Kernel

Kernal is central component of an operating System that manage operation of Computer and hardware. It basically manage operation of memory and cpu time. It is Core Component of an operating System. Kernel act as a bridge between application and data processing performed at hardware level using inter-process Communication and System Calls.

↳ Kernel loads first into memory when an operating System is loaded and remain into memory until operating System is shut down again. It is responsible for various task such as disk managment, task management and memory managment

↳ It decides which process should be allocated to processor to execute and which process should be kept in main memory to execute. It is basically act as an interface between user and application and hardware. The major aim of kernel is to manage Communication between Software i.e User-level application and hardware i.e Cpu and disk memory

Objective of Kernel

1) To establish Communication between user level application and hardware

↳ To Control disk management
↳ To Control memory management
↳ To Control task management
↳ To decide State of incoming processes

~~Types of Kernel~~

Kernel mode Vs User mode

Kernel Mode

↳ Kernel mode ~~refo~~ refers to the processor mode that enables Software to have full and unrestricted access to the System and its resource. the OS Kernal and Kernel driver such as the file System driver are loaded into protected memory Space and operate in this highly privileged Kernal mode

User mode

↳ User mode refer to the processor mode that enables User-based application Such as Word processor or Video game to load and execute. the Kernel prepares the memory space and resource for the application user and launche the application within that User memory Space.

↳ User mode application are less privileged and Cannot access System resource directly. Instead an application running in User mode must make System Calls to the Kernel to access System resource. the Kernel then acts