UACE Sub - ICT

Topic 6: Computer Software

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Presentation Outline

***UACE Sub – ICT* Topic 6:**

Computer Software

- Sub Topic 1. System Software
- Sub Topic 2. Application Software

Introduction

- Computer software refers to the electronic instructions and procedures that control the operation of a computer.

- There are two major types of software: System software and application software.

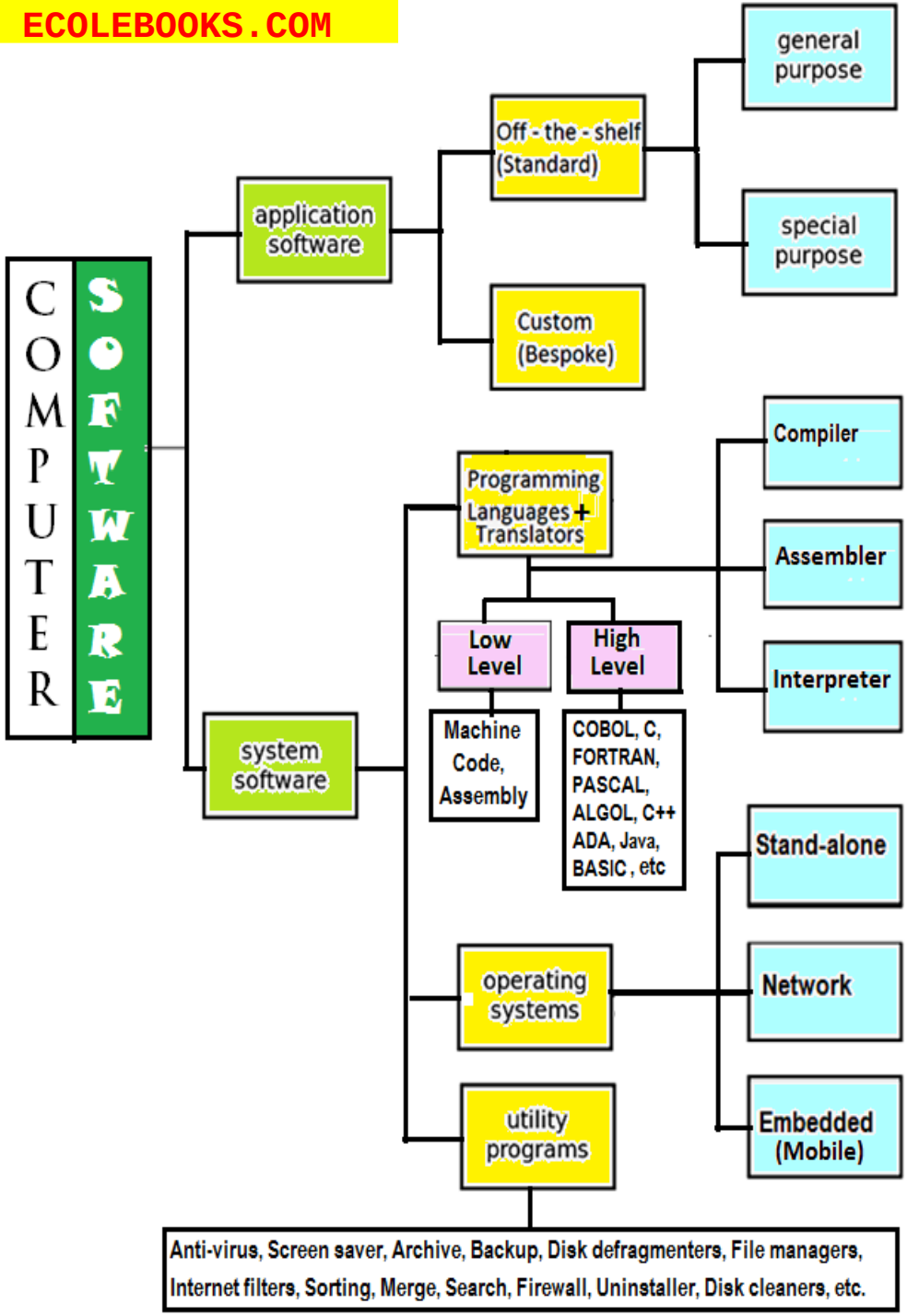
- System software e.g. the Operating system manage and coordinate all the other computer programs, devices, resources and activities.

Introduction

- While Application software like, Word-processors, Spreadsheets, Media players and Games solve the specific or exact needs of the user.

Introduction

- Computer software can be generally classified and broken down as shown in the following chart:



Sub Topic 1: System Software

Sub topic Objectives:

1. Types of system software e.g. operating systems, utilities and programming languages.
2. Functions of operating systems.

Sub Topic 1: System Software

- System software is a set of programs that control or maintain all the operations of the computer and its devices, such as the CPU, communication links, and peripheral devices.
- *System Software Includes:*
  - An Operating system,
  - Device Drivers, Firmware,
  - Utility Programs and
  - Programming Languages, Translators and Library Programs

Operating Systems

- An operating system is a generalized program that manages and coordinates all the activities taking place within a computer system.

- The operating system functions as a middleman between the user and the computer, as well as between application software programs and the hardware devices.

Operating Systems

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2. **OPERATING SYSTEM**
The operating system starts the requested program.

3. **USER**
The user instructs the application program to print the current document.

1. **USER**
The user instructs the operating system to start an application program.

4. **APPLICATION PROGRAM**
The application program hands the document over to the operating system for printing.

5. **OPERATING SYSTEM**
The operating system sends the document to the printer.

6. **PRINTER**
The printer prints the document.

Device Drivers

- To communicate with the hardware devices, the operating system relies on device drivers.
- A device driver is a program that accepts instructions and then converts them into commands that the device understands.
- Each device on a computer, such as the keyboard, mouse, monitor, printer, card reader/writer, and scanner, has its own device driver.

Where does the OS reside?

- In most cases, the operating system is installed and resides on the computer's hard disk.
- During the boot process, usually the operating system will look first in drive C: (the designation for the hard disk drive) for the OS system files.
- On handheld computers and many mobile devices such as smart phones, however, the operating system may reside on a ROM chip.
- Permanently written data, instructions, or programs written to a ROM chip with in a device by its manufacturers are collectively called **firmware**.

Utility Programs

- Utility software refers to system software designed to analyze, optimize, enhance and maintain a computer in good working conditions.
- Utility software usually focuses on how the computer system operates. Although operating systems typically include some built-in utilities, many stand-alone utility programs are available.
- Examples include Antivirus, screen saver, file compression, backup, disk checkers, disk cleaners, disk defragmenters, file managers, sort, merge, personal firewall, uninstaller, diagnostic utility, etc.

Utility Programs

1. **Antivirus** utilities are programs that scan for computer viruses, block, remove, and disinfect files.
2. A **screen saver** is a program that automatically fills the computer's screen with moving images or patterns when the computer is not in use. Screensavers were originally designed to prevent phosphor burn-in (ghosting) on CRT monitors. Currently, screensavers are used primarily for entertainment, advertising or security purposes.
3. **Backup** utilities can make a copy of data stored on a disk, and can restore it in case of data loss.
4. **Cryptographic** utilities encrypt and decrypt streams and files.
5. **Disk checkers** can scan the contents of a hard disk to find files or areas that are corrupted in some way, or were not correctly saved.
6. **Disk cleaners** can find files that are unnecessary to computer operation, or take up considerable amounts of space.
7. **Disk defragmenters** can detect computer files whose contents are broken and spread across several locations on the hard disk, and combine the fragments to increase efficiency.
8. A **search utility** is a program that attempts to locate a file on your computer based on criteria you specify.

Utility Programs

9. **Disk partitioning** utility can divide an individual drive into multiple logical drives, each with its own file system which can be mounted by the operating system and treated as an individual drive.
10. **Archive** utilities output a stream or a single file when provided with a directory or a set of files. Archive suites, at times include compression and encryption capabilities.
11. **File managers** provide a convenient method of performing routine data management tasks, such as deleting, renaming, cataloging, moving, copying, merging, generating files and modifying data sets.
12. **Merge** utility for merging or combining different files in one.
13. A **file compression** utility shrinks the size of a file.
14. A **personal firewall** is a utility that detects and protects a personal computer from unauthorized intrusions.
15. An **uninstaller** is a utility that removes a program, as well as any associated entries in the system files.
16. A **diagnostic** utility compiles technical information about your computer's hardware and certain system software programs and then prepares a report outlining any identified problems.
17. A **sort** utility organizes files in any chosen order.

Programming Languages

- A programming language is a notation for writing computer software.
- Programming languages are can be used to create the procedures and specifications of a computation or algorithm.
- When computers execute programs written in languages such as BASIC, C, Java, etc., the computer must convert these humanly readable instructions into a form it can understand.
- Compilers, interpreters, and assemblers are special language translation library programs that translate the higher-level language programs into the lowest level machine language that the computer can execute.

Functions of operating systems

Most operating systems provide similar functions that are outlined as follows :

a) Starting a computer, (Booting the computer)

b) Providing a user interface,

c) Managing programs,

d) Configuring devices, (Device drivers are often needed). Plug and Play devices are recognized automatically.

e) Monitoring performance

f) Providing file management.

g) Administering security.

h) Managing resources.

i) Coordinating tasks, and Spooling.

j) Managing memory,

k) Establishing network connections

Functions of operating systems

Start the computer

Provide a user interface

Manage programs

Manage memory

Operating System Functions

Provide file management and other utilities

Establish an Internet connection

Control a network

Administer security

Monitor performance

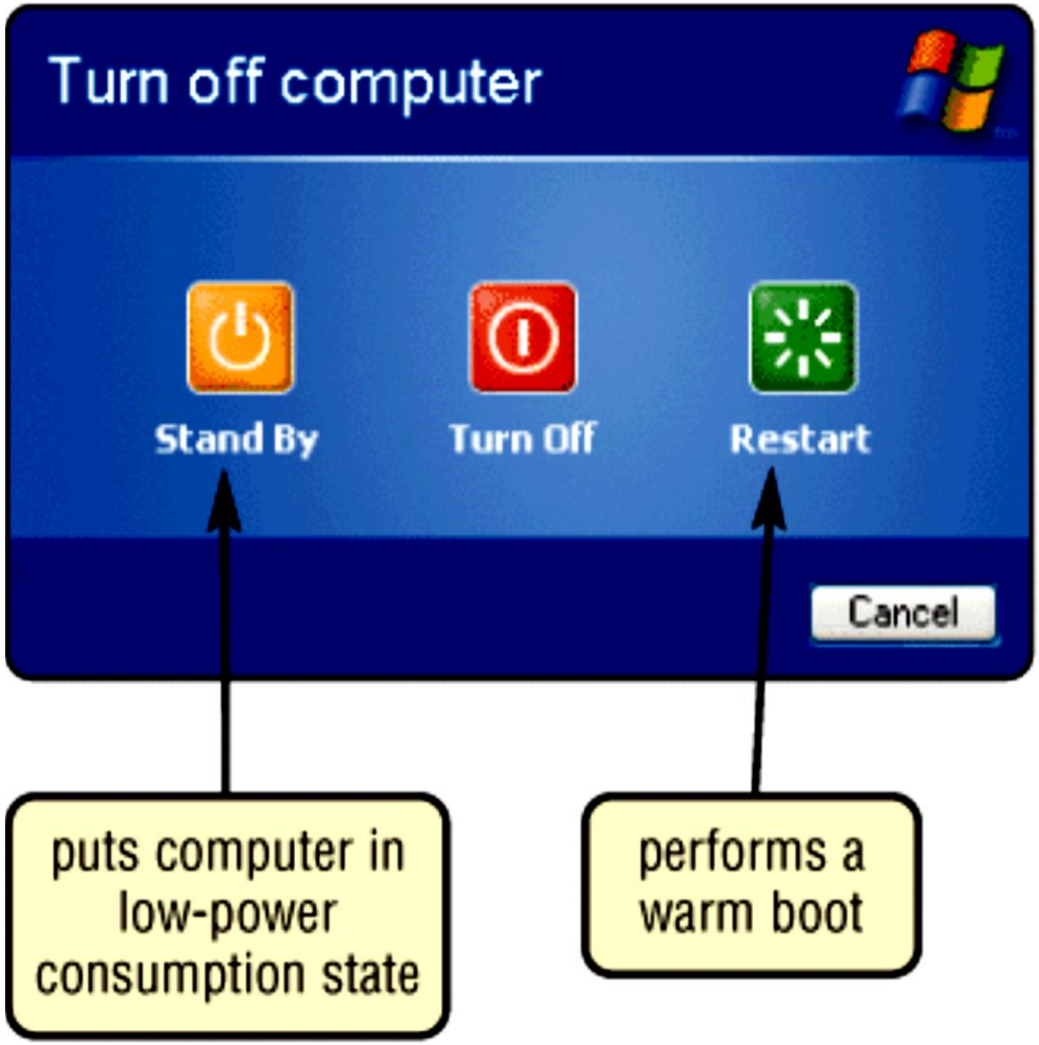
Coordinate tasks and configure devices

a) Starting a computer, (Booting the computer)

- The process of starting or restarting a computer is called booting.
- The process of turning on a computer after it had been powered off completely is known as cold booting.
- Warm booting is the process of restarting a computer that already is powered on.
- When you install new software or hardware, often an on-screen prompt instructs you to restart the computer. In this case, a warm boot is appropriate.

Turning off the Computer

- When you instruct the computer to Turn Off, (See figure), the operating system properly closes any open processes and programs, saves your settings, and shuts down the computer.



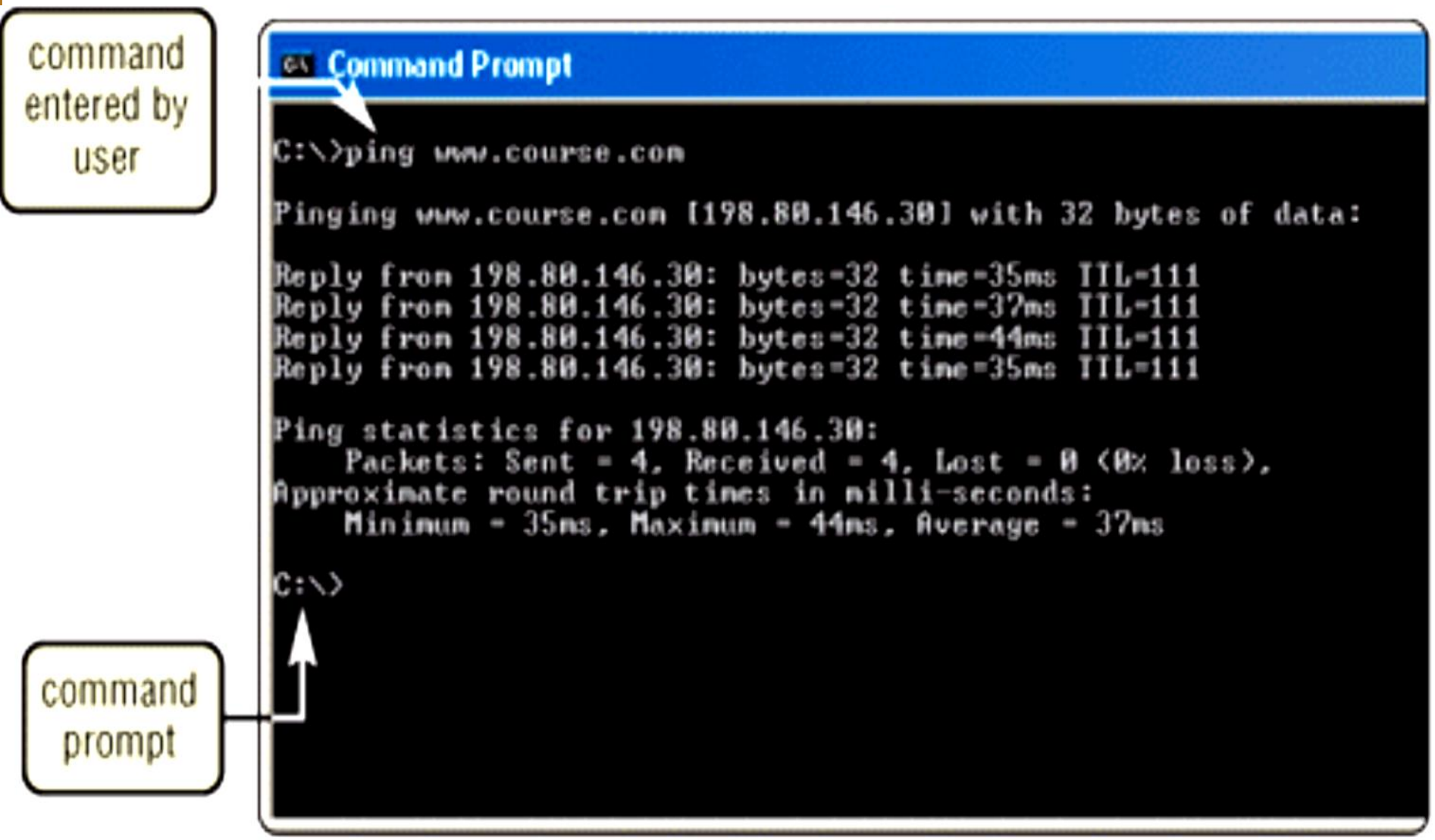
b) Providing a User Interface

- Computer users interact with software through its user interface.
- A user interface is the part of the software with which you interact; it controls how data and instructions are entered and information is presented on the screen.
- It is through the user interface of an operating system that you communicate with the computer.

Types of user interfaces

- Three types of user interfaces are:
  i. command-line interface (CLI),
  ii. menu-driven interface (MDI), and
  iii. graphical user interface (GUI).
- Most operating systems use a combination of these types of user interfaces to define how you interact with your computer.

Command-line interface



Command-line interface

- Command-line interfaces often are difficult to use because the commands used require exact spelling and punctuation.
- Minor syntax errors, such as a missing period, generate error messages.
- Command-line interfaces, however, give a user more control to manage detailed settings, and execute programs faster.

Command-line interface (cont)

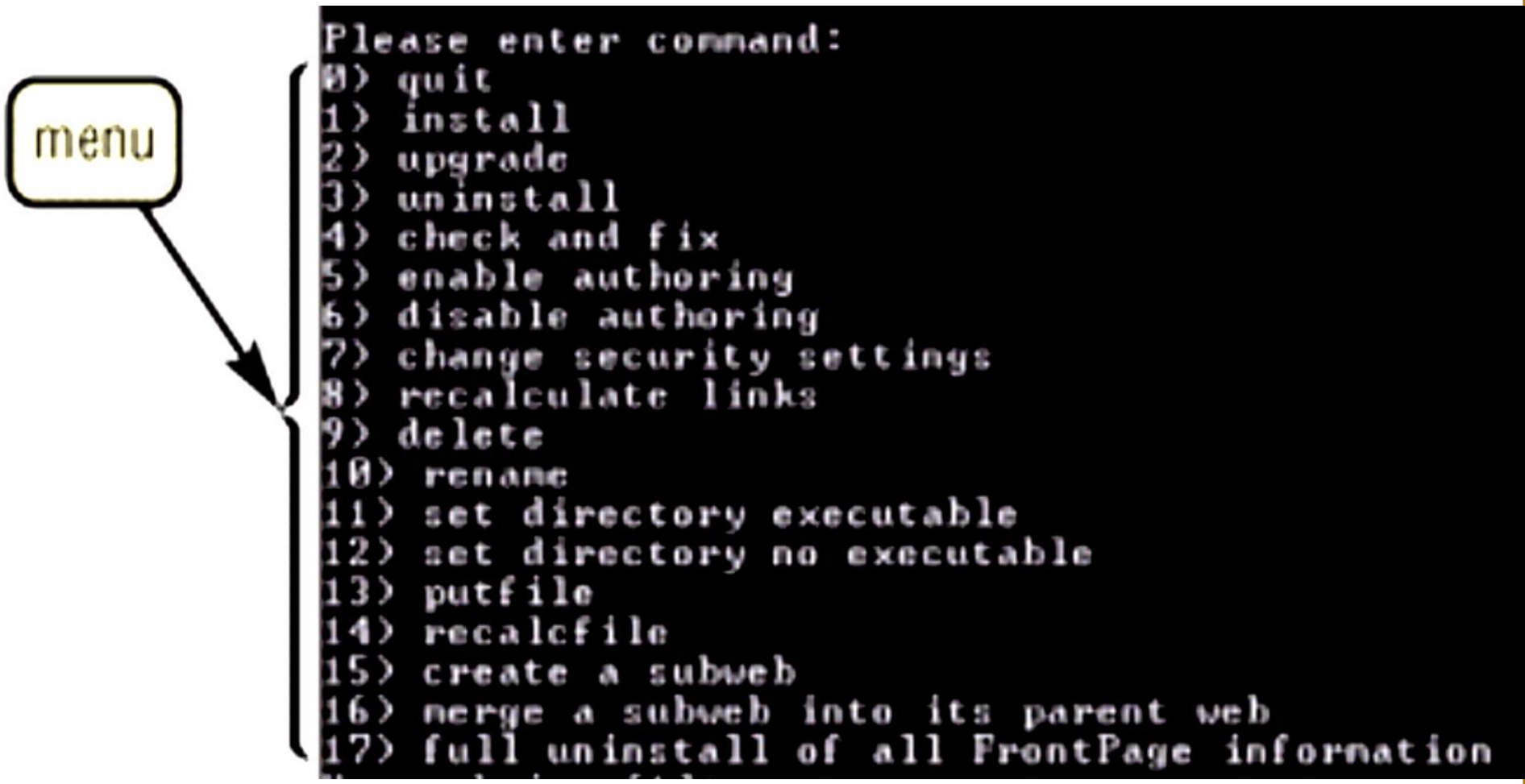
- Shown here are some typical CLI commands.
- NB To view a list of more common commands, type help at the command prompt.

COMMAND	DESCRIPTION	EXAMPLE	EXPLANATION
COPY	Copies individual files	**COPY TODO.DOCX F:**	Copies the file TODO.DOCX located in the current directory on the current storage medium to the F drive.
DIR	Displays the names of files on a storage medium	**DIR F:**	Displays the names of the files stored on the storage medium located in the F drive.
DEL	Deletes individual files	**DEL F: HOMEWORK.DOCX**	Deletes the file HOMEWORK.DOCX from the storage medium located in the F drive.
REN	Renames individual files	**REN SAM.JPG BILL.JPG**	Changes the name of the file SAM.JPG located in the current directory on the current storage medium to BILL.JPG.
CD	Changes to a new directory	**CD HOMEWORK**	Changes the current directory to HOMEWORK, located one level down from the current location on the current storage medium.
FORMAT	Prepares a storage medium for use, erasing what was there before	**FORMAT F:**	Formats the storage medium located in the F drive.

Menu-driven interface

- A *menu-driven interface* provides menus as a means of entering commands.
- Menu-driven interfaces are easier to learn than CLI because users do not have to cram keywords for commands.
- The characteristic of being easy to learn and use is described as being user-friendly.

Menu-driven interface



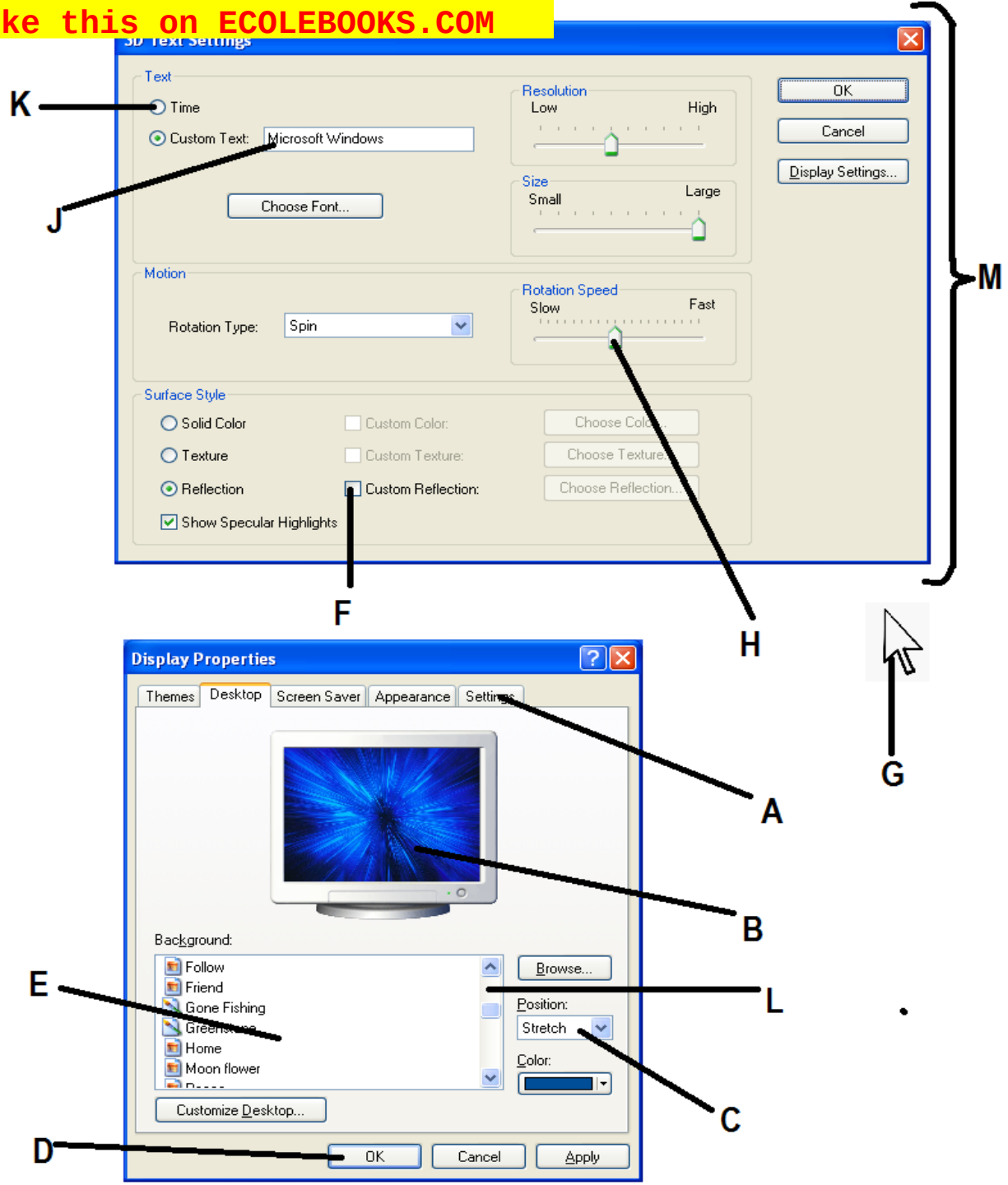
Graphical User Interface (GUI)

- Most of today's software programs have a graphical user interface (GUI).
- A GUI is a user Interface in which visual images such as icons and buttons are used to issue commands.
- Of all the interfaces a GUI typically is the most user friendly, because it does not require you to know any command language.

Disadvantages of a GUI as compared to CLI

- GUI requires the computer to have more RAM as compared to Command Line.
- Command line instructions execute faster than GUI instructions.

Examples of Elements/ Objects of a GUI

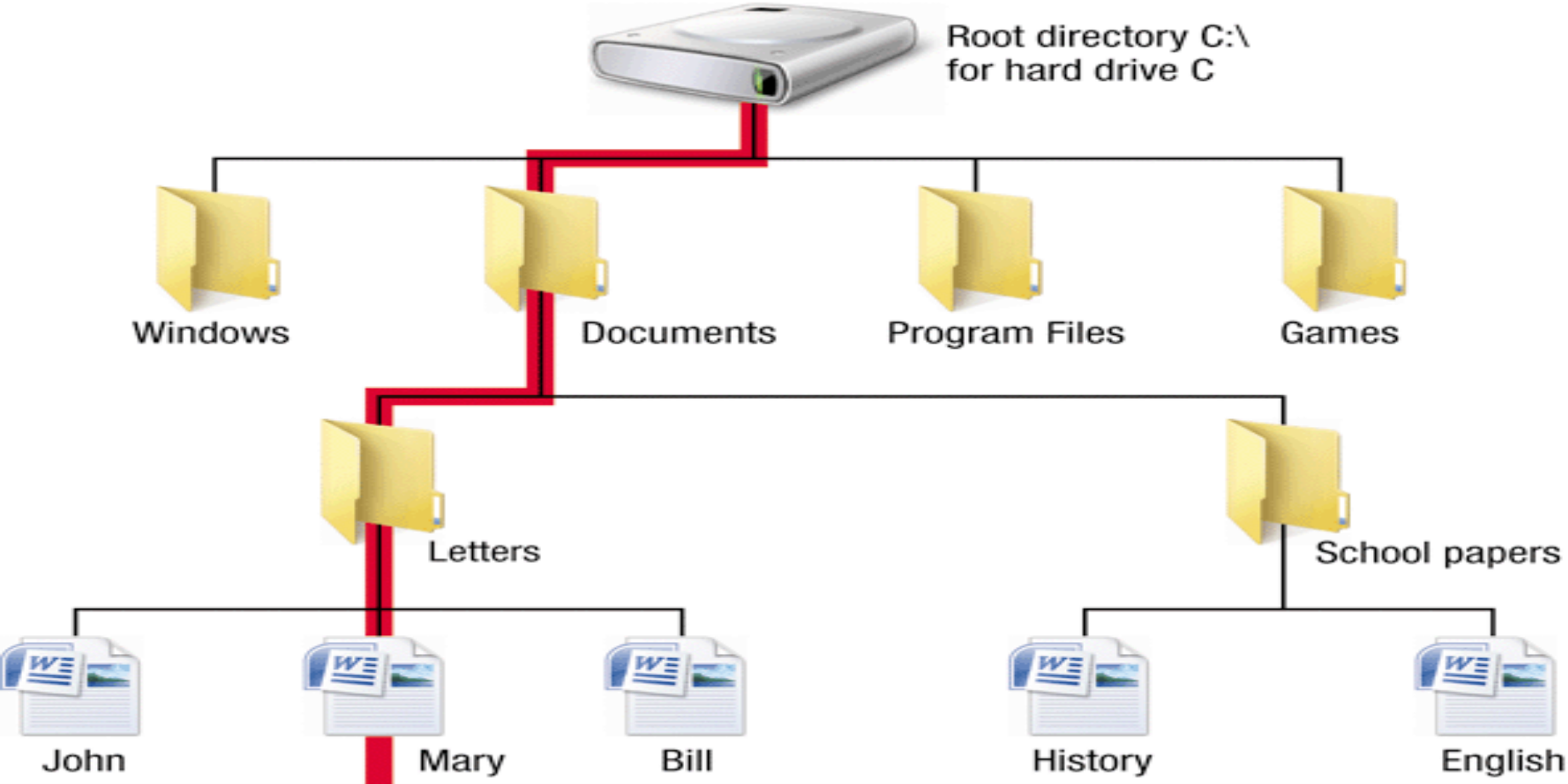


Examples of Elements/ Objects of a GUI

- Icons
- Command Buttons
- Drop Down Lists
- Check boxes
- List Boxes
- Dialogue boxes
- Windows
- Cursor
- Scroll bars
- Radio Buttons
- Preview areas
- Slider buttons
- Tabs
- Menus
- Text boxes
- Toolbars
- e.t.c.

c) File management

- The operating systems help to organize files and folders on a computer's hard disk drive.

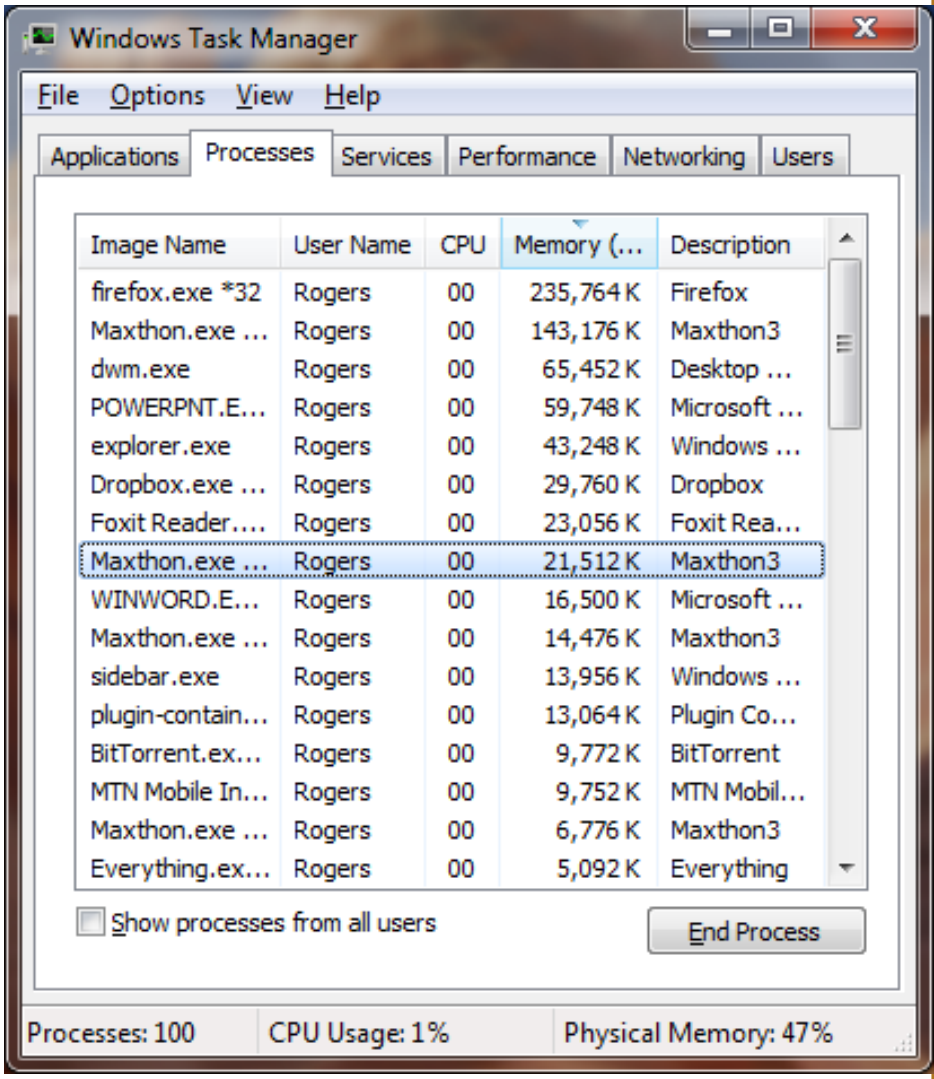


d) Managing Programs

- Operating systems can support just one user running one program or many of users running multiple programs.
- These various capabilities of operating systems are described as
- (i) single tasking,
- (ii)Single-user and multi-user,
- (iii) multitasking, and
- (iv)multiprocessing,

d) Managing Programs (cont)

- In addition to application programs, an operating system manages other processes.
- Some of these processes are memory resident.
- They include utilities and routines that provide support to other programs or hardware.



e) Managing Memory

- The purpose of memory management is to optimize the use of RAM. RAM holds data and instructions while the processor is using them.
- The operating system allocates, data and instructions to an area of memory while they are being processed, and carefully monitors the contents of RAM.
- Finally, the operating system releases these items from RAM when the processor no longer requires them.

e) Managing Memory (cont.)

- If you have many programs running at a go, it is possible to run out of RAM. So, the OS may have to use virtual memory.
- With virtual memory, the operating system allocates a portion of a storage medium, usually the hard disk, to function as additional RAM.
- As you interact with a program, part of it may be in physical RAM, while the rest of the program is on the hard disk as virtual memory.
- Users may notice the computer slowing down while it uses virtual memory, because virtual memory is slower than RAM.
- The area of the hard disk used for virtual memory is called a swap file

f) Coordinating Tasks

- The operating system determines the order in which tasks are processed.
- A task, or job, is a piece of work or operation that the processor manages.
- Tasks include receiving data from an input device, processing instructions, sending information to an output device, and transferring items from storage to memory and from memory to storage.
- Thousands of tasks can be going on in a computer simultaneously.

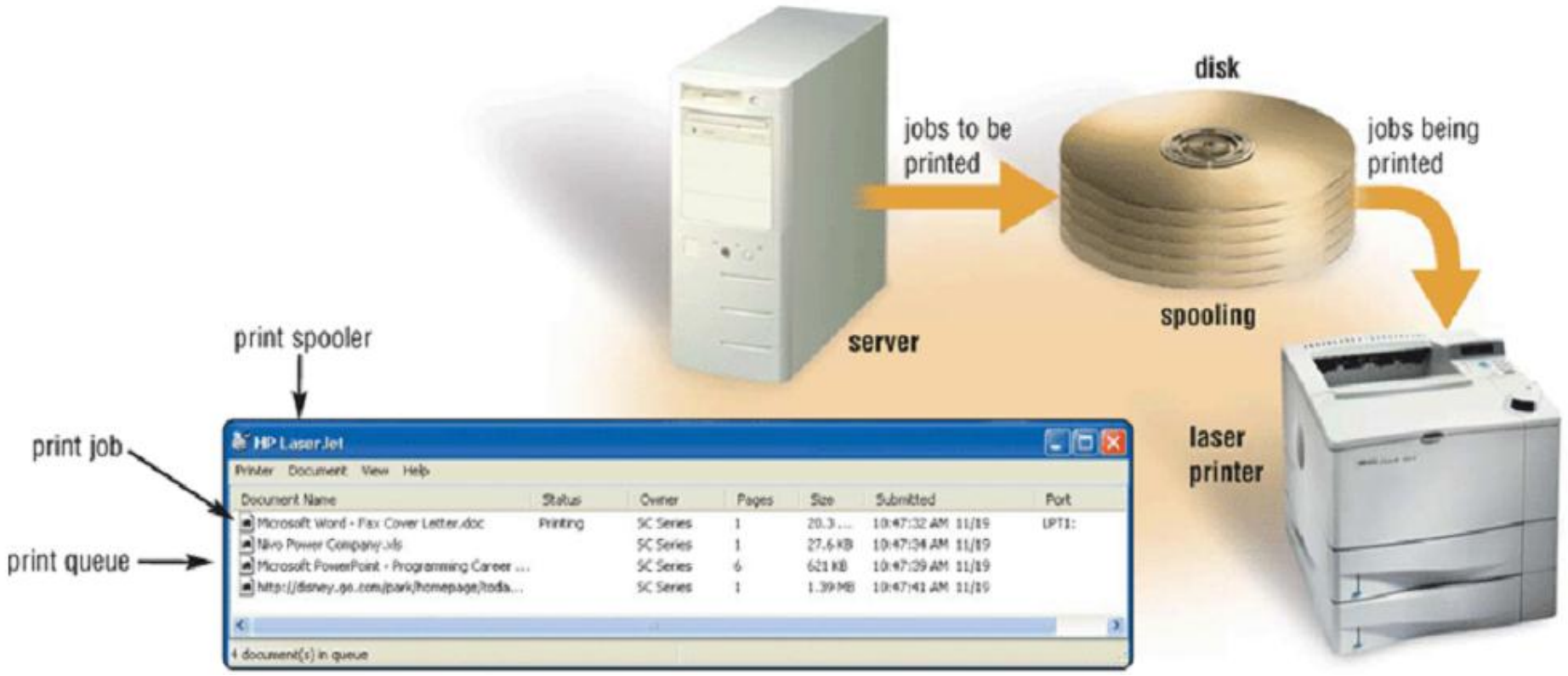
f) Coordinating Tasks (cont.)

- Sometimes, a device may be busy processing one job when it receives a second job.
- This occurs because the processor operates at a much faster rate of speed than peripheral devices.
- For example, if the processor sends five print jobs to a printer, yet the printer can print only one document at a time.
- When this happens, the OS allocates / assigns memory to the jobs in the execution queue in an area called the buffer.

f) Coordinating Tasks (cont.)

- A BUFFER is an area of memory or storage in which data and information is placed while waiting to be transferred to or from an input or output device.
- Operating systems typically use a technique called spooling to increase computer system efficiency.
- SPOOLING refers to the process of putting tasks that need to be done into a buffer until they can be executed.
- The operating system commonly uses a print spooler with print jobs. A print spooler, intercepts documents to be printed from the operating system and places them in the queue in the buffer.
- As soon as the print job is placed in the buffer, the CPU is available to process the next instruction.

Spooling (illustration)



- *Spooling increases both processor and printer efficiency by placing print jobs in a buffer on disk before they are printed.*

g) Configuring Devices

- If you add a new device to your computer, such as a printer, its driver must be installed before the device will be operational.
- For devices with Plug and Play support, the OS recognizes the new device and loads the necessary drivers automatically.
- It also checks for conflicts with other devices.

g) Configuring Devices (cont)

- For devices that are not Plug and Play, Windows operating system provides a wizard to guide users through the installation steps.
- If you have an Internet connection, the Wizard will search an online repository of device drivers.
- If Windows still is unable to find a driver, you can download one from the manufacturer's Web site manually.
- Alternatively you can install the drivers from a CD-ROM provided with the purchased device.

h) Establishing an Network Connection

- Operating systems typically provide a means to establish Network connections.
- This is through a "Connect to a network" Wizard that guides users through the process of setting up a connection between a computer a network provider.
- Some operating systems also include a Web browser and an e-mail program, enabling you to begin using the Web and communicate with others as soon as you set up the Internet connection.

i) Monitoring Performance

- The OS monitors the performance of the computer system.
- It keeps track of each computer job, the various system resources and devices, the processor usage, the amount of unused physical RAM, and network usage.
- Operating systems typically contain a performance monitor.
- A performance monitor is a program that assesses and reports information about various computer resources and devices.
- The information in performance reports helps users and administrators to identify a problem with the resources so they can try to resolve any problems.

j) Administering Security

- The OS helps users to administer computer access security by use of a user name or user ID and a password, before a user logs on to, a computer.
- After entering a user ID and password, the operating system compares the user's entry with a list of authorized user names and passwords.
- If the entry matches the user name and password kept on file, the operating system grants the user access.

j)Administering Security (cont)

- To protect sensitive data and information as it travels over the network, a network operating system may encrypt it to prevent unauthorized users from reading the data.
- Encryption is the process of encoding data and information into an unreadable form.
- When an authorized user attempts to read the data, it is decrypted, or converted back into a readable form.

TYPES OF OPERATING SYSTEMS

- Early operating systems were proprietary and device -dependent.
- A device-dependent program is one that runs only on a specific type or brand of computer.
- Proprietary software is privately owned and limited to a specific computer model.
- The trend today is toward device-independent operating systems that will run on computers provided by a variety of manufacturers.
- Three basic categories of operating systems exist today.
- They are stand-alone OS, network OS, and embedded OS.

Stand-alone operating systems

- A stand-alone operating system is a complete operating system that works on a PC.
- Examples of popular stand-alone operating systems include:
- Mac OS X, UNIX, Linux, MS-DOS and Windows (XP, Windows Vista, Windows 7, Windows 8, Windows 10 etc.).

Mac OS

- Macintosh operating system was released in 1984 with Apple's Macintosh computers.
- Mac OS X includes features such as a GUI, multitasking, large photo-quality icons,
- built-in networking support, email, online shopping, enhanced speech recognition,
- CD burning, and enhanced multimedia capabilities.

Shows previews of files without opening them.

Contains a collection of documents stored on the dock by the user.

WINDOWS
Contain programs, icons, documents, and so forth.

ICONS
Represent programs, folders, documents, or other items that can be opened with the mouse.

DOCK
Contains the user's Stacks and commonly used icons.

FIGURE 5-16
Mac OS X Leopard.

UNIX

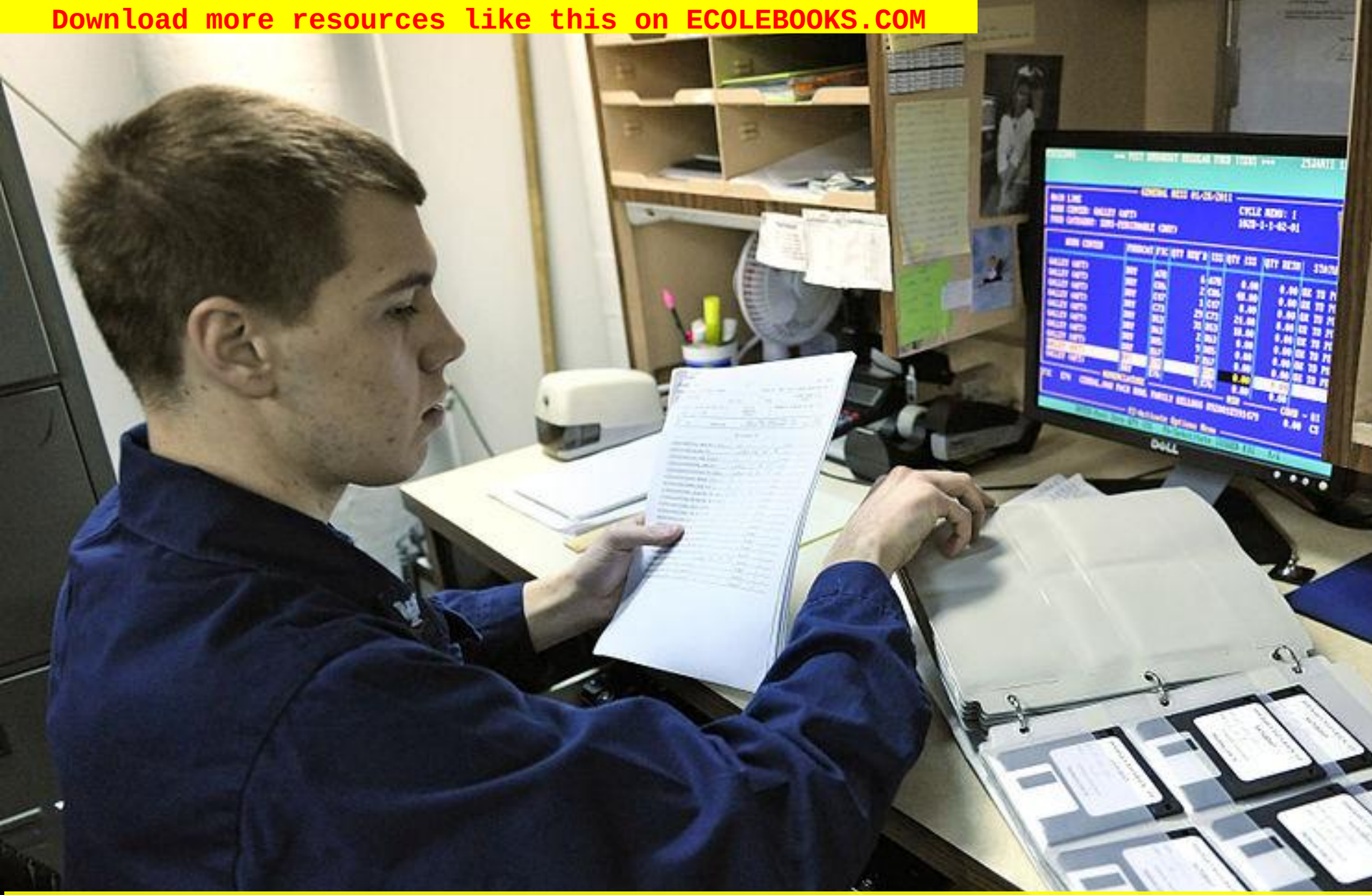
- UNIX is a multitasking operating system developed in the early 1970s by scientists at Bell Laboratories.
- Some versions of UNIX have a command-line interface, and others offer a graphical user interface.
- Power users often work with UNIX because of its flexibility and power.
- Manufacturers such as Sun and IBM often sell personal computers and workstations with a UNIX operating system.

Linux

- Linux is one of the fastest growing operating systems.
- Linux is a free, open source, UNIX-like operating system.
- Open source software means its code is provided for use, modification, and redistribution. It has no restrictions from the copyright holder.
- Some versions of Linux are command-line. Others are GUI.
- Linux comes with very many utilities and applications such as open office.
- A Live CD of Linux allows users to boot from it and preview the operating system without installing it.

MS-DOS

- In the early 1980s, Bill Gates' Microsoft Corporation introduced DOS (Disk Operating System) as its first operating system for IBM PCs.
- DOS originally used a command-line interface.
- Later versions of DOS included both command-line and menu-driven user interfaces.
- Today, DOS is rarely used because it does not offer a graphical user interface and it cannot take full advantage of modern computer microprocessors.

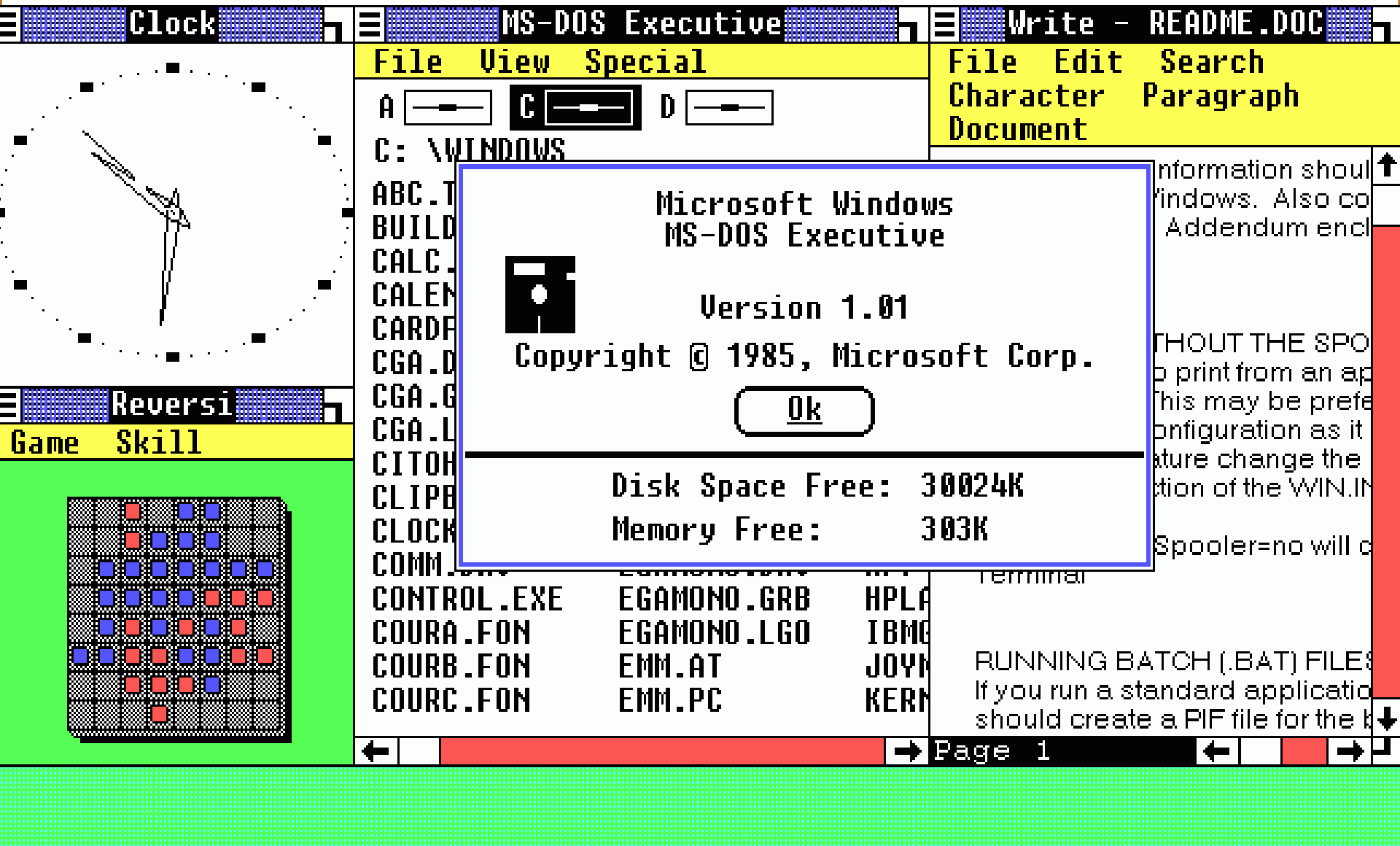


US_Navy_Specialist_uses_the_existing_DOS-based _food_service_management_system _2011

Microsoft Windows

- Microsoft introduced an operating environment named Windows 1.0 on November 20, 1985.
- It was Microsoft's first attempt to implement a multi-tasking graphical user interface-based operating environment on the PC platform.
- Since then, Many versions have been released, each with various new innovative features and functions.
- These include Windows 2.0, Windows 95, 98, Me, Windows NT 3.1, Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 8, Windows 8.1 and Windows 10

Screenshot of Windows 1.01

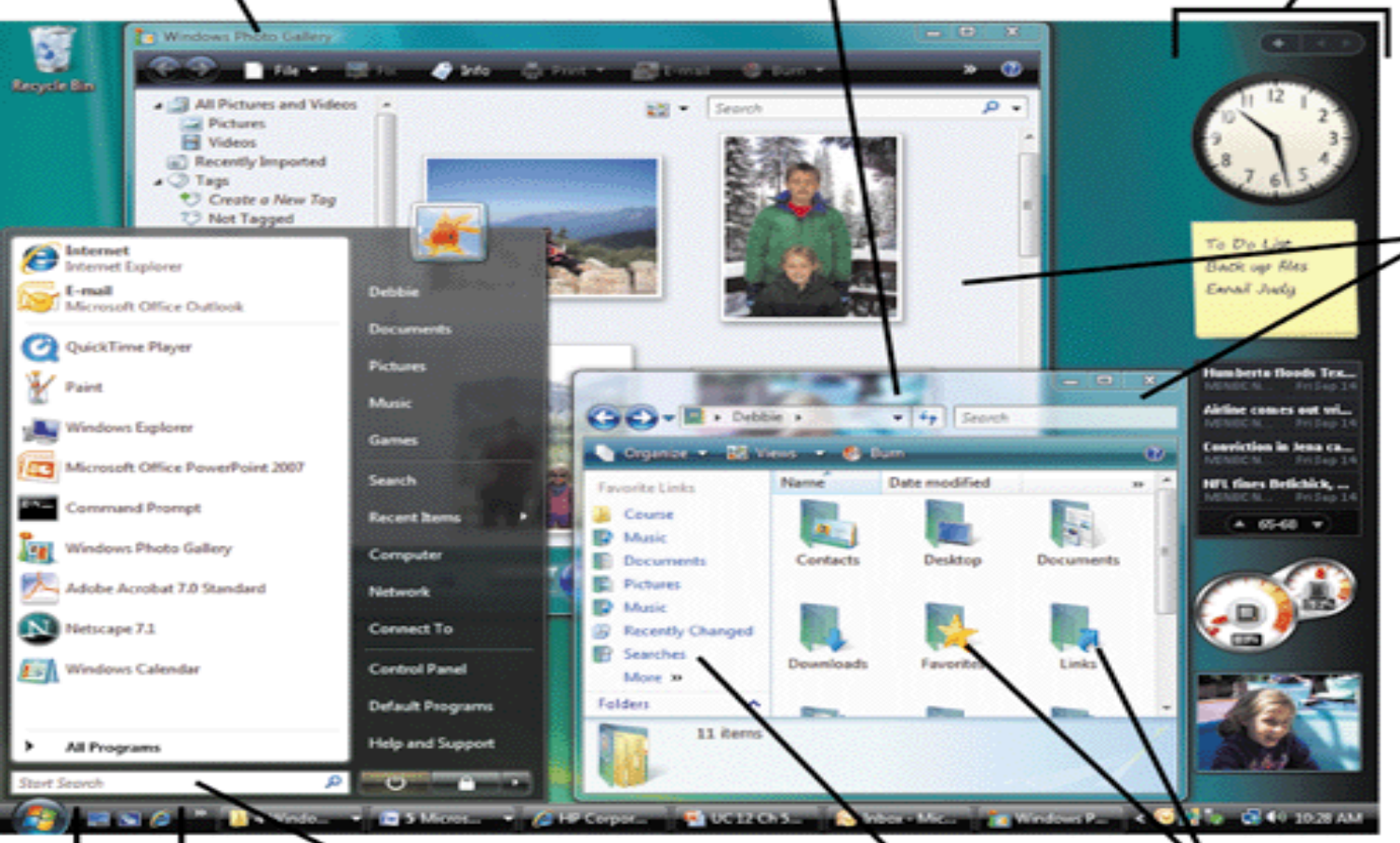


Windows Vista Features

EBAR
Contains the user's selected gadgets.

Include multimedia, security, and collaboration programs.

Features translucent, glass-like windows and 3D effects.



WINDOWS
Contain programs, icons, documents, and so forth.

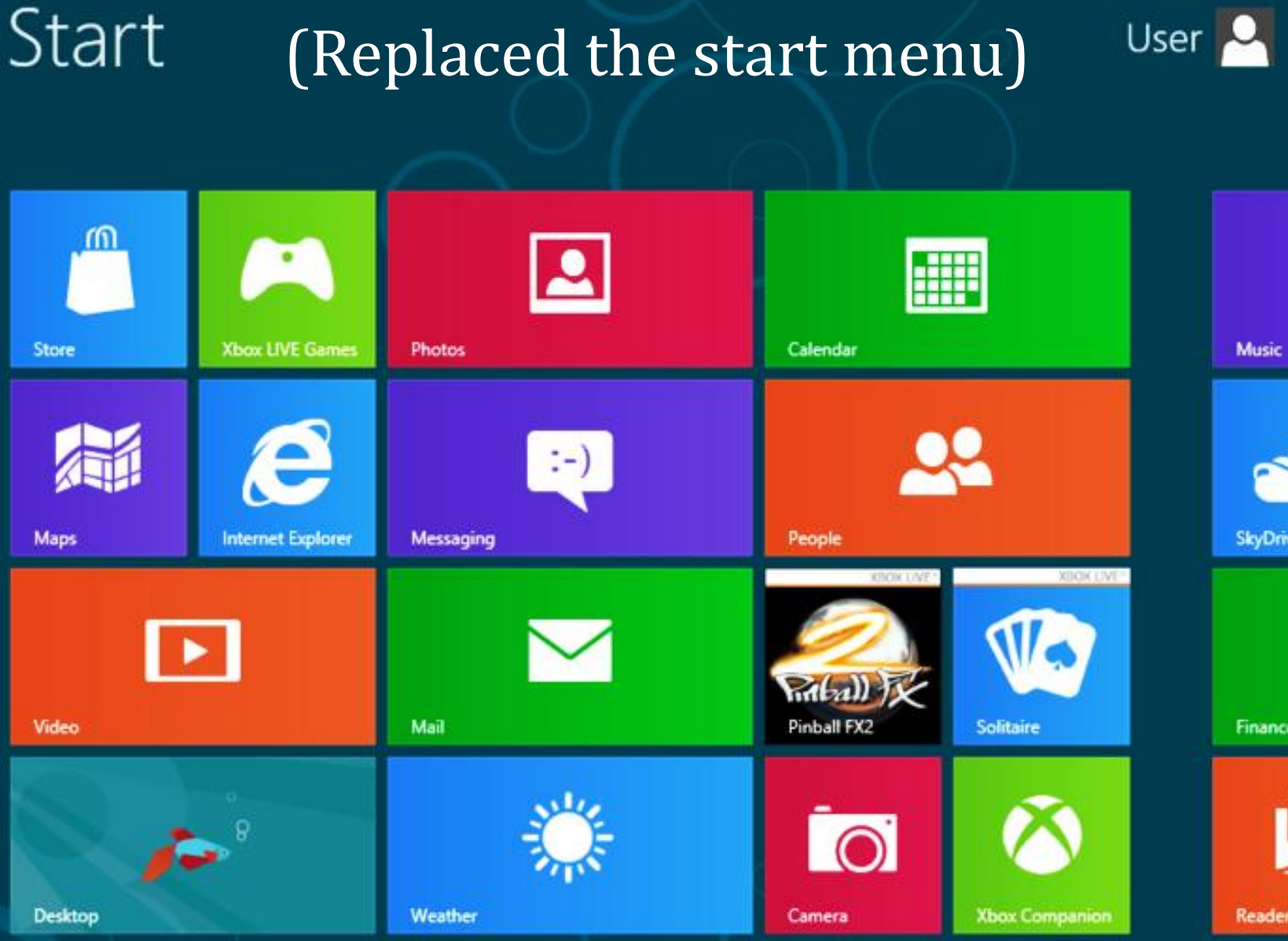
TASKBAR TOOLBAR
Used to launch programs.

START MENU
Includes a search box to search for documents, programs, and Web sites.

SEARCHES
Can be saved for later use.

ICONS
Represent programs, folders, documents, and other items that can be opened with the mouse.

Windows 8 Start Screen (Replaced the start menu)



Network Operating Systems

- A network operating system (NOS) is an operating system that supports a network and typically resides on the server.
- Some stand-alone OS systems include networking capability.
- However, network operating systems are designed specifically to support all sizes of networks.
- Examples of network operating systems include Windows Server 2003, 2008, Solaris, and NetWare, UNIX server, and Linux server.

Embedded Operating Systems

- An embedded operating system is an operating system that resides on ROM chips and typically used on handheld computers and small devices.
- Popular embedded operating systems today include Windows Embedded CE, Windows Mobile, Palm OS, Embedded Linux, and Symbian OS.

Embedded Operating Systems

WINDOWS MOBILE 6.0

OPENMOKO (LINUX-BASED)

SYMBIAN

Factors to consider when choosing an operating system

- When choosing an operating system for a computer the following factors may be considered:
- The type of computer in terms of size and make. Operating systems are available for all sizes of computers.
- The hardware configuration of the computer such as the memory capacity, processor speed and hard disk capacity should meet the required minimum requirements for a the operating system to run well.

Factors to consider when choosing an operating system

- The application software to be installed on the computer should be supported by the operating system. For example Microsoft Office 2010 cannot run on Windows 2000.
- The operating system should be user friendly. This depends on the skills of the intended users of the computers.
- The operating system should have adequate information and help guides for user reference.

Factors to consider when choosing an operating system

- The cost of the operating system.
- Reliability and security provided by the operating system.
- The number of processors and hardware devices it can support.
- The number of users it can support
- The availability of basic utilities and accessory programs within the operating system.

Sub Topic 2. Application Software

Sub topic Objectives:

- To be able to identify and describe the different types of application software (with examples).
  - Focus on types of application software will be on Off-shelf, Custom-tailored, Shareware, Freeware and Open-source application software.
- To be able to explain the uses of application software.

Classifications of Application Software

- Application software consists of programs designed to perform specific tasks for end-users.
- The common Classifications of application software include:
  - Off-the-shelf (standard) software,
  - Custom (bespoke) software,
  - Shareware, Freeware,
  - Open-source, Public-domain software,
  - Web-based software, copyrighted software,
  - Special Purpose and General purpose.

Off-shelf software

- This refers to packaged software that is designed to meet the needs of a wide variety of end users.
- Off the shelf software is mass-produced, commercially sold software, and copyrighted.
- Microsoft Office Word and Adobe Photoshop are examples of Off the shelf software.

Custom (bespoke) software,

- Custom software is tailor-made software, which is developed at a user's request to perform specific functions.
- Sometimes, when a company cannot find packaged soft-ware that meets its unique requirements, it pays computer programmers to write custom software that is specifically tailored to meet the needs of the company.
- Custom software usually costs more than packaged software.

Comparison of the characteristics Standard and Custom Software

STANDARD SOFTWARE IS...	CUSTOM SOFTWARE IS...
1. Easy to use, because it is known by many people.	1. Unique, and requires extensive training before use.
2. Cheaper because it is massively produced and packaged for commercial purposes.	2. Expensive because it requires hiring a programmer.
3. Easy to acquire because it is already made.	3. Difficult to acquire due to the time needed for programming it.
4. More reliable because it is tried and well tested by many users.	4. May contain programming errors since it is not tested adequately.
5. Containing online help to guide users in case of any problems in use.	5. Usually lacking online help services.
6. Can not be modified or changed to meet unique user requirements.	6. Meets all user requirements and can be edited if need arises.

Copyrighted software

- Copyrighted software refers to computer programs with restrictions regarding use, modification, and redistribution.
- You have to pay for copyrighted software and must not copy it without permission from the manufacturer.
- Copying copyrighted software without paying for it is clearly unethical and illegal.

Shareware

- Shareware is copyrighted software that is distributed at no cost for a trial period.
- To use a shareware program beyond that period, you send payment to the program developer.
- In some cases, a scaled-down version of the software is distributed free, and payment entitles the user to the fully functional product.

Freeware

- Freeware is copyrighted software provided at no cost by an individual or a company that retains all rights to the software.
- Therefore, other programmers cannot include freeware in applications they intend to sell.

Open-source,

- Open source software is software provided for use, modification, and redistribution. This software has no restrictions from the copyright holder.
- Open source software usually can be downloaded from the Web at no cost.

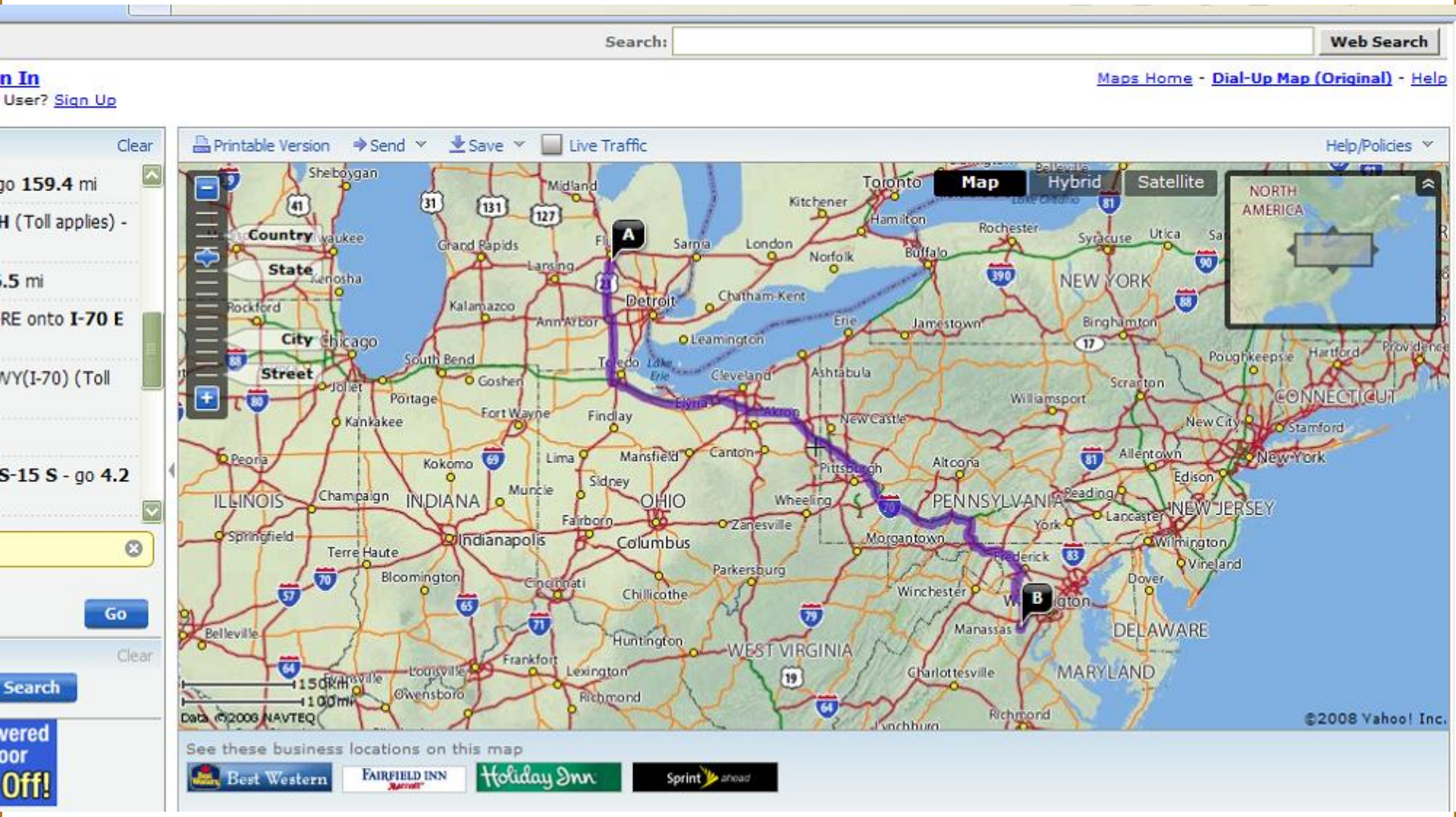
Public-domain software,

- Public-domain software has been donated for public use and has no copyright restrictions.
- Anyone can copy or distribute public-domain software to others at no cost.

Web-based software,

- Web-based software refers to programs hosted by a Web site.
- Users access and interact with Web-based software from any computer or device that is connected to the Internet.
- Many Web sites allow free access to their programs; some charge a fee.
- Examples of Web-based software include e-mail, Website builders, online games, travel and mapping software ,e.t.c.

Web-based software



Special Purpose (Specialized) Software

This refers to computer programs developed and dedicated to accomplish particular jobs only.
Programs that run on special purpose computers like ATMs are special purpose software.
Other Examples of specialized software include:

- Business – Transaction and Sales Management software.
- Science and Engineering software etc..

General purpose

- This refers to a Wide a variety of application programs that perform many common tasks.
- Varieties of General purpose application programs include Word processing programs, Spreadsheet programs, web browsers, Graphics programs, etc.

Uses of Popular Application software varieties and their Examples

- (A). Word Processors – Used for producing textual documents like letters, notes, reports, memos, etc. Examples Include:
- WordPerfect,
- Lotus Word Pro,
- Word Star,
- OpenOffice.org Writer,

Uses of Popular Application software varieties and their Examples

(B). Spread sheet software - Used for performing calculations, and the creating of graphs. Examples include:

- Microsoft Excel,
- Lotus 1-2-3,
- KSpread,
- OpenOffice.org Calc,

Uses of Popular Application software varieties and their Examples

(C).Database management software (DBMS)- Used to create and manage an organized collection of related and structured information (a database). Examples include:

- Lotus Approach,
- Microsoft Access,
- OpenOffice.org Base,
- Corel Paradox,

Uses of Popular Application software varieties and their Examples

(D). Presentation software - These applications are used for making presentations and slide shows that can aid a speech presentation. Examples include:

- Screencast ,
- Microsoft PowerPoint,
- OpenOffice.org Impress,
- Adobe Persuasion,

E) Communications software

- One of the main reasons people use computers is to communicate and share information with others. A variety of communications software options exist. Common communications software includes Web browsers, e-mail software, chat rooms, newsgroups, Text messaging, FTP programs, blog software, and teleconferencing software.

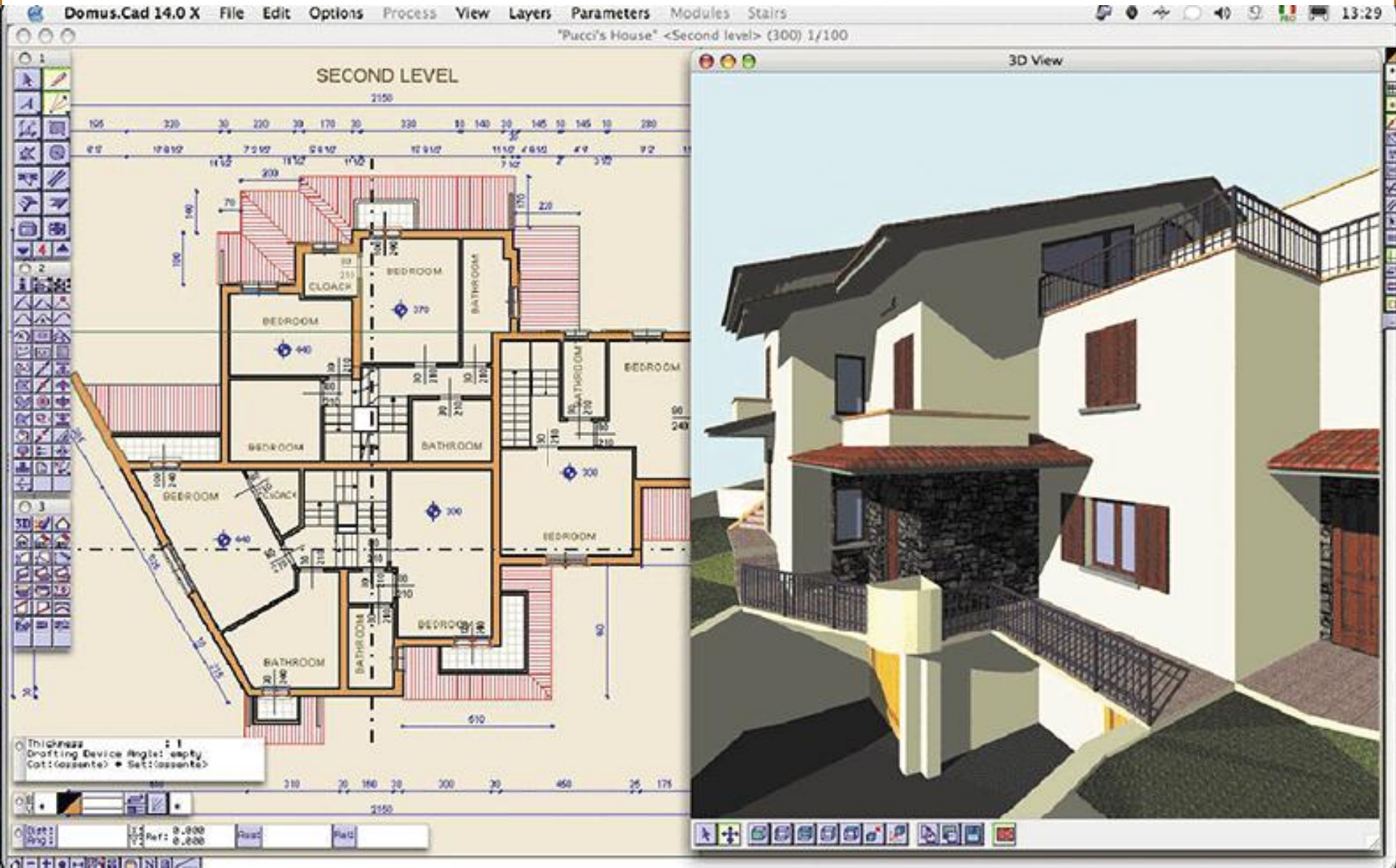
Uses of Popular Application software varieties and their Examples

- (F).Computer aided design (CAD) software - Used by engineers and architects to produce technical drawings such as designs of building structures and floor plans

Examples include

- ArchiCAD,
- AutoCAD, e.t.c.

CAD software - illustration



Uses of Popular Application software varieties and their Examples

- G). Desktop publishing software - These are applications used for creating publications like cards, flyers, calendars, brochures, Newsletters, Certificates, etc. Examples include:
- Microsoft Publisher,
- Celframe Publisher,
- Adobe Page Maker,
- e.t.c.

Uses of Popular Application software varieties and their Examples

(H).Web browsing software for displaying Webpages from the internet or html documents on computers. Examples Include:

- Mozilla Firefox,
- Internet Explorer,
- Safari,
- Opera
- Netscape Navigator, e.t.c.

Uses of Popular Application software varieties and their Examples

(I). Web authoring software – Used by webmasters for building websites. Examples include:

- Microsoft FrontPage,
- Adobe Dreamweaver,
- Microsoft Expression Web,
- Antenna Web Design Studio

Uses of Popular Application software varieties and their Examples

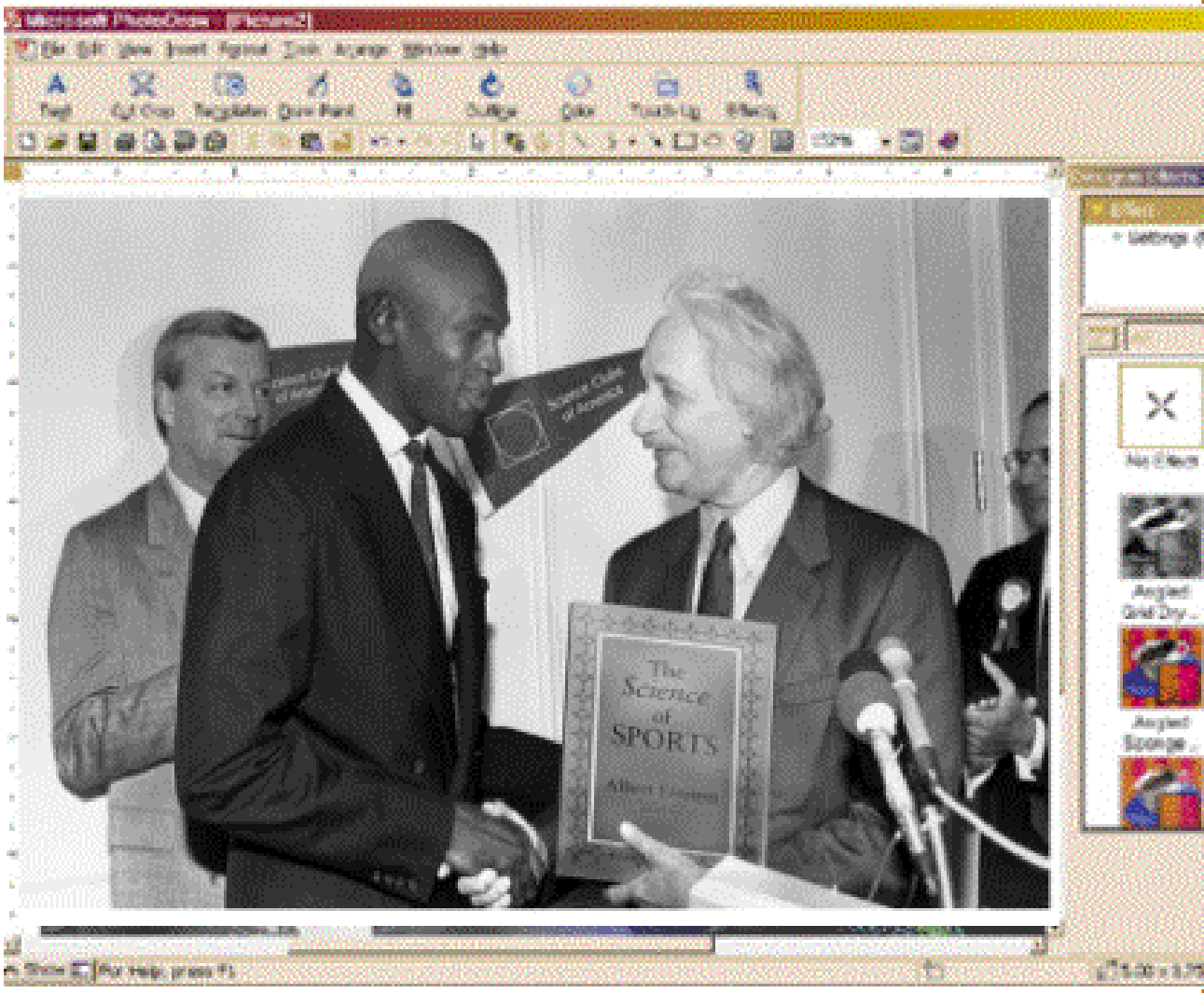
- (J). Media Players for Audio and Video playback on computers. Examples include:
- Windows Media Player,
- Nero Showtime,
- JetAudio,
- Power DVD,
- VLC Media Player, e.t.c.

Uses of Popular Application software varieties and their Examples

- (K).Graphics software – Used by graphic designers to create and design artistic graphics and to manipulate visual images on a computer such as logos, cartoons etc. Examples include
- Paint,
- Adobe Photo shop,
- Corel Draw,
- Adobe Illustrator etc.

Graphics Software - Illustration

- A digitally altered photograph shows sports star Michael Jordan (born 1963) meeting famous scientist Albert Einstein (who died in 1955).



Uses of Popular Application software varieties and their Examples

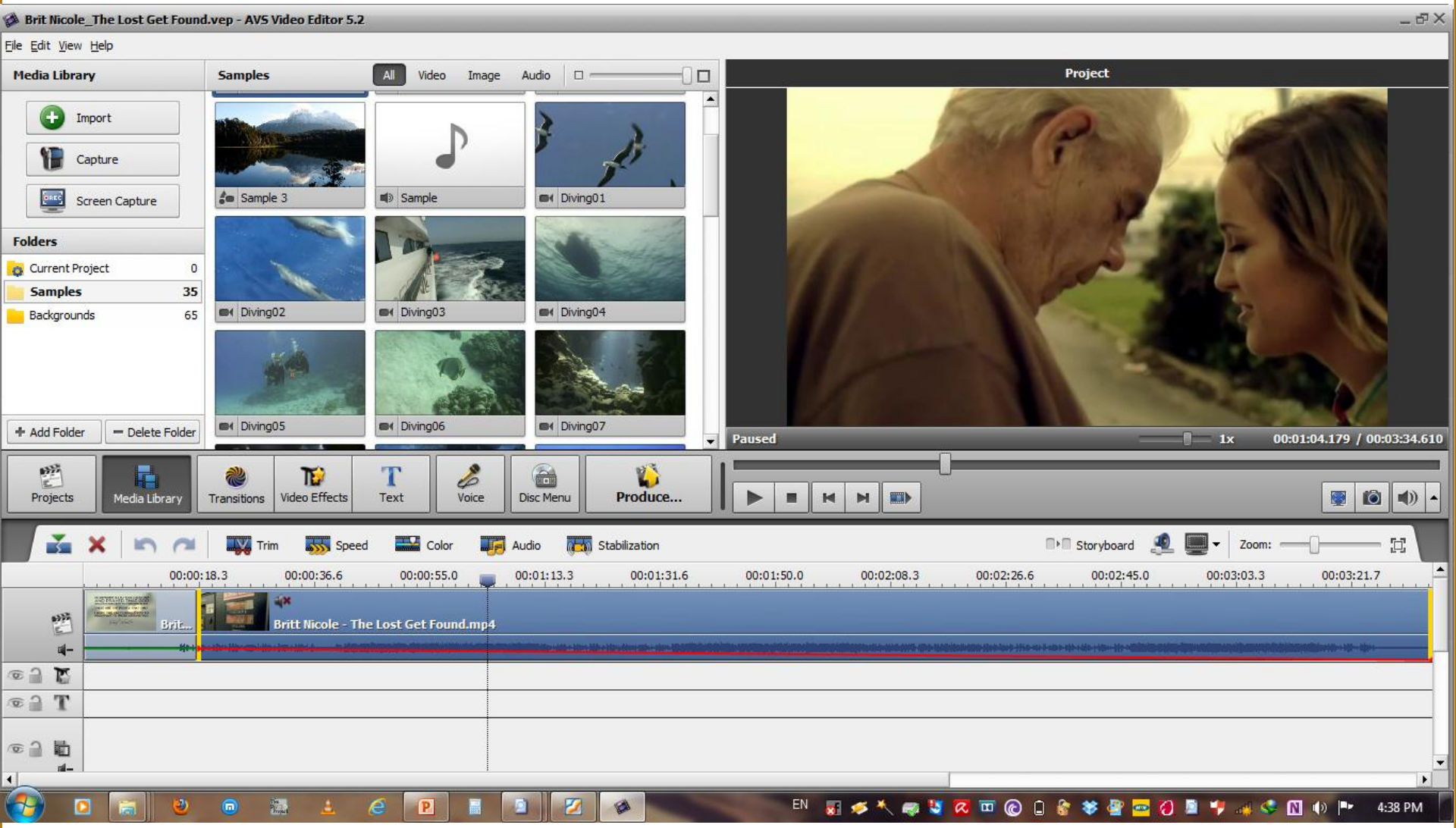
- (L) Accounting software helps companies to record and report their financial transactions.
- With accounting soft-ware, you perform accounting activities related to the general ledger, accounts receivable, accounts payable, purchasing, invoicing, job costing, payroll functions, etc.
- Examples include Quick Books

Accounting software

M) Audio and video editing software

- Audio editing software lets users produce studio quality soundtracks.
- With video editing software, you can modify video clips: you can reduce the length of a video clip, reorder a series of clips, or add special effects such as words that move horizontally across the screen, etc.

Audio and video editing software



N) Images Viewing software

- This refers to computer applications primarily used for previewing digital photographs on the computer screen.
- Many have basic features such as viewing thumbnails, slideshows, printing and simple editing such as cropping and resizing.
- Examples of Image viewers include:
  Microsoft Office Picture Manager, Windows Photo viewer, Picasa photo viewer, etc.

O) Reference software

- Reference software provides valuable and thorough information for all individuals.
- Popular reference software includes encyclopedias, dictionaries, health/medical guides, and travel directories.
- Examples include:
- Encyclopaedia Britannica 2011 Ultimate Reference DVD
- Microsoft Student with Encarta Premium, e.t.c.

P) Note Taking software

- Note taking software enables users to enter typed text, handwritten comments, drawings, or sketches anywhere on a page and then save the page as part of a notebook .
- The software can convert handwritten comments to typed text or store the notes in handwritten form.
- Examples include Microsoft Office OneNote

Note Taking software

Biology - Microsoft OneNote

File Edit View Insert Format Tools Notes Window Help

Type a question for help

Student | Biology | Calculus | English | Spanish Lit | Type text to find

Cardiovascular Systems

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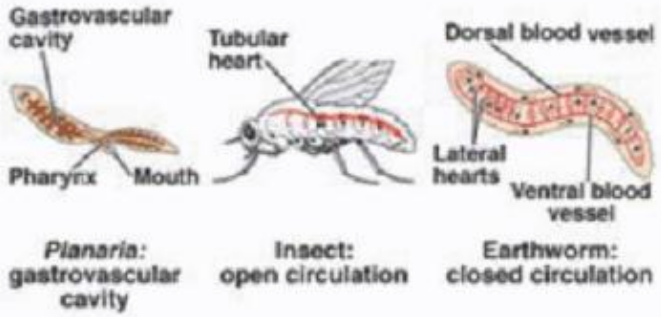
Circulatory System Variations



Planaria: gastrovascular cavity

Insect: open circulation

Earthworm: closed circulation

This will be on the test!

Human Heart

- Primordium forms in cardiogenic plate at cranial end of embryo
- Angiogenic cell clusters lie in horseshoe shape

Note Flag Su

Show all notes flagged

In current notebo

Top Priority

- Spanish Lit Paper
- Return chemistry text
- Pay fall semester tuition
- Call Mom

Show only unched

Refresh re

Copy results to a

See also

Customize Note Fl

start | Biology - Microsoft Sc... | 5:03 PM

Q) Text Editors

- Text editors are simple word processors that are generally used to type without any special formatting.
- Text editors are mainly used to create small notes, memos and programs.
- Examples of common text editors are: Notepad, Notepad++, Sublime Text, Gedit etc.

R) Gaming Software

- These are programs developed as electronic game that involve human interaction with a user interface to generate visual feedback on a computer.
- Common computer games include solitaire, chess titans, Racing, StarCraft, Need for Speed, e.t.c.

S) Email Software / Email client

- Email software (Commonly known as email client) is a computer program used to access and manage a user's email account.
- Web applications that provide message management, composition, and reception functions are sometimes also commonly referred to as webmail.
- Popular locally installed email clients include Microsoft Outlook, Pegasus Mail, Mozilla's Thunderbird, KMail, Evolution and Apple Mail.
- Popular web-based email clients include: GMail, Yahoo! Mail, mail.com, Lycos mail, and Hotmail.

Software Suites

- A software suit is a collection of individual application soft-ware programs sold as a single package.
- When you install the suite, you install the entire collection of applications at once instead of installing each application individually.
- At a minimum, suites typically include the following software applications: word processing, spreadsheet, database, and presentation graphics,

POPULAR SOFTWARE SUITES

SUITE NAME	Word Processor	Spreadsheet	Presentation Program	Database Management Software
Lotus Smart Suite	Lotus Word Pro	Lotus 1-2-3	Lotus Freelance Graphics	Lotus Approach
Microsoft Office	Microsoft Word	Microsoft Excel	Microsoft PowerPoint	Microsoft Access
KOffice	KWord	KSpread	KPresenter	Kexi
OpenOffice.org	OpenOffice.org Writer	OpenOffice.org Calc	OpenOffice.org Impress	OpenOffice.org Base
WordPerfect Office	WordPerfect	Quattro Pro	Corel Presentations	Corel Paradox

POPULAR SOFTWARE SUITES

SUITE NAME	Word Processor	Spreadsheet	Presentation Program	Database Management Software
Celframe Office	Celframe Write	Celframe Spreadsheet	Celframe Power Presentation	Celframe Data Access
Ability Office	Ability Write	Ability Spreadsheet	Ability Presentation	Ability Database
Kingsoft Office	Kingsoft Writer	Kingsoft Spreadsheets	Kingsoft Presentation	(None)
Apple iWork	Apple Pages	Apple Numbers	Apple Keynote	(None)

Advantages of using software suites

- Costs significantly cheaper than buying each of the application package separately
- Easy to learn and use because applications within a suite usually use a similar interface and share common features such as clip art and toolbars.
- Easy installation because all the various applications can be installed at once.

Factors to consider before obtaining a software program

- correctness — the software should do what it is supposed to do, according to the design specifications.
- robustness — the software should be stable, and it should respond well to unexpected conditions e.g. wrong input.
- user-friendliness — the software should be easy to use by users from the intended audience.
- adaptability — the software should be easy to customize/modify to adjust to the needs of the user.

Factors to consider before obtaining a software program (cont)

- reusability — the parts of the software code should be easily reused to build other programs.
- interoperability — the software should be able to interface with other software systems.
- efficiency — the software should make good use of its resources i.e. (memory, disk, CPU, network)
- portability — the software should be easy transfer from one system to another.
- security — the software should be able to protect the information it is responsible for.

Characteristics of Good computer software

- ...provides the required functionality.
- ...is usable by real (i.e. simple) users.
- ...is predictable, reliable and dependable.
- ...functions efficiently.
- ...has a "life-time" (measured in years).
- ...provides an appropriate user interface.
- ...is accompanied by complete documentation.
- ...can be easily customized/configured.
- ...can be "easily" maintained and updated.

Learning Aids and Support Tools for Application Software

- To assist in the learning process, many programs provide off line Help, Web-based Help, wizards, and templates.
- Off line Help is the electronic equivalent of a user manual. It usually is integrated in a program. In most programs, the F1 key or a button on the screen starts the Help feature.
- Web-based Help provides updates and more comprehensive resources to respond to technical issues about software.

Learning Aids and Support Tools for Application Software

- A wizard is computer program that guides a user through a procedure of completing a task. The wizard asks the user questions and then automatically performs actions based on the responses.
- For example, spreadsheet software includes wizards for creating charts and building functions.
- A template is a document that contains the layout and formatting necessary for a specific document type.
- For example Word processors contain templates for, cover sheets, flyers, letters, resumes/CVs, etc..

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End of Topic 6:

Computer Software

Next Topic 7: Electronic Spreadsheets I