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Operating Systems

Keywords:

* Interface
* Operating System
* Command Line – (Used to enter commands directly)
* GUI – (Has Windows, Icons, Menus and Pointers)

Common Operating Systems:

Ubuntu, Debian, Linux Mint, Kubuntu, Manjaro, Red Hat, Raspbian (Raspberry Pi OS), Windows, DOS, Chrome OS, Android, iOS, macOS, iPadOS

Linux Based

Windows Based

Operating System

The Operating System (OS) manages the Software and Hardware, and provides running software access to the CPU, GPU, RAM and Storage.

Interfaces

There are two main types of Operating System Interfaces, the Command Line, and the GUI. The GUI is what most people use on a daily basis. It has windows, icons, menus and pointers (WIMP). The command line is different. Instructions are entered manually, and there is no cursor.

Hardware and Software

Hardware is the physical parts of the computer, and any connected devices. Examples include CPU, Displays, Speakers, Keyboards. Software is a term which includes any programs. Software is often categorised, such as Office, System, Games, Internet.

Process Management

One task that the Operating System carries out is Process Management. This is how multiple applications can be run at the same time. The Operating System allows each program a small amount of time to use the Hardware, and execute instructions.

When a process is started, it is placed in the ready queue, where it waits. The Operating System will eventually allow the process to use the CPU. This is called the Running State. If this process waits for something to happen (eg a keypress), it moves to the Blocked State. The process then returns to the ready queue once the event has happened (eg the key was pressed)

Interrupt

Time Expires

Next Job

Waiting for input

Process Completed

New Process