, engineering , medicine, modern biology, and social sciences. It also facilitates the development of new paradigms in distance learning, and interactive personal and group entertainment.

The huge amount of data in different multimedia-related applications warranted to have databases as databases provide consistency, concurrency, integrity, security and availability of data. From an user perspective, databases provide functionalities for the easy manipulation, query and

retrieval of highly relevant information from huge collections of stored data.



V. VOCABULARY

- | | |
|---------------|-----------------------------------|
| - adhere | dán; dính chặt; dính |
| - acquisition | sự tiếp nhận (dữ liệu, thông tin) |
| - annotations | Lời chú giải, lời chú thích |
| - Apart from | Ngoài..... ra |

- astonishing	Làm ngạc nhiên, , kinh dị
- bless	giáng phúc, ban phúc
- compression	Sự ép, sự nén, sự cô đặc
- consistency	Tính kiên định
- concurrency	Trùng nhau, xảy ra đồng thời
- dissemination	khuếch tán; phân tán; sự phân phát
- inherent	sẵn có không tách được;
- Intensive	có chiều sâu; có cường độ lớn
- integrity	khả năng bảo trì; tính nguyên
- multimedia	đa phương tiện
- overhead	Ở trên đầu, ở trên cao, ở trên trời
- paradigms	Mẫu, mô hình, kiểu
- pixels	Ảnh điểm
- Platforms	nền hệ thống; nền khoan
- Retrieving	truy lại
- retailing	công việc bán lẻ
- scheme	Lược đồ, giản đồ, sơ đồ
- transmission	sự truyền; sự chuyển giao
- tremendously	rất lớn, bao la, to lớn

Unit 12

COMPUTER GRAPHIC

I. READING COMPREHENSION

What's Computer graphics?

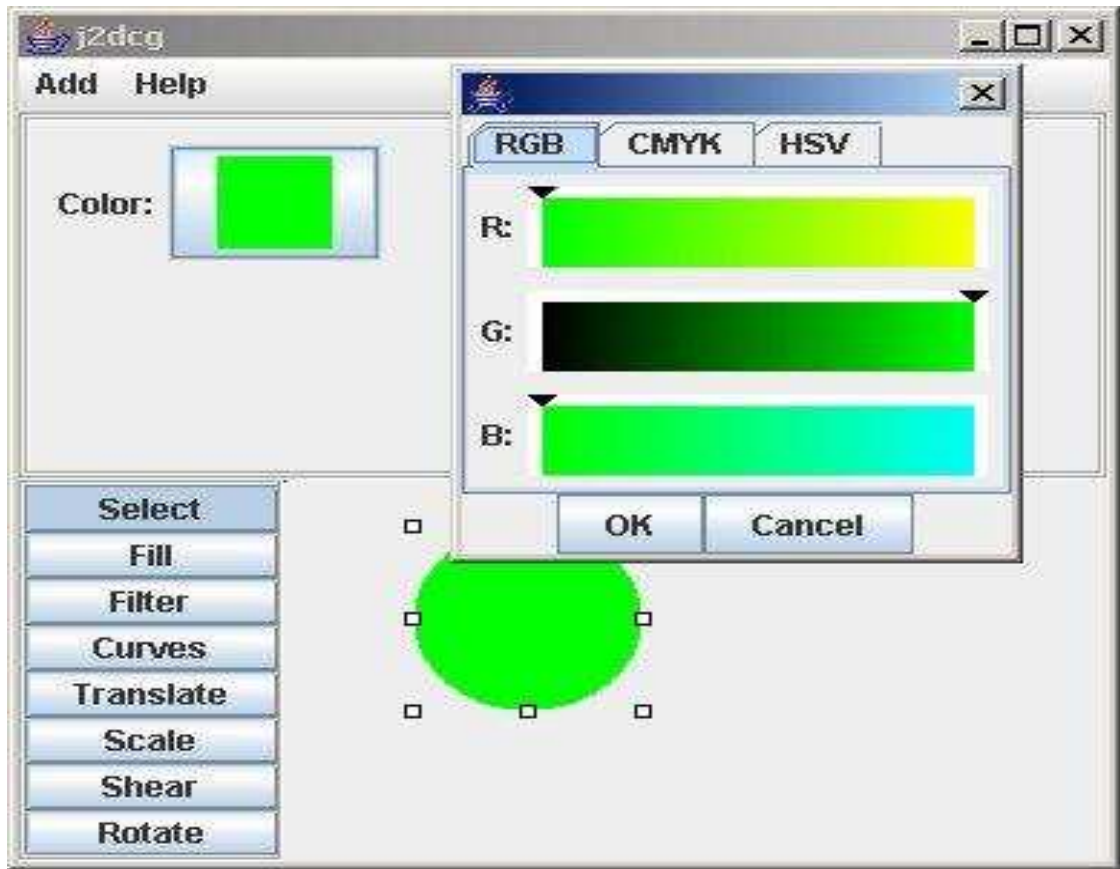


The term **computer graphics** includes almost everything on computers that is not text or sound. Today almost every computer can do some graphics, and people have even come to expect to control their computer through icons and pictures rather than just by typing. We spend much of our time improving the way computer pictures can simulate real world scenes. We want images on computers to not just look more realistic, but also to BE more realistic in their colors, the way objects and rooms are lighted, and the way different materials appear.

Computer graphics 2D and 3D

Two-dimensional (2D) and three-dimensional (3D) computer graphics are all around us and enable us to be able to visualize and manipulate data everyday. What is the difference between 2D and 3D computer graphics, such as 3D Models? Let's explore the difference and similarities between them.

- 2D computer graphics



2D computer graphics are digital images that are computer-based. They include 2D geometric models, such as image compositions, pixel art, digital art, photographs, and text. 2D graphics are used everyday on traditional printing and drawing. There are two kinds of 2D computer graphics - raster and vector graphics.

- 3D computer graphics

3D computer graphics are graphics that use 3D representation of geometric data. This geometric data is then manipulated by computers via 3D computer graphics software in order to customize their display, movements, and appearance. They are often referred to as 3d models.

Tools used in Computer graphics



- A Computer

In today's design world, a computer is essential. It will be both your design tool and your business tool. Using graphics software (discussed next), you will create illustrations, work with type, touch-up photos and complete layouts. The major decision here is what computer to get, and this generally starts with deciding between a Mac and PC.

- Software

Graphics and business-related softwares are also a key to your success. Some products, such as Photoshop and Illustrator, focus on the creative end of design. Other packages, such as project management or time tracking software, will help you stay organized and manage the business end of design.

- Graphic Design Books

It's very helpful to build up your own small library of graphic design books. Some should be for inspiration, some for technical help, and others to assist you on the business side of design.



A Sketchpad

While you're most likely to use a computer to complete a design, you don't have to start with one. Sketching out ideas is a great way to begin a

project and brainstorm, and can be much quicker than mocking something up on a computer.



UNDERSTANDING THE PASSAGE

Task 1. *Answer the following questions*

1. What does the term computer graphics include?

.....
.....

2. What are 2D computer graphics?

.....
.....

3. What are 3D computer graphics?

.....
.....

4. What is differences between 2D and 3D?

.....
.....

5. What are the tools in Computer graphics?

.....
.....

6. What is a Sketchpad?

.....
.....

7. Why do we use Graphic Design Books?

.....
.....

8. Why do we use graphics software?

.....
.....

Task 2. *Are these sentences true or false. Correct the false sentences.*

1. Today almost every computer can do some graphics, and people have even come to expect to control their computer through icons and pictures rather than just by typing.

.....
.....

2. Two-dimensional (2D) and three-dimensional (3D) computer graphics are all around us and enable us to be able to visualize and manipulate data everyday.

.....
.....

3. 3D graphics are used everyday on traditional printing and drawing. There are two kinds of 3D

.....
.....

4. A 2D model is a mathematical representation of geometric data that is contained in a data file.

.....
.....

5. A 2D model is not technically a graphic until it is visually displayed as a 3D image through a process called 2D rendering.

.....
.....

Task 3. *Choose the best answer*

1. We spend much of our time improving the way computer pictures can..... real world scenes.

- A. graphics B. simulate C. models D. creative

2. There are two kinds of 2D computer graphics - raster andgraphics.
A. vector B. graphics C. creative D. models
3. 3D computer graphics arethat use 3D representation of geometric data.
A. simulate B. models C. vector D. graphics
4. 3D can also be or used in non-graphical computer simulations and calculations.
A. creative B. models C. graphics D. simulate
5. Some products, such as Photoshop and Illustrator, focus on theend of design.
A. graphics B. simulate C. creative D. vector
6. A Computer will be both yourtool and your business tool.
A. design B. softwares C. library D. computer
7. The major decision here is whatto get, and this generally starts with deciding between a Mac and PC.
A. graphics B. computer C. creative D. vector
8. Graphics and business-relatedare also a key to your success.
A. graphics B. library C. creative D. softwares
9. It's very helpful to build up your own smallof graphic design books.
A. ideas B. simulate C. library D. vector
10. Sketching out..... is a great way to begin a project and brainstorm, and can be much quicker than mocking something up on a computer.
A. graphics B. ideas C. creative D. vector

II. LANGUAGE WORK

Adjective

An **adjective** modifies a noun or a pronoun by describing, identifying, or quantifying words. An adjective usually precedes the noun or the pronoun which it modifies.

In the following examples, the **highlighted** words are adjectives:

- Developments in computer graphics have had a **profound** impact
- They may be pictures from places we cannot see directly, such as **medical** images

Possessive Adjectives

A **possessive adjective** ("my," "your," "his," "her," "its," "our," "their") is similar or identical to a possessive pronoun; however, it is used as an adjective and modifies a noun or a noun phrase, as Eg. We spend much of **our** time improving the way computer pictures can simulate real world scenes.

- We want images on computers to not just look more realistic, but also to BE more realistic in **their** colors, the way objects and rooms are lighted, and the way different materials appear.

Demonstrative Adjectives

The **demonstrative adjectives** "this," "these," "that," "those," and "what" are identical to the demonstrative pronouns, but are used as adjectives to modify nouns or noun phrases, as in the following sentences:

Eg. We call **this** work "realistic image synthesis", and the following series of pictures will show some of our techniques in stages from very simple pictures through very realistic ones.

Note that the relationship between a demonstrative adjective and a demonstrative pronoun is similar to the relationship between a possessive adjective and a possessive pronoun, or to that between a interrogative adjective and an interrogative pronoun.

III. PRACTICE

Exercise 1. *Rearrange these words to make the sentences*

1. almost/ every /Today /computer/ graphics./ can /some / do

.....
.....

2. is /difference /What/ the /between 2D/ graphics/ and / computer /3D

.....
.....

3. computer /graphics /2D /are/ computer-based. / digital /that/ images/ are

.....
.....

4. mathematical /A / model/3D/ is / object /a /representation /any/ of /3D

.....
.....

5. term /graphics /The/ computer/ includes / computers /almost /on/ everything

.....

.....

Exercise 2. Match a word in A to the appropriate phrase in B

A	B
1. computer graphics	a. also a key to your success
2. Sketching out ideas	b. both your design tool and your business tool.
3. Graphic Design Books	c. almost everything on computers
4. Graphics and business-related software	d. graphics that use 3D representation of geometric data.
5. a computer	e. helpful to build up your own small library
6. 3D computer graphics	f. a great way to begin a project and brainstorm
7. Sketching out ideas	g. help you stay organized and manage the business end of design.
8. small library of graphic design books	h. raster and vector graphics.
9. time tracking software	i. for technical help
10. two kinds of 2D computer graphics	j. a great way to begin a project and brainstorm

Exercise 3. Put a word to complete the passage

order ; networking; movement ; animations ; audience;

Today's animation viewers are probably involved with social..... at to attract these viewers one may want to hire a social media firm who will be able to attract the most visitors.

Animated cartoons are in sequential..... with humor in it based on the storyline. Use of language can be there or not there, it depends on your target..... and whether you want to use a specific language or not. There are professional translation services for cartoon localization including time-

framing and lips changing. Cartoons are far ahead of any regional constraints. Many advanced computer software are available in the market which are used by animators and cartoonists to create wide range ofused in online games, commercial uses, online presentations, cartoon movies, etc.



Exercise 4. Translate the sentences into Vietnamese

1. Today almost every computer can do some graphics, and people have even come to expect to control their computer through icons and pictures rather than just by typing.

.....
.....
.....
.....

2. Two-dimensional (2D) and three-dimensional (3D) computer graphics are all around us and enable us to be able to visualize and manipulate data everyday.

.....
.....
.....
.....

3. 2D graphics are used everyday on traditional printing and drawing. There are two kinds of 2D computer graphics - raster and vector graphics.

.....
.....
.....

Exercise 5. Translate the sentences into English

1. Thuật ngữ “đồ họa máy tính” bao gồm hầu như tất cả mọi thứ trên máy tính đó không chỉ là văn bản hoặc âm thanh.

.....
.....
.....

2. Các hình ảnh có thể là ảnh, bản vẽ, phim ảnh, hoặc mô phỏng hình ảnh của sự vật không tồn tại và có thể không bao giờ tồn tại.

.....
.....
.....

3. Chúng ta gọi công việc này là " hình ảnh tổng hợp thực ", và hàng loạt các hình ảnh sau đây sẽ hiển thị một số kỹ thuật của chúng ta trong giai đoạn từ hình ảnh rất đơn giản thông qua những hình ảnh rất thực tế.

.....
.....
.....
.....

Exercise 6. *Think about Advertising then answer the questions*

1. What do you think of celebrity endorsements?
.....
2. Which celebrities advertise which products?
.....
3. Do favorite or annoying celebrities make you want or not want to buy a product?
.....
4. Should there be advertisement-free zones?
.....
5. Is there truth in advertising?
.....
6. What kind of advertisements attract your attention?
.....
7. Why is it necessary to advertise?
.....
8. Do you think advertising should be allowed to interrupt TV or radio programs? What are the alternatives?
.....
9. What is the best way to advertise to children? Adults? Seniors? etc..
.....
10. Do you think advertising is too expensive?
.....

IV. FURTHER READING

Computer Graphics tools

Computer graphics have come long way ahead in terms of technology and creativity. Cartoon animation is one such feature that is being used extensively in website designing. In animation different series of drawings are segregated together in order to create movement.

Resolution of vision requires at least 24 frames per second in a particular frame.



Creative aspect

Usage of cartoon characters online for company or product promotion makes a special impact on the site visitor. It adds element of interest, humor and attractiveness to a website. Cartoonists are people who are responsible for using graphics in developing cartoon characters and inserting the right expressions on their faces often times with travel



accessories. After solving these riddles that animators use specialized graphic software tools to animate them. Based on a particular storyline, cartoon characters are created and movement is given as per the story.

Usually these cartoon animations have a particular theme behind them with a strike of fun added to them.

V. VOCABULARY

- appeal	Kêu gọi; Hấp dẫn, lôi cuốn
- accessories	đồ giá; đồ phụ tùng
- Background	Kiến trúc; nền phụ; nền sau
- cartoons	Truyện tranh
- challenging	Thử thách
- characters	Đặc tính, đặc điểm; nét đặc sắc
- criminal	Có tội, phạm tội, tội ác
- commercial	Buôn bán; (thuộc) thương mại
- conduct	Chỉ huy, điều khiển, hướng dẫn;
- constraint	Sự bắt ép, sự ép buộc
- demand	Đòi hỏi, yêu cầu; cần, cần phải
- emotion	Sự cảm động, sự xúc cảm
- essential	Yếu tố cần thiết
- expression	Sự biểu sự diễn cảm
- gain	Thu được, giành được, kiếm được
- humor	Sự hài hước, sự hóm hỉnh
- icons	Biểu trưng; hình tượng
- impact	Tác động, ảnh hưởng
- indeed	Thực vậy
- insert	Lồng vào, gài vào, chèn vào
- poker	Khắc nung (đấu vào gỗ)
- profound	Sâu sắc, uyên thâm, thâm thúy
- realistic	Có óc thực tế
- rendering	Bản vẽ phối cảnh
- revolutionized	Cách mạng hoá
- roulette rulet;	Trình rulet
- scenes	Cảnh, phong, Quang cảnh
- sequential	(thuộc) dãy;
- simulate	Bắt chước; dựa theo, mô phỏng
- social media firm	cty truyền thông xã hội
- slot	Khắc, khía; khe đường ren

- suspicious	Có sự nghi ngờ, sự nghi ngờ
- synthesis	Sự tổng hợp (thống kê) liên tiếp
- target	Kết quả nhằm tới, mục tiêu
- Theme	Đề tài, chủ đề
- Thunderstruck	Bị sét đánh; sững sờ, kinh ngạc
- truth	Điều có thực; chân lý, lẽ phải
- visualization	Hiện hình

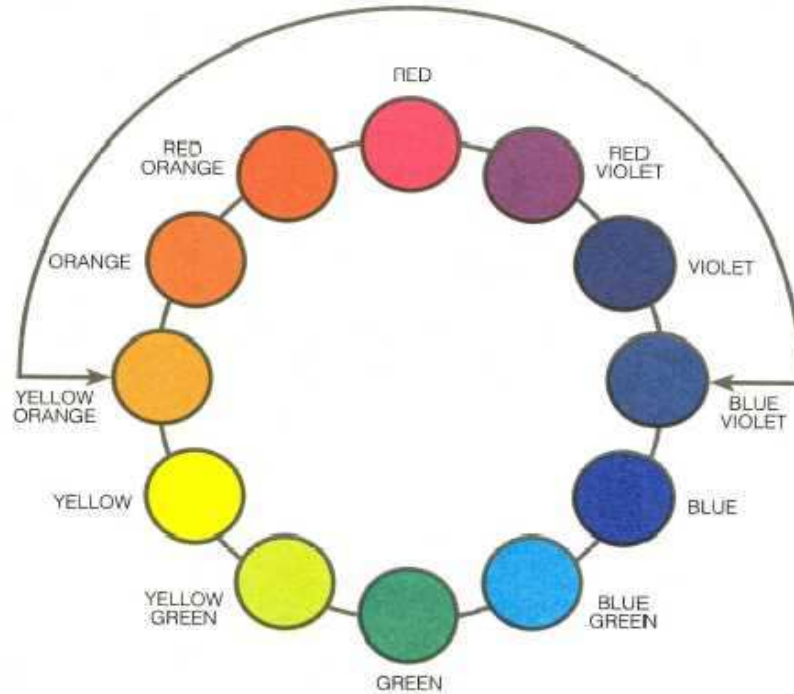
Unit 13

FUNDAMENTATIONS OF ART

I. READING COMPREHENSION

1. Rules in creating colors

- Analogous



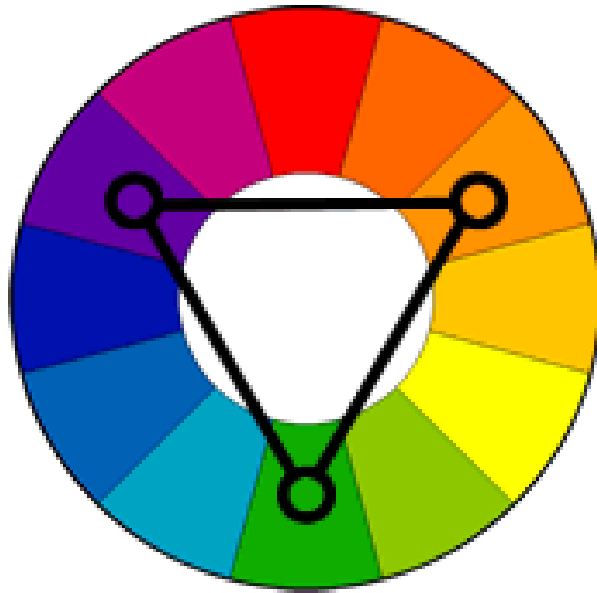
Analogous color schemes are created by using three colors that are next to each other on the traditional 12-spoke color wheel as the base of the scheme. Analogous colors can be adjusted by manipulating their tone, shade, and tint.

Monochromatic



- Monochromatic

Monochromatic schemes are based off a single color. The hue is always the same, but the scheme will contain different tones, shades, and tints of that hue.



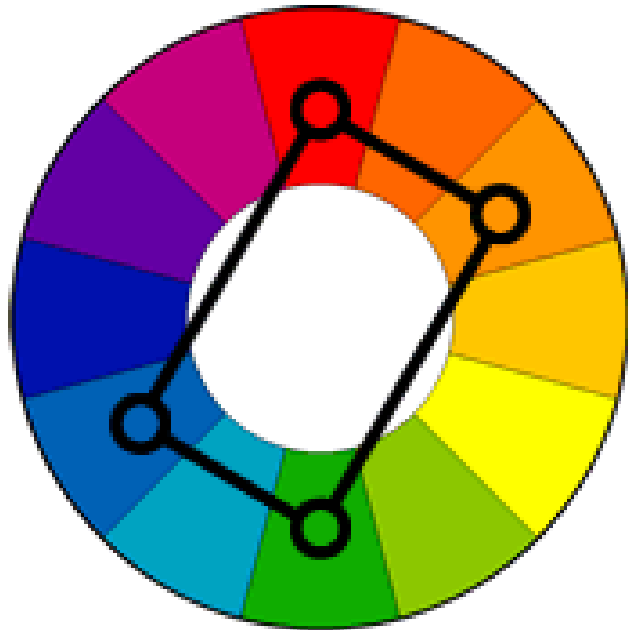
- Tetradic

The tetradic color scheme is similar to the triadic color scheme but uses a rectangle instead of a triangle to pick the base colors from the color wheel. Using a tetradic color scheme provides two pairs of complementary colors as the base colors for the scheme. Tetradic color

schemes usually work best if one color is more dominant than the others.

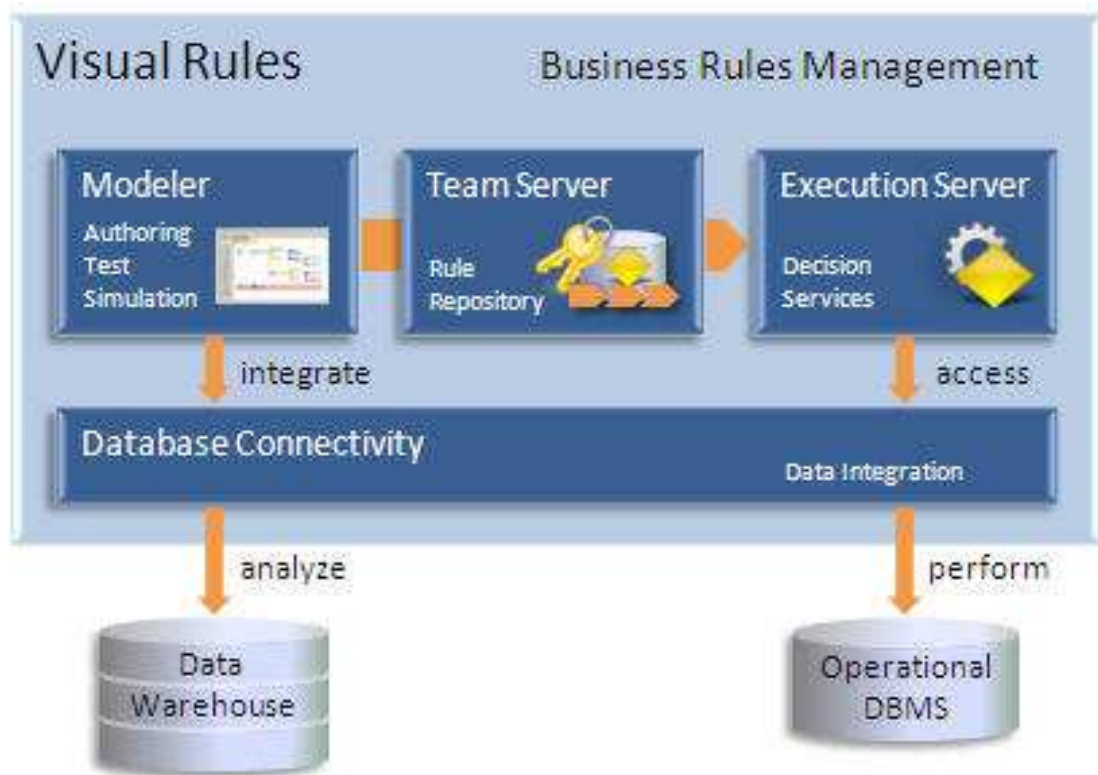
- Contrast

One last thing to remember when creating color schemes for web pages is contrast. The comparison between the two analogous color schemes mentioned above is a good example of the importance of contrast. Creating a color scheme with hues that all have the same value produces a very boring site design. So when creating color schemes, keep contrast in mind.



2. Rules in configurations

Rule Execution Server provides a runtime execution environment that integrates the rule engine in the Java SE and Java EE platforms, enabling you to dynamically change business logic using rules.

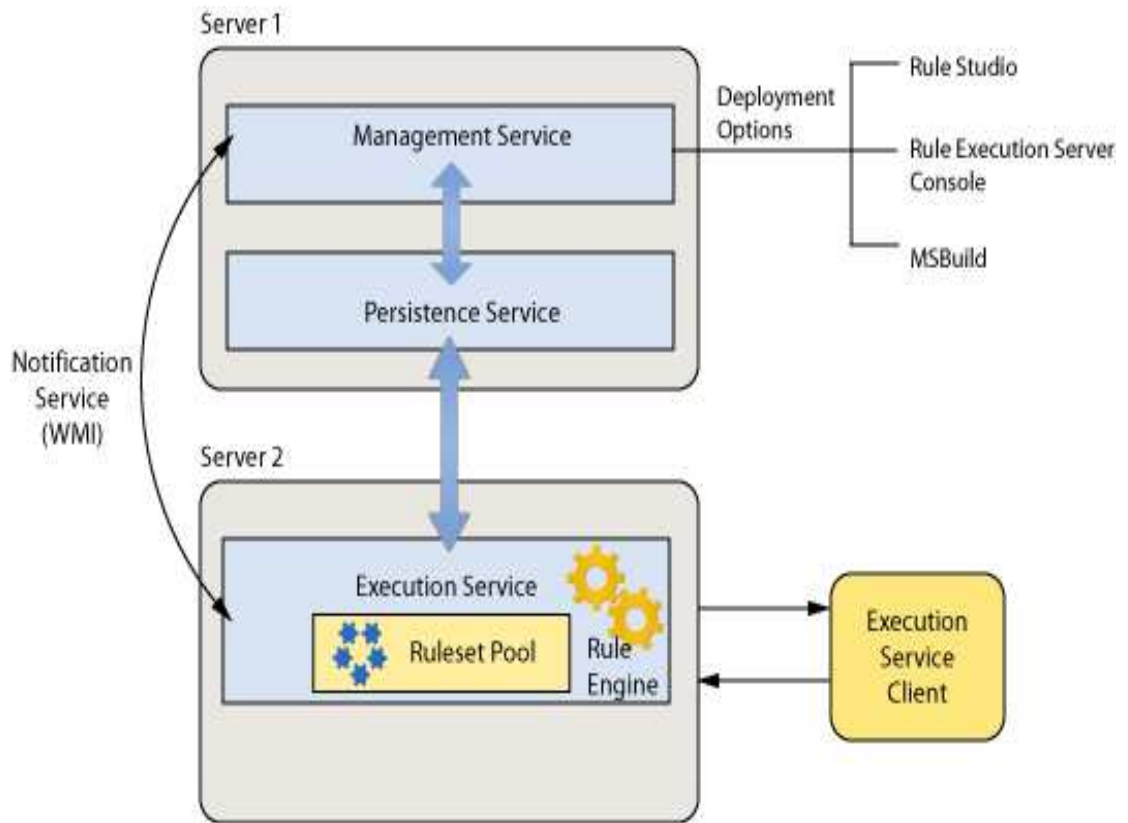


A server configuration defines how to connect to a specific Rule Execution Server. It provides the information necessary for Rule Studio to connect to Rule Execution Server when you deploy a RuleApp.

You can deploy in the following ways:

- from a RuleApp project to one or more Rule Execution Server Configurations
- from a Rule Execution Server Configuration project (where multiple RuleApp projects can be stored) to a single Rule Execution Server Configuration

A configuration consists of a Uniform Resource Locator (URL), and a login and password, which are used to establish a connection ID. When you save it, the configuration is persisted in a Rule Execution Server Configuration project.



UNDERSTANDING THE PASSAGE

Task 1. Answer the following questions

1. What do triadic color schemes use?

.....

2. What is the tetradic color scheme?

.....

3. How important is contrast?

.....

4. How does a server configuration define?

.....

5. What is the configuration persisted when you save it?

.....

Task 2. *Are these sentences true or false. Correct the false sentences.*

1. Monochromatic schemes are based off a single color. The hue is always the same, but the scheme will contain the same tones, shades, and tints of that hue.

.....
.....

2. Using a triadic color scheme provides two pairs of complementary colors as the base colors for the scheme.

.....
.....

3. Creating a color scheme with hues that all have the same value produces a very boring site design. So when creating color schemes, keep contrast in mind.

.....
.....

4. Rule Execution Server provides a login execution environment that integrates the rule engine in the Java SE and Java EE platforms.

.....
.....

5. A configuration consists of a Uniform Resource Locator (URL), and a login and password, which are used to establish a connection ID.

.....
.....

Task 3. *Choose the best answer*

1. Using a tetradic color scheme provides two pairs of complementary..... as the base colors for the scheme.

- A. hues B. server C. colors D. login

2. Creating a color scheme with that all have the same value produces a very boring site design.

- A. colors B. login C. runtime D. hues

3. Rule Execution Server provides a execution environment that integrates the rule engine in the Java SE and Java EE platforms.

- A. hues B. runtime C. server D. login

4. Aconfiguration defines how to connect to a specific Rule Execution Server.

- A. server B. hues C. colors D. runtime

5. A configuration consists of a Uniform Resource Locator, and a and password,

- A. login B. hues C. server D. colors

II. LANGUAGE WORK

Using Articles

What is an article? Basically, an article is an adjective. Like adjectives, articles modify nouns.

English has two articles: **the** and **a/an**. **The** is used to refer to specific or particular nouns; **a/an** is used to modify non-specific or non-particular nouns.

We call **the** the *definite* article and **a/an** the *indefinite* article.

Indefinite Articles: a and an

"A" and "an" signal that the noun modified is indefinite, referring to *any* member of a group.

Definite Article: the

The definite article is used before singular and plural nouns when the noun is specific or particular. **The** signals that the noun is definite, that it refers to a particular member of a group.

Count and Noncount Nouns

The can be used with noncount nouns, or the article can be omitted entirely.

- When you are cooking something, you have **a** list of ingredients followed by **the** recipe.

- **The** elements of art are like **the** ingredients.

"A/an" can be used only with count nouns.

- If you are **a** good cook, then you care about quality ingredients. **The** same is true if you are **a** good artist.

- In order to be successful in art creation, **an** artist must be able to intelligently use **the** elements of art.

Omission of Articles

Some common types of nouns that don't take an article are:

- Names of languages and nationalities: *Chinese, English, Spanish, Russian* (unless you are referring to the population of the nation: "The Spanish are known for their warm hospitality.")
- Names of sports: *volleyball, hockey, baseball*
- Names of academic subjects: mathematics, biology, history, computer science

III, PRACTICE

Exercise 1. Rearrange these words to make the sentences

- schemes /Analogous /are / color /created/ colors. / by /three/ using
.....
.....
- schemes /Monochromatic /are/ color. / based /a / off /single
.....
.....
- color /Triadic / colors /schemes /three/ use /
.....
.....
- schemes / color/ usually/ Tetradic/ best/ work
.....
.....
- Execution /Server /Rule /provides/ environment. / a /execution/ runtime
.....
.....

Exercise 2. Match a word in A to the appropriate phrase in B

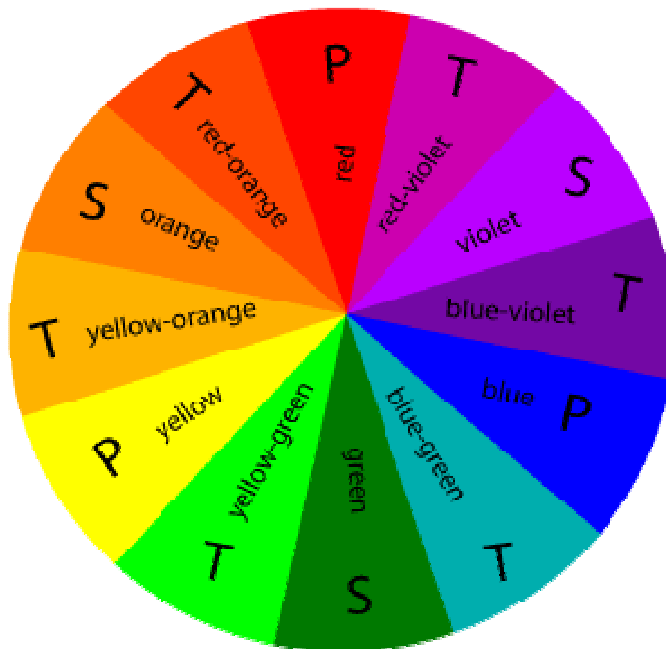
A	B
1. Analogous color schemes	a. based off a single color.
2. Rule Execution Server	b. The comparison between the two analogous color schemes
3. the importance of contrast.	c. three colors that are evenly spaced throughout the color wheel.
4. The tetradic color scheme	d. provides a runtime execution environment
5. Triadic color schemes	e. using three colors that are next to each other

	on the traditional 12-spoke color wheel
6. Monochromatic schemes	f. a rectangle to pick the base colors from the color wheel.

Exercise 3. Put a word to complete the passage

accepted ; theory; element; affect ;
information

Color Theory



Color is the of art that refers to reflected light. *Color theory* is defined as abecause it cannot be proved. Theories are generally accepted. Laws are because they can be proven. There are volumes and volumes of available about *color theory*. It is an exciting, ever-changing science.

Color has anover how we feel about objects, how we behave, and how our bodies react to circumstances.

Exercise 4. Translate the sentences into Vietnamese

1. Creating a color scheme with hues that all have the same value produces a very boring site design. So when creating color schemes, keep contrast in mind.

.....

.....

.....

.....

2. A server configuration defines how to connect to a specific Rule Execution Server.

.....
.....

3. A configuration consists of a Uniform Resource Locator (URL), and a login and password, which are used to establish a connection ID.

.....
.....
.....

Exercise 5. *Translate the sentences into English*

1. Một cấu hình máy chủ cung cấp các thông tin cần thiết cho Studio Rule để kết nối với Rule Execution Server khi bạn triển khai 1 RuleApp.

.....
.....
.....

2. Mẫu màu sắc tương tự được tạo ra bằng cách sử dụng ba màu sắc bên cạnh nhau trên bánh xe màu truyền thống 12 chấu như là mẫu màu cơ sở.

.....
.....
.....

3. Chương trình màu sắc Triadic là sử dụng ba màu cách đều nhau trong bánh xe màu. Giống như các mẫu màu sắc khác mà chúng ta đã nói đến, các tông màu, bóng, và sắc thái của những màu sắc có thể được thay đổi để điều chỉnh mẫu.

.....
.....
.....
.....
.....

Exercise 6. *Think about Painting then answer the following questions*

1. Do you like to watch a person painting?

.....

2. What's the most expensive and most beautiful painting you have ever seen?

.....

3. How much are you willing to pay for a beautiful painting?

.....

4. Do you know Leonardo da Vinci and his paintings?

.....

5. Can you name some of his paintings?

.....

6. Do have paintings at home for decoration?

.....

7. If you could be given the talent to paint, what would you paint?

.....

8. Would you sell your paintings?

.....

9. What are some effective adverts you have seen lately (on TV, newspaper, etc)?

.....

10. What are some ineffective adverts you have seen lately?

IV. FURTHER READING

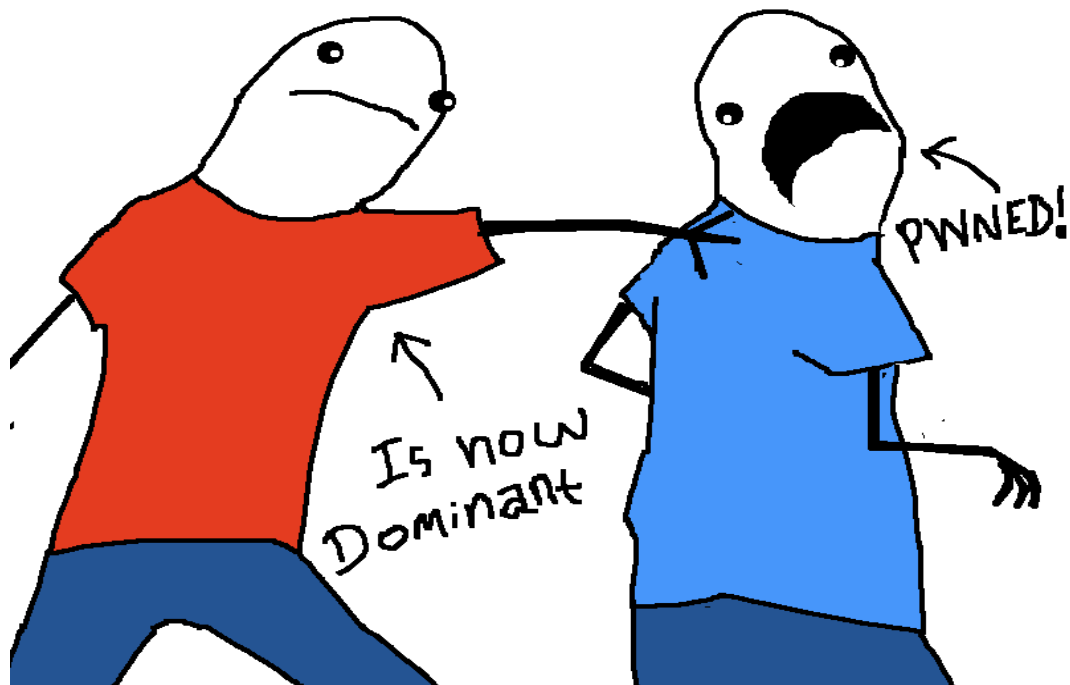
Other Fundamentals of Art



Of course, there are other art fundamentals other than the elements and principles that every artist should understand and implement. These include, but are not limited to composition, contrast, dominance, content implementation, aesthetics, art criticism, and symbolism.

Composition - The way visual elements are positioned in a work of art. Composition is highly dependent on the use of the principles of art.

Contrast- refers to difference between elements or subjects within a work of art. Contrast can be created through variety within the elements of art. (i.e. value, color, texture) Contrast can be used to create a focal point or area of interest in an artwork.



Dominance - refers to one area of a work of art that is visually heavier demanding more attention. Dominance is closely related to emphasis.

Content- refers to the message or meaning within an artwork.

Aesthetics - refers to the artwork's visual attraction or beauty.



Art Criticism - An organized approach to evaluating artwork.

Symbolism - Using visual objects or arrangements to represent an alternate meaning.



V. VOCABULARY

- aesthetics
- approach

Mỹ học; thẩm mỹ học

Phương pháp tiếp cận

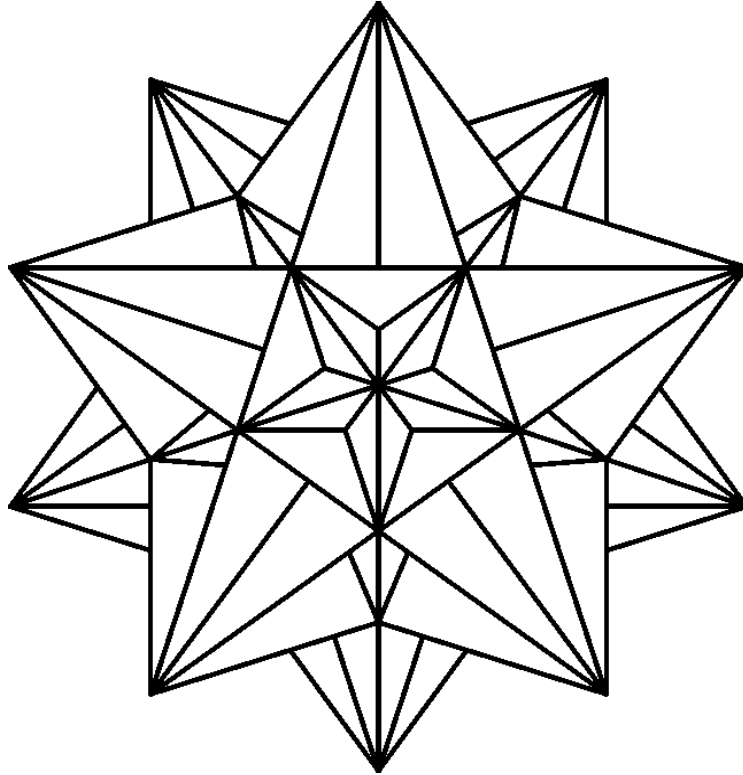
- composition	Sự sáng tác; tác phẩm
- concrete	Cụ thể
- criticism.	Nhà phê bình
- dominance	Sự trội; tính ưu thế
- emphasis	Cường điệu; nhấn mạnh.
- error	(kỹ thuật) sai số; độ sai
- explore	Thám hiểm, nghiên cứu
- Formalist	Người theo chủ nghĩa hình thức
- fundamentals	Cơ bản, chủ yếu
- harmony	Sự hài hoà, sự cân đối
- intelligently	Sáng dạ, thông minh
- ingredients	Phần hợp thành, thành phần
- implement	Thi hành; Bổ sung
- illustration	Hình vẽ ; sự minh họa
- knowledge.	Tri thức, kiến thức; học thức
- modified	Bị biến đổi
- opinions	Ý kiến, quan điểm
- principles	Nguyên lý, nguyên tắc
- proportion	Sự cân xứng, sự cân đối
- prove	Chứng tỏ, chứng minh
- quote	Lời trích dẫn; đoạn trích dẫn
- recipe	Công thức pha chế
- rhythm	Tiết điệu; nhịp
- reflected	Bị phản xạ; được phản chiếu
- symbolism	Chủ nghĩa tượng trưng;
- throw	Ném, vút, quăng, tung, liệng, lao
- trial	Phép thử, thí nghiệm
- unity	Tính đơn nhất, tính đồng nhất

Unit 14

TECHNICAL DESIGN

I. READING COMPREHENSION

Drawing lines

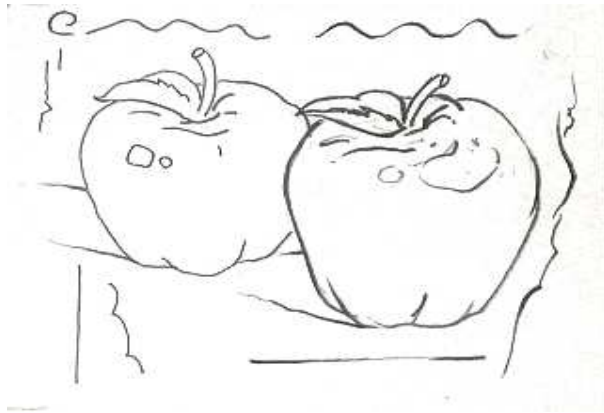


Try using the Curve tool first, and after you get the hang of that one, try Freeform and Scribble.

1. Click the Media button on the Standard toolbar to display the Media browser, if it isn't already visible.
2. Click the Shapes tab and then choose Lines and Connectors from the pop-up menu.
3. Click the Curve tool.

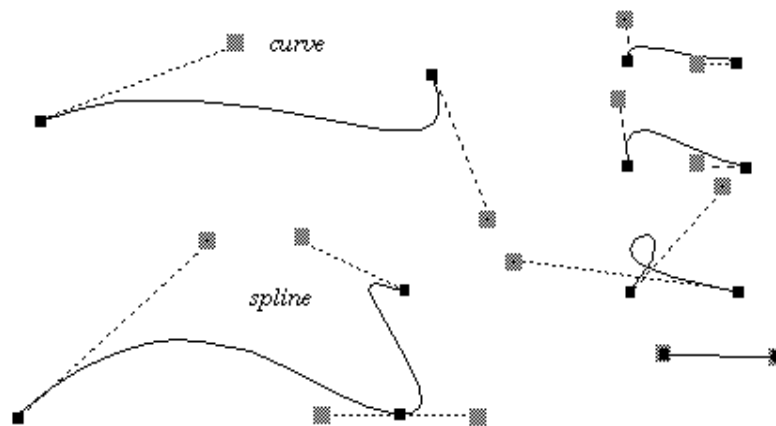
The Curve tool is the one that looks like a handwritten S. When you select the Curve tool, the cursor changes into a plus sign (+) to signify it's ready to start drawing a line as soon as you drag in the document, spreadsheet, or presentation.

4. Click into your document and click the cursor as you move it; then move the cursor in another direction and click again.



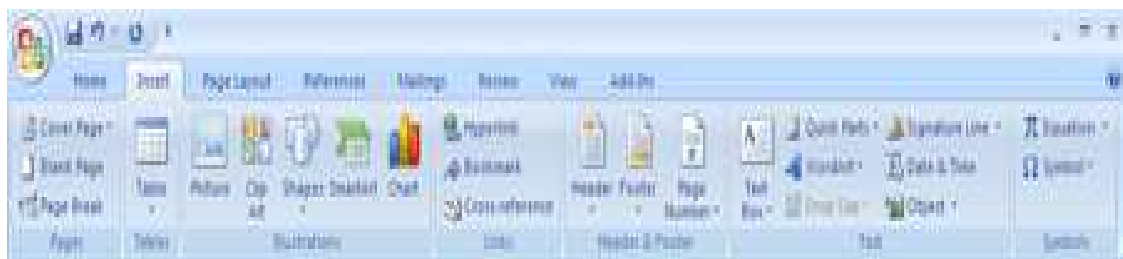
Your line continuously gets longer as you move the cursor around, until you double-click the mouse, which signifies the end of the line you're drawing. Each time you click while you move the cursor, you create a point, which behaves as an axis for your line's curves.

- **Drawing curves**




Splines and Bézier Curves
Curves and a spline, shown here with control points.

1. Insert a drawing canvas. On the Insert tab, in the Illustrations group, click Shapes, and then click New Drawing Canvas.



2. Under Drawing Tools, on the Format tab, in the Insert Shapes group, click the More button .

3. Under Lines, click Curve .

4. Click where you want the curve to start, drag to draw, and then click wherever you want to add a curve.

5. To end a shape, do one of the following:

- To leave the shape open, double-click at any time.
- To close the shape, click near its starting point.



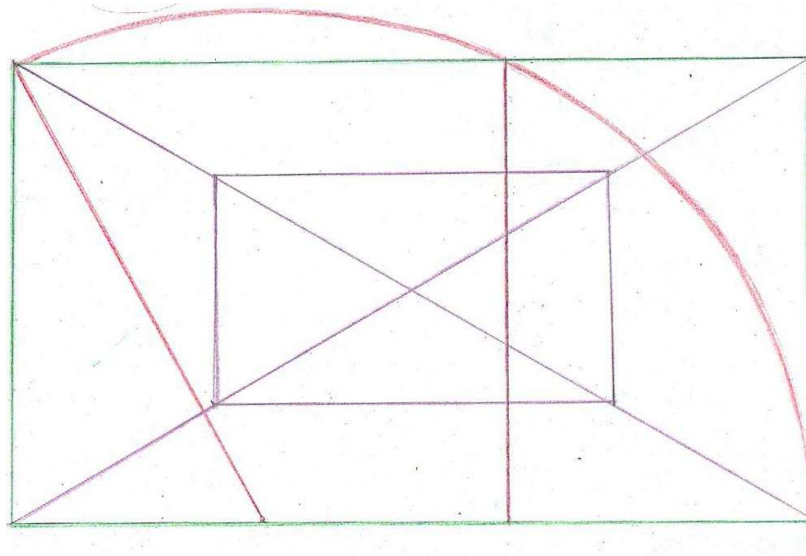
- Drawing rectangles

A rectangle is defined by its Width, Height, and upper-left corner represented by the Location property.



To draw rectangles, you need a Graphics object and a Pen object. The Graphics object provides the `DrawRectangle` method, and the Pen object stores features of the line, such as color and width. The units

the rectangle is drawn in is determined by the PageUnit and PageScale properties of the graphics object used for drawing. The default unit is pixels.



To draw a Rectangle filled with color, you need a Graphics object and an object derived from Brush such as SolidBrush or LinearGradientBrush. The Graphics object provides the FillRectangle method and the Brush object provides the color and fill information.

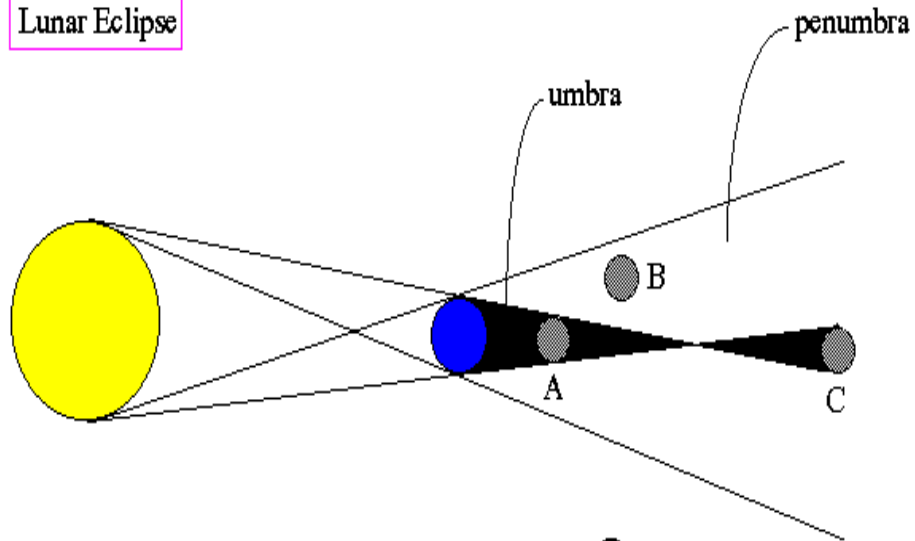
For more advanced shapes, use a Region object.

- Drawing ellipses

The example below shows how to draw on a static image using our Eclipse RAP framework. It works as follows:

1. Create an image resource from a file.
2. Create a Canvas widget. This is a blank area that we can paint on, with the help of a PaintListener object.
3. We use a MouseListener to react to the user's clicks. A left-click adds a Point. A right-click removes a Point. The click triggers a redraw operation.
4. We use a PaintListener to draw on the canvas. The listener has access to a GC object. This is our 'brush' for drawing on the canvas. We draw the image first and then a sequence of lines using the stored points (step 3).

Lunar Eclipse

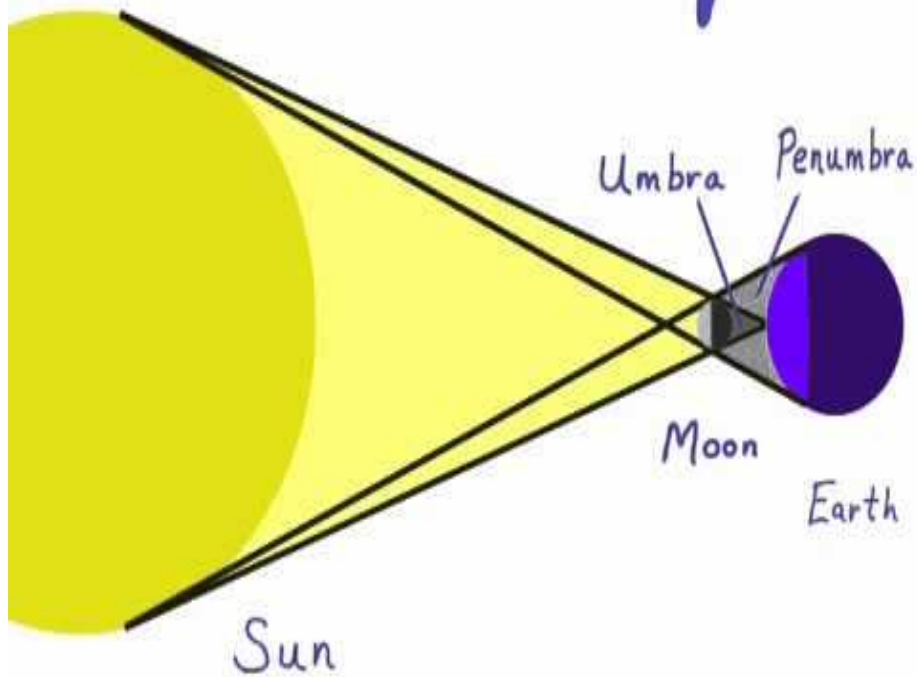


Object at A = total eclipse ●

Object at B = partial eclipse ◐

Object at C = annular eclipse ◑

Solar Eclipse



UNDERSTANDING THE PASSAGE

Task 1. Answer the following questions

1. What do you do after you get the hang the Curve tool
.....
.....
2. What is the Curve tool look like?
.....
.....
3. What do you do where you want the curve to start?
.....
.....
4. What is a rectangle defined?
.....
.....
5. What do you need to draw a Rectangle filled with color?
.....
.....

Task 2. Are these sentences true or false. Correct the false sentences.

1. Click the Media button on the Standard toolbar to display the Media browser, if it isn't already visible.
.....
.....
2. When you select the Curve tool, the cursor changes into a plus sign (+) to signify it's ready to start drawing a line as soon as you drag in the document, spreadsheet, or presentation.
.....
.....
3. Each time you click while you move the mouse, you create a point, which behaves as an axis for your line's curves.
.....
.....
4. Click where you want the curve to start, drag to draw, and then click wherever you want to subtract a curve.

.....
.....
5. A vertex is the point, indicated by a white dot, where a curve ends or the point where two line segments meet in a freeform, curve, or scribble shape.
.....
.....

Task 3. Choose the best answer

1. The Curve is the one that looks like a handwritten S.
A. tool B. click C. defined D. object
2. Your line continuously gets longer as you move the around.
A. click B. cursor C. object D. defined
3. Click where you want the curve to start, drag to draw, and thenwherever you want to add a curve.
A. object B. defined C. tool D. click
4. A rectangle isby its Width, Height, and upper-left corner.
A. object B. defined C. click D. tool
5. To draw a Rectangle filled with color, you need a Graphics and an object.
A. tool B. cursor C. object D. defined

II. LANGUAGE WORK

The Imperative Mood

The imperative mood (often referred to simply as a command) is used to express demands, instructions or requests.

We usually use the second person (plural or singular) with an unspoken "you" for the subject.

When you're feeling bossy you can use the imperative.

- Come in!
- Shut that door.
- Turn that computer off now!

You can also tell people not to do something.

- Don't eat that gummy bear!

This can all seem a bit rude really, so you can soften the command:-

- Please, come in.
- Shut the door, please.

The exception to the use of the second person is when you want to include yourself in your suggestion, here we use "Let's".

- Let's go to the pub.

If you can't see the difference between saying to someone "Go to the pub", and "Let's go to the pub," you might never get to go to the pub yourself.

-Let's stop now, I'm getting a headache.

Examples

- Click the Shapes tab and then choose Lines and Connectors from the pop-up menu.

- Insert a drawing canvas.

- *Create an image resource from a file.*

III. PRACTICE

Exercise 1. Rearrange these words to make the sentences

1. the /Shapes /and/ Click /tab /then/ Connectors./ choose/ and / Lines

.....
.....

2. your /slowest /Set/ pointer /the /speed/ to /available/ Panel./ Control/ in

.....
.....

3. Graphics/object /The / provides/ method./ the /Rectangle /Draw

.....
.....

4. Graphics/provides /The / object / Fill/ the / method / Rectangle

.....
.....

5. Listener/ to /We /a/ use /Mouse /react/ clicks./ to /user's / the

.....
.....

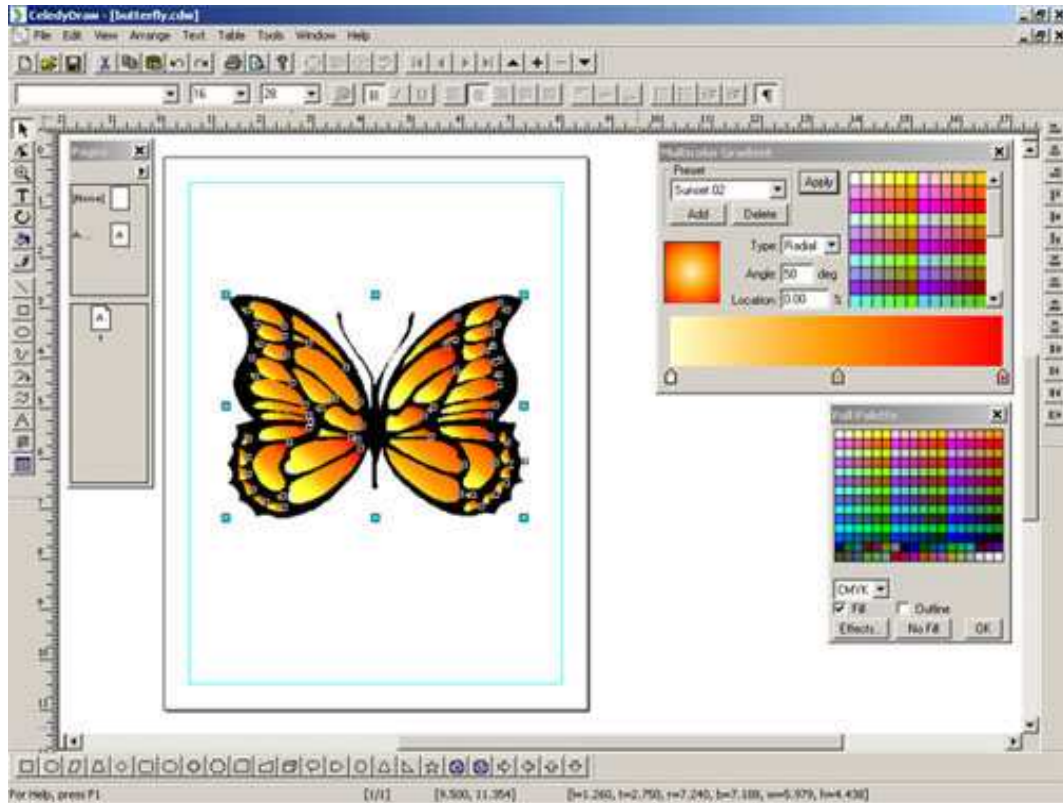
Exercise 2. Match a word in A to the appropriate phrase in B

A	B
1. a MouseListener	a. Click the Media button on the Standard toolbar
2. A left-click	b. removes a Point.
3. A right-click	c. to react to the user's clicks.

4. The click triggers	d. adds a Point.
5. display the Media browser	e. a redraw operation.

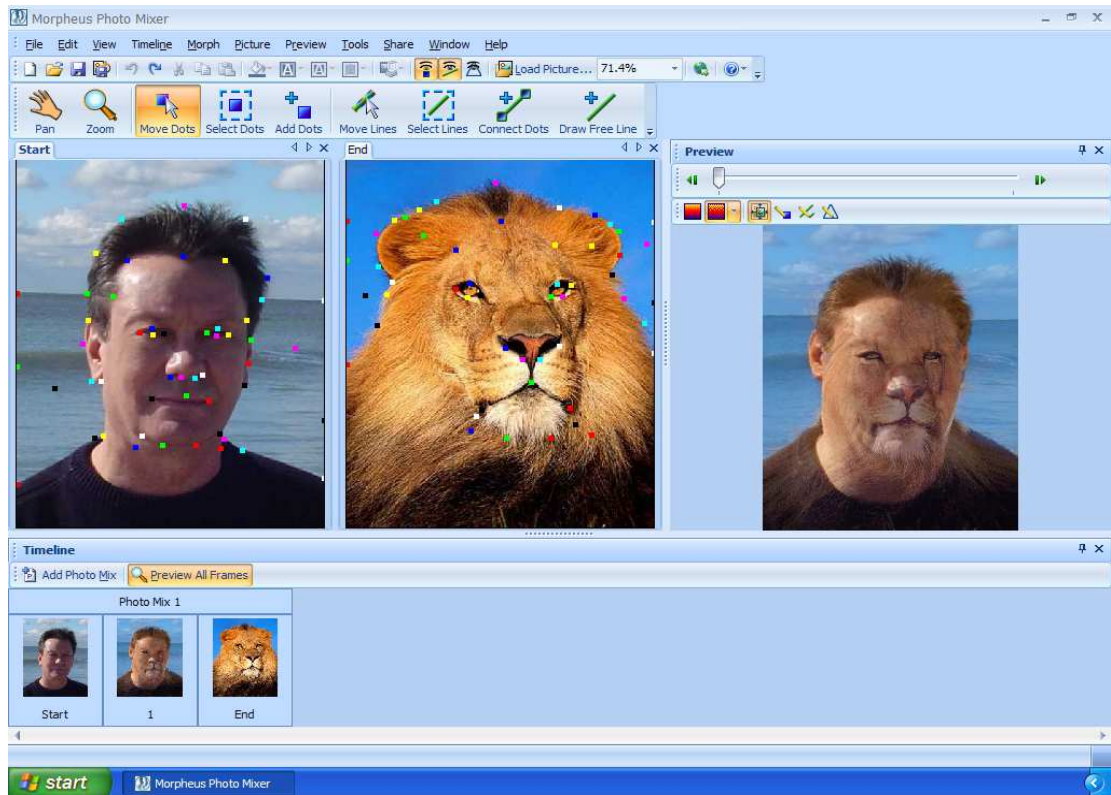
Exercise 3. *Put a word to complete the passage*

**applying ; courses ; opportunity; factor ; formal;
examples; projects**



Many programs provide students with theto build a professional portfolio of their designs. This means collecting examples of their designs from classroom, internships, or other experiences. Students can use these examples of their work to demonstrate their design skills when for jobs and bidding on projects. A good portfolio often is the decidingin getting a job. Students interested in graphic design programs should take basic art and design courses in high school, if the are available. Many bachelor's degree programs require students to have had a year of basic art and design courses before being admitted to a

..... degree program. Some schools require applicants to submit sketches and otherof their artistic ability.



Exercise 4. Use the information in the text above to help you match the terms in the box with appropriated explanation or definition below.

a. a PaintListener	b. a MouseListener	c. SolidBrush
d. Drawing curves	e. The Curve tool	f. a PaintListener object.
g. the stored points	h. select the Curve tool	i. a Graphics object and a Pen object
1. the one that looks like a handwritten S.		(e)
2. Create a Canvas widget.		<input type="checkbox"/>
3. to draw on the canvas.		<input type="checkbox"/>
4. the cursor changes into a plus sign (+) to signify it's ready to start drawing a line as soon as you drag in the document, spreadsheet, or presentation.		<input type="checkbox"/>
5. draw the image first and then a sequence of lines		<input type="checkbox"/>
6. Insert a drawing canvas. On the Insert tab, in the Illustrations group, clickShapes, and then click New Drawing		<input type="checkbox"/>

Canvas.	
7. To draw rectangles.	<input type="checkbox"/>
8. to react to the user's clicks	<input type="checkbox"/>
9. To draw a Rectangle filled with color.	<input type="checkbox"/>

Exercise 5. *Translate the sentences into Vietnamese*

1. Click where you want the curve to start, drag to draw, and then click wherever you want to add a curve.

.....

2. Each time you click while you move the cursor, you create a point, which behaves as an axis for your line's curves.

.....

3. A vertex is the point, indicated by a black dot, where a curve ends or the point where two line segments meet in a free form, curve, or scribble shape.

.....

4. The Graphics object provides the Fill Rectangle method and the Brush object provides the color and fill information.

.....

5. We use a MouseListener to react to the user's clicks. A left-click adds a Point. A right-click removes a Point. The click triggers a redraw operation.

.....

Exercise 6. *Translate the sentences into English*

1. Để vẽ một hình chữ nhật đầy màu sắc, bạn cần một dụng cụ đồ họa và một dụng cụ như bàn chải như bàn chải hoặc bàn chải răn Linear Gradient..

.....

.....
.....
2. Các công cụ đường cong là một trong những công cụ trông giống như một S. viết tay Khi bạn chọn công cụ đường cong, những thay đổi con trở thành một dấu cộng (+) để biểu nó sẵn sàng để bắt đầu vẽ một đường ngay sau khi bạn kéo trong bảng tính, tài liệu, hoặc trình bày.
.....
.....
.....
.....

3. Nhấp vào nút Media trên thanh công cụ chuẩn để hiển thị các trình duyệt truyền thông, nếu nó không phải là đã có thể nhìn thấy.
.....
.....

Exercise 7. *Think about Painting then answer the following questions*

1. How do the colors make you feel?
.....

2. How is the perspective of the painting?
.....

3. Does the painting make you feel happy or sad?
.....

4. Is it a somber or a energetic painting?
.....

5. How about the color sequence? Is it cool or warm?
.....

6. Do you like the touch of the painting?
.....

7. Can you paint like this?
.....

8. How do you get those colors?
.....

9. What are the different methods of advertising?
.....

10. What is the most popular way of advertising?

.....

IV. FURTHER READING

How to Become a Graphic Designer

A bachelor's degree in graphic design or a related field is usually required for jobs in this field. Candidates should demonstrate their creativity and originality through a professional portfolio that features their best designs.

A bachelor's degree in graphic design or a related field is usually required. However, those with a bachelor's degree in another field may pursue technical training in graphic design to meet most hiring qualifications.



The National Association of Schools of Art and Design accredits about 300 postsecondary colleges, universities, and independent institutes with programs in art and design. Most schools include studio art, principles of design, computerized design, commercial graphics production, printing techniques, and website design. In addition, students should consider courses in writing, marketing, and business, all of which are useful in helping designers work effectively on project teams.

Many programs provide students with the opportunity to build a professional portfolio of their designs. This means collecting examples of

their designs from classroom projects, internships, or other experiences. Students can use these examples of their work to demonstrate their design skills when applying for jobs and bidding on projects. A good portfolio often is the deciding factor in getting a job.



Graphic Designer

Need logo design, a brochure,
packaging design or signwriting ?

Speak to one of our designers,
we can help you



Students interested in graphic design programs should take basic art and design courses in high school, if the courses are available. Many bachelor's degree programs require students to have had a year of basic art and design courses before being admitted to a formal degree program. Some schools require applicants to submit sketches and other examples of their artistic ability.

Graphic designers must keep up with new and updated computer graphics and design software, either on their own or through formal software training programs.

V. VOCABULARY

- accredits	ủy nhiệm
- administration	cơ quan chủ quản; quản trị
- admit	nhận, thừa nhận; (kỹ thuật) nạp
- artistic	nghệ thuật; (thuộc) mỹ thuật
- bachelor's degree programs	chương trình cấp bằng cử nhân
- Candidate	Người dự thi; Ứng cử viên
- circumstance	trường hợp
- conversant	Biết, quen, giỏi, thạo (việc gì)
- deliver	Phân phát thư, phân phối, giao
- disciplinary	Có tính chất rèn luyện trí óc;
- enforcement	Sự thúc ép, sự ép buộc
- evidence	Tính hiển nhiên; tính rõ ràng,
- features	Chức năng
- garment	Áo quần; Vỏ ngoài, cái bọc ngoài
- hire	Sự thuê; sự cho thuê
- internships	Sinh viên thực tập
- obligation	Trách nhiệm; nghĩa vụ
- outsource	Thuê ngoài
- portfolio	Cấp đựng hồ sơ; danh mục đầu tư
- postsecondary	sau trung học
- pursue	Đuổi theo, đuổi bắt, truy nã
- qualification	Khả năng chuyên môn,
- sector	Khu vực; lĩnh vực
- sketches	Bản vẽ phác

- specifications Đặc điểm kỹ thuật
- textile Hàng dệt, sản phẩm dệt
- The National Association of Schools of Art and Design
 Hiệp hội quốc gia của các trường Nghệ thuật và Thiết kế
- tolerance sự cho phép, độ dung sai
- willingness Sự sẵn sàng, Sự tự nguyện

Appendix

- **ASCII** (*American Standard Code for Information Interchange* - Chuẩn mã trao đổi thông tin Hoa Kỳ), thường được phát âm là át-xơ-ki, là bộ kí tự và bộ mã kí tự dựa trên bảng chữ cái La Tinh được dùng trong tiếng Anh hiện đại và các ngôn ngữ Tây Âu khác. Nó thường được dùng để hiển thị văn bản trong máy tính và các thiết bị thông tin khác. Nó cũng được dùng bởi các thiết bị điều khiển làm việc với văn bản.
- **Connection-oriented protocol**: *Giao thức hướng kết nối*
- **Connectionless protocol**: *Giao thức phi kết nối*
- **CRTs**: Ống tia cathode (CRT) là một ống chân không có chứa một súng điện tử (một nguồn electron hoặc emitter điện tử) và một màn hình huỳnh quang được sử dụng để xem hình ảnh.
- **Disk drive**- A hard disk drive (HDD; also hard drive, hard disk, or disk drive) : *Thiết bị lưu trữ thứ cấp như ổ đĩa mềm hoặc cứng. Thuật ngữ này cũng thường được dùng để chỉ các ổ đĩa mềm. Ổ đĩa mềm là một phương tiện lưu nhớ thứ cấp rất kinh tế, nó dùng loại đĩa từ có thể tháo rời, có thể ghi vào, xóa, và dùng lại nhiều lần. Các thao tác ghi và xóa được thực hiện bởi một đầu từ đọc/ghi chuyển động khắp mặt đĩa, làm cho ổ đĩa có khả năng truy cập ngẫu nhiên. Ổ đĩa mềm có tốc độ rất chậm đối với nhiệm vụ lưu trữ dữ liệu chính cho các máy tính cá nhân hiện đại, nhưng rất cần thiết để sao chép phần mềm và các dữ liệu cơ sở của hệ thống, cũng như để ghi chép dự phòng.*
- **FTP** (viết tắt của *File Transfer Protocol* "Giao thức truyền tập tin")
- **FTP** (*File Transfer Protocol*): *cho phép trao đổi tập tin qua Internet.*
- **Graphic design** is a creative process—most often involving a client and a designer and usually completed in conjunction with producers of form (i.e., printers, signmakers, etc.)—undertaken in order to convey a specific message (or messages) to a targeted audience: *Thiết kế đồ họa là một quá trình sáng tạo liên quan đến người đặt hàng và nhà thiết kế và thường kết hợp với các nhà sản xuất (ví dụ: thợ in, thợ xếp chữ, vv) để truyền tải một thông điệp cụ thể (hoặc tin nhắn) cho người tiêu dùng.*
- **Graphic designers** create visual concepts, by hand or using computer software, to communicate ideas that inspire, inform, or captivate consumers. They help to make an organization recognizable by selecting

color, images, or logo designs that represent a particular idea or identity to be used in advertising and promotions: *Nhà thiết kế đồ họa tạo ra khái niệm hình ảnh, bằng tay hoặc bằng cách sử dụng phần mềm máy tính, để truyền đạt ý tưởng truyền cảm hứng, thông báo, hoặc lôi cuốn người tiêu dùng. Họ giúp nhà sản xuất bằng cách chọn màu sắc, hình ảnh, hoặc thiết kế biểu tượng đại diện cho một ý tưởng hoặc nhận dạng cụ thể được sử dụng trong các chương trình quảng cáo.*

- **GUI** - Graphical User Interface: *Giao diện đồ họa người dùng trong tiếng Anh gọi tắt là GUI (Graphical User Interface) là một thuật ngữ trong ngành công nghiệp máy tính. Đó là một cách giao tiếp với máy tính hay các thiết bị điện tử bằng hình ảnh và chữ viết thay vì chỉ là các dòng lệnh đơn thuần. GUI được sử dụng phổ biến trong máy tính, các thiết bị cầm tay, các thiết bị đa phương tiện, hoặc các linh kiện điện tử trong văn phòng, nhà ở...*

- **HTTP** (*HyperText Transfer Protocol*): cho phép trao đổi thông tin (chủ yếu ở dạng siêu văn bản) qua Internet.

- **ICT** - Information Communications Technology: *các công nghệ thông tin và truyền thông*

- **IP** (*Internet Protocol*): *định tuyến (route) các gói dữ liệu khi chúng được truyền qua Internet, đảm bảo dữ liệu sẽ đến đúng nơi cần nhận.*

-**Internet Protocol Television (IPTV)**: *Truyền hình giao thức Internet là một hệ thống dịch vụ truyền hình kỹ thuật số được phát đi nhờ vào giao thức Internet thông qua một hạ tầng mạng, mà hạ tầng mạng này có thể bao gồm việc truyền thông qua một kết nối băng thông rộng. Một định nghĩa chung của IPTV là truyền hình, nhưng thay vì qua hình thức phát hình vô tuyến hay truyền hình cáp thì lại được truyền phát hình đến người xem thông qua các công nghệ sử dụng cho các mạng máy tính.*

- **Keyboard** - bàn phím: *Thiết bị đầu vào của máy tính. Bàn phím bao gồm toàn bộ các phím chữ cái, số, dấu, ký hiệu và các phím điều khiển. Khi ấn vào một phím ký tự, một tín hiệu vào đã mã hóa sẽ được truyền vào máy tính, và sẽ lập lại tín hiệu đó bằng cách hiển thị một ký tự trên màn hình.*

- **LCDs**: *Màn hình tinh thể lỏng (liquid crystal display, LCD) là loại thiết bị hiển thị có cấu tạo từ các tế bào (các điểm ảnh) chứa tinh thể lỏng có khả năng thay đổi tính phân cực của ánh sáng và do đó thay đổi cường độ*

ánh sáng truyền qua khi kết hợp với các kính lọc phân cực. Chúng có ưu điểm là phẳng, cho hình ảnh sáng, chân thật và tiết kiệm năng lượng.

- **Local Area Network (LAN):** Kỹ thuật truyền thông liên kết nhiều máy tính tại một thời điểm. Các máy tính và thiết bị đầu cuối trong một mạng LAN có thể chia sẻ dữ liệu và các thiết bị ngoại vi như máy in, máy vẽ. Các mạng LAN được liên kết nhờ hệ thống cáp và các phần cứng, phần mềm truyền thông đặc biệt.

- **Media Access Control- Mac:** điều khiển truy nhập phương tiện truyền thông đại chúng

- **Media Access Control Protocol** giao thức MAC

- **MIME (Multipurpose Internet Mail Extension):** một mở rộng của giao thức SMTP, cho phép gửi kèm các tập tin nhị phân, phim, nhạc, ... theo thư điện tử.

- **Modems (modulator-demodulator):** bộ biến hoàn; bộ điều biến

- **Monitor - display (also called screen or visual display unit) :** màn hình: Một thiết bị hoàn chỉnh dùng để tạo hình ảnh trên màn, bao gồm tất cả những mạch phụ trợ bên trong cần thiết. Màn hình còn được gọi là bộ hiển thị video (VDU) hoặc ống tia cathode (CRT).

- **Modems (modulator-demodulator):** bộ biến hoàn; bộ điều biến

- **Modular programming :** lập chương trình theo môđun

- **Mosaic** là nghệ thuật ghép mảnh từ các vật liệu như đá, gạch, thủy tinh, ... có từ thời La Mã cổ đại và được ứng dụng nhiều trong kiến trúc công cộng như nhà thờ, đền đài, cung điện... Ngày nay, Mosaic được ứng dụng rộng rãi trong nhiều lĩnh vực, đặc biệt nhất là trang trí nội ngoại thất kiến trúc.

- **Mouse - chuột:** Là thiết bị phân cứng điều khiển bằng tay, nó là một phần của thiết bị đầu cuối hoặc để nhập dữ liệu từ một bàn số hóa. Chức năng đơn giản nhất của chuột là định vị con trỏ, đưa con trỏ tới vị trí cần thiết trên màn hình giao diện, thiết lập sự tương tác. Chuột số hóa được dùng để họa lại hình ảnh các đối tượng và nhập tọa độ x, y của các đối tượng đó.

logic (ALU), đơn vị điều khiển, và bộ nhớ sơ cấp trong dạng ROM hoặc RAM.

- **Network Potocols:** Giao thức mạng

- **Network Topology** - *Hình trạng mạng* : Cách sắp đặt hình học (hoặc vật lý) sơ đồ nối dây mạng máy tính gọi là hình trạng mạng (topology)
- **Pen plotters**: máy vẽ dùng bút
- **Personal Area Network** - PAN: mạng diện cá nhân; mạng khu vực (cá nhân)
- **Plotters** - máy vẽ: Một máy in tạo ra các hình chất lượng cao bằng cách di chuyển các bút mực trên mặt giấy. Máy in di chuyển bút theo sự điều khiển của máy tính nên việc in thực hiện tự động. Các máy vẽ được dùng rộng rãi trong việc thiết kế bằng máy tính và đồ họa biểu diễn.
- **POP3** (Post Office Protocol, phiên bản 3): cho phép nhận các thông điệp thư điện tử qua Internet.
- **Printer** - máy in: Máy in kèm theo máy vi tính.
- **Random access memory** - RAM: Bộ nhớ truy cập ngẫu nhiên
- **Relational database** - CSDL quan hệ: Là cấu trúc dữ liệu dạng tập hợp bảng có quan hệ logic với nhau bởi cùng chia sẻ các thuộc tính. Bất kỳ yếu tố dữ liệu nào cũng có thể được tìm thấy nếu biết tên của bảng, tên thuộc tính (cột) và giá trị của khóa chính.
- **Scanner** - máy quét: là thiết bị ngoại vi để số hóa các bức ảnh nghệ thuật hoặc bức hình chụp rồi lưu trữ hình ảnh đó dưới dạng một tệp tin để bạn có thể kết hợp với văn bản trong nhiều chương trình xử lý từ và dàn trang.
- **SDLC** - Synchronous Data Link Control : điều khiển liên kết đồng bộ dữ liệu
- **SMTP** (Simple Mail Transfer Protocol): cho phép gửi các thông điệp thư điện tử (e-mail) qua Internet.
- **TCP/IP** Bộ giao thức- Internet protocol suite hoặc IP suite hoặc TCP/IP protocol suite - bộ giao thức liên mạng, là một bộ các giao thức truyền thông cài đặt chồng giao thức mà Internet và hầu hết các mạng máy tính thương mại đang chạy trên đó. Bộ giao thức này được đặt tên theo hai giao thức chính của nó là TCP (Giao thức Điều khiển Giao vận) và IP (Giao thức Liên mạng).
- **TCP** (Transmission Control Protocol): thiết lập kết nối giữa các máy tính để truyền dữ liệu. Nó chia nhỏ dữ liệu ra thành những gói (packet) và đảm bảo việc truyền dữ liệu thành công.

- **The Internet:** *một hệ thống các mạng máy tính được nối mạng khắp toàn cầu.*
- **The Transmission Control Protocol (TCP):** *giao thức kiểm soát truyền*
- **The Internet Protocol (IP)** *bộ giao thức Internet.*
- **The central processing unit (CPU, occasionally central processor unit):** *mạch lưu giữ, xử lý và điều khiển bên trong máy tính bao gồm: đơn vị số học-*
- **The World Wide Web (WWW):** *Được phát triển bởi một phòng thí nghiệm vật lý ở Châu Âu cho Particle Physics (CERN). Là một consortium ở Thụy Sĩ như một máy chủ phân phối các liên kết siêu văn bản. Liên kết siêu văn bản cho phép truy cập đến các phần khác nhau trên văn bản hoặc tới các file khác nhau phân tán trên khắp thế giới. Dùng ngôn ngữ siêu văn bản (html) để tạo ra các văn bản được quản lý và liên kết theo các địa chỉ nguồn (Universal Resource Locators - URLs). Bằng những địa chỉ này có thể lấy các văn bản từ bất kỳ nơi nào trên Internet. Một máy chủ WWW không cung cấp các khả năng tìm kiếm, chỉ cung cấp các mối liên kết giữa các file sử dụng siêu văn bản trên Internet. Điều này cho phép tổ chức thông tin theo một cách nhất định, nhưng trừ phi các liên kết tồn tại, sẽ không thể tìm được các thông tin mà tác giả của chúng không xác lập liên kết. WWW có thể được truy cập bằng Mosaic.*
- **Tunneling protocol :** *Giao thức đường hầm*
- **Voice over Internet Protocol (VoIP) :** *Truyền giọng nói trên giao thức IP là công nghệ truyền tiếng nói của con người (thoại) qua mạng thông tin sử dụng bộ giao thức TCP/IP. Nó sử dụng các gói dữ liệu IP (trên mạng LAN, WAN, Internet) với thông tin được truyền tải là mã hoá của âm thanh.*
- **Uniform Resource Locator (URL):** *được dùng để tham chiếu tới tài nguyên trên Internet. URL mang lại khả năng siêu liên kết cho các trang mạng. Các tài nguyên khác nhau được tham chiếu tới bằng địa chỉ, chính là URL.*
- **URL scheme** *thường là Tên giao thức (ví dụ: http, ftp) nhưng cũng có thể là một cái tên khác (ví dụ: news, mailto).*
- **Tên miền** *(ví dụ: http://vi.wikipedia.org)*
- **Chỉ định thêm cổng** *(có thể không cần)*

- Đường dẫn tuyệt đối trên máy phục vụ của tài nguyên (ví dụ: thumuc/trang)
- Các truy vấn (có thể không cần)
- Chỉ định mục con (có thể không cần)
- **Wide Area Network.** (WAN) - mạng toàn cục: Một mạng máy tính sử dụng truyền thông cự ly xa, tốc độ cao hoặc dùng vệ tinh để kết nối các máy tính, vượt xa hơn cự li hoạt động của mạng cục bộ (khoảng hai dặm).
- **WAP** (Wireless Application Protocol): cho phép trao đổi thông tin giữa các thiết bị không dây, như điện thoại di động.
- **2D computer graphics:** đồ họa máy tính 2D là thể hệ máy tính dựa trên kỹ thuật số hình ảnh chủ yếu là từ mô hình hai chiều (ví dụ như các mô hình 2D hình học, văn bản, và hình ảnh kỹ thuật số) và bằng các kỹ thuật cụ thể cho chúng.
- **3D computer graphics:** Đồ họa máy tính 3D (tương phản với đồ họa 2D) đồ họa sử dụng ba chiều của dữ liệu hình học (thường Cartesian) được lưu trữ trong máy tính cho các mục đích thực hiện các tính toán và hiển thị hình ảnh 2D.

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