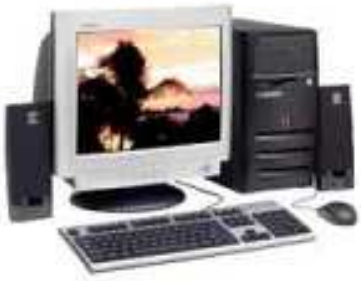
# Software And Hardware



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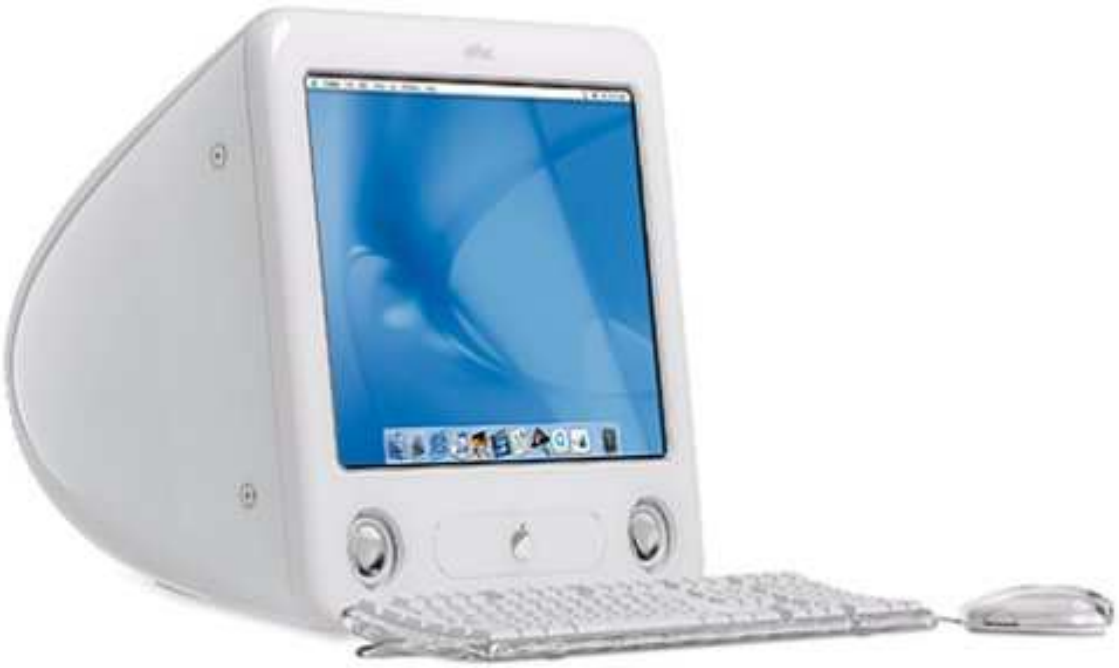
# *INTRODUCTION*

The aims of this project will be to tell you about the basics of the computer, including information about the software and what is involved, for example, the operating system, applications and utilities. It will also tell you about the hardware, like the Input and Output devices, the storage devices and processing, all the information will come from the internet, from the site webopedia (www.webopedia.com). The aim of this project is so I can gain a better knowledge of computer software and hardware. It should also help other readers who are unsure of the basics of a computer.



# SOFTWARE

This is the computers instructions or data, if something can be stored electronically it is software.Software can be easily confused with hardware because they are so closely linked, when you purchase a program you are purchasing software, but to buy software you need the disk, which is hardware, wher the software is stored.

The term hardware can be usen as a noun or an adjective, you can say 'The problem lies in the software,' which means there is a problem within the program or data and not with the computer itself and then you can also say 'that it is a software problem.'

You can divide software into two groups:

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This includes the operating systems and all the utilities that allow the computer to work.

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This includes programmes that do real work for users, all these fall under the same category-word processors, spreadsheets and database management systems. The application software is unable to run without the operating systems and system utilities.

## Operating Systems

This is the most important program that runs on the computer. The basic tasks like input from the keyboard, output to the display screen, storing and keeping track of files and directories on disk are always performed by operating systems. All general purpose computers must have an operating system to run other programs.

The operating system has even greater responsibilities and powers when it is in a larger system. It controls and makes sure that the different programs and users running at the same time do not interfere with each other like a traffic controller.

The security of the computer is also run by the operating system; it ensures that other unauthorized users can not access the system.

Operating systems can be put into different groups:

- Multi User-This allows two or more users to run nprograms at the same time. Some of these operating systems let hundreds or even thousands of people to use programs at the same time.
- Multiprocessing-this supports a running program on more than one computer.

- Multitasking-this allows more than one program to run at the same time.
- Multithreading-this allows different parts of a program to run at the same time.
- Real time-this responds to an input instantly.

Usually, as a user you would interact with the computer through special commands, like COPY which allows you to copy files and RENAME which allows you to change the names of files. Thes commands are taken in and processed by the part of the operating system called the command processor or command line interpreter. When you enter commands by pointing and clicking on objects that appear on screen it is called Graphical User Interfaces.

A command line is the line on the display screen where a command is expected. Usually the command line is the line that contains the most recently displayed command prompt.

PROMPT-this is a symbol on a displayed screen that indicates the computer is waiting for input.

This is a program interface that makes the program easier to use by taking advantage of the computers graphics. If it is well designed it can free the user from learning complex command languages.

Graphical user interfaces like Microsoft windows feature the following basic components:

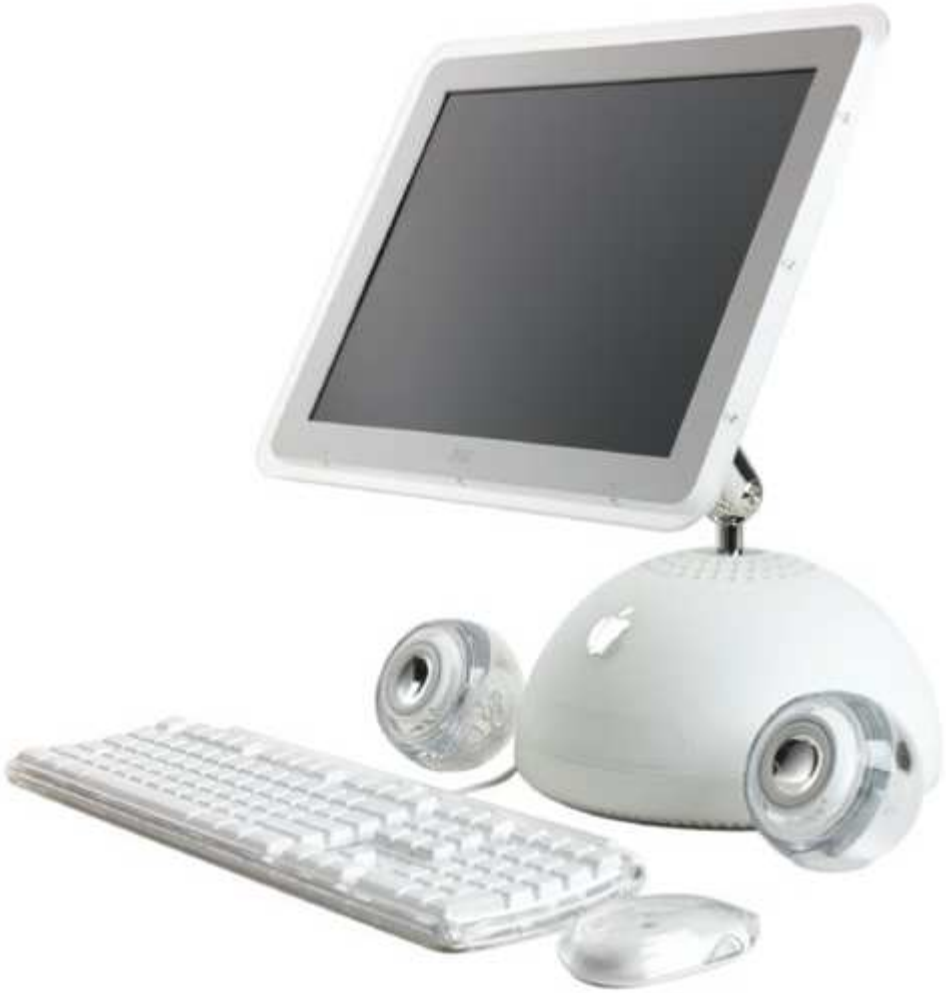
- Pointer-this is a symbol (usually shown as an arrow) that appaers on the screen which allows you to select on objects and commands.
- Pointing device-this is device such as a mouse or trackball which lets you select the objects on screen..
- Icons-these are pictures which represent files, if you move the pointer over the icon it opens the icon into a window. You can also move them around the display screen and place them where you wish.
- Desktop:tis is suppose to represent a real desktop because this area on the display screen is where the icons are shown and are intended to represent real objects.
- Windows-this screen you can divide into different areas. You can display a different file or run a different program in each window. You can change the shape and size of them and you can move them at your own will.
- Menus-you can execute comands by selecting a choise from the menu.

The GUI also allows it to move data from one application to another much easier. It includes normal formats that represent text and graphics. The formats are well defined so different programs that run under a common GUI can share data.

## ***Utilities***

This is usually related to a managing system resource, it peforms a very specific task. Operating systems usually have a lot of utilities so it can manage disk drives, printers and other devices.

The utilities can be different from applications mostly in terms of size, complexity and function.Word processors, spreadsheet programs and database applications are considered applications because they are large programs that peform a variety of functions.



# HARDWARE

This refers to objects like disks, disk drives, display screens.keyboards etc which you can actually touch.

A book provides a useful picture of hardware and software, the ink and pages are hardware, so the words, sentences,paragraphs and overall meaning are the software.

If you picture a book with blank pages, it's like a computer without software, you need the software to make the computer useful just like you need words for a book.

The normal routine for information would be input, to process, then either to storage (where it would be stored until needed as output) or to output.

## Input Devices

An input is whatever goes into the computer, input can be in many different forms like commands you enter through a keyboardto data from another computer or device.

Certain imput devices are:

- Keyboard-this lets you enter data into the computer.The keys on the keyboard are classified as follows

  - **Punctuation keys**-comma, semicolon etc
  - **Special Alphanumeric keys**-letters and numbers
  - **Special keys**-function keys, arrow keys etc

- Mouse-this enables you to move the cursor on screen.

- Joystick-this works in a similar way to the mouse but is usually used for games

- Scanner-this is like a photocopier it scans work into the computer with a laser light

- Digital camera-light is received in through the lens, resulting ih a photograph which is then transferred to the computer

- Microphone-this lets you record your voice into the computer.

## Output Devices

Output is anything that comes out of the computer.Like printing out your information on a printer or music from the speakers.

Output devices are:

- Printer-this lets you print out your work onto your paper.
- Speakers-this lets out the sound

- Monitor-this lets you view what you are doing



## ***Storage Devices***

Storage lets you hold and restrain data.

Storage devices are:


- Tapes
- Floppy disk
- Hard disk
- Compact disk

## ***Processing***

This refers to a class of programs that organize and manipulate data, usually large amounts of numeric data. Accounting programs are the prototypical examples of data processing applications. In contrast, word processors, which manipulate text rather than numbers, are not usually referred to as data processing applications.

Examples of a process would be exchange, alter, extract ect.