Sistem Operasi

Laporan resmi petemuan ke-3

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How Operating Systems Works?

Tujuan:

Mahasiswa diharapkan dapat memahami lebih tentang bagaimana cara sebuah OS berjalan dalam sebuah "Operating Systems". Terutama pada OS yang berbasis open-source, seperti: Linux.
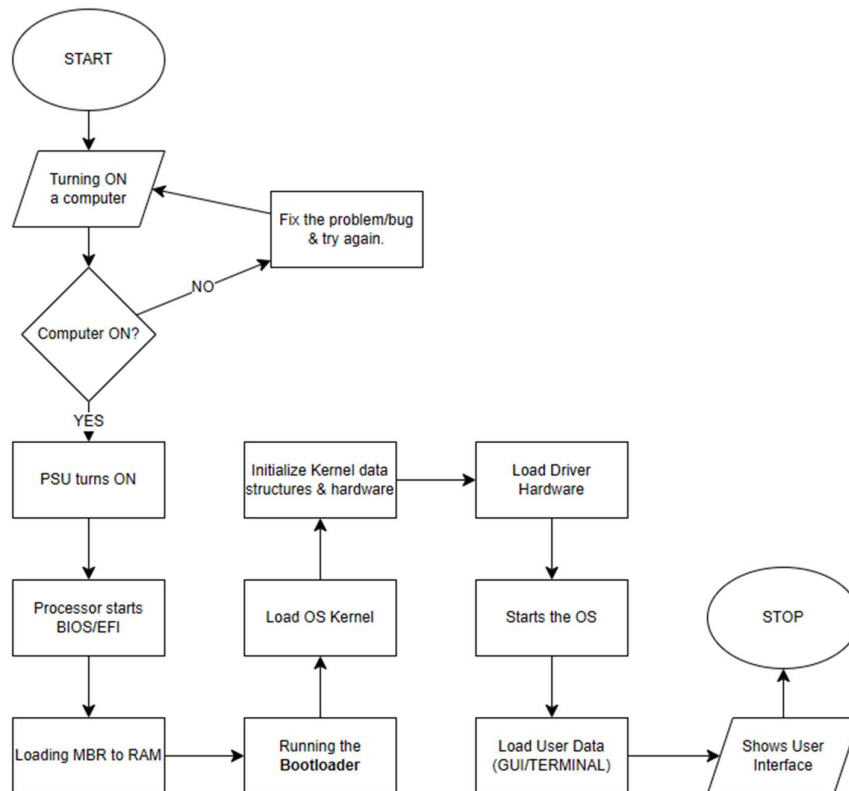

Penugasan

1. Membuat repository di GitHub untuk media pengumpulan tugas.

2. Membuat flowchart untuk proses dari komputer dinyalakan, bootstrap, dst hingga komputer bisa digunakan.

Overview

When a computer is powered on, it undergoes several steps to initialize hardware, load the operating system, and become ready for use. Below is a breakdown of the boot process.

Flowchart

Explanation

OS Boot Process Steps :

Step	Description	Next Step
Start	The computer is off.	Turning ON a computer
Turning ON a computer	User presses the power button.	Computer ON?
Computer ON?	If NO: Troubleshoot and try again.	If YES: PSU turns ON
PSU turns ON	Power is supplied to all components.	Processor starts BIOS/EFI
Processor starts BIOS/EFI	BIOS/UEFI initializes hardware and runs POST.	Loading MBR to RAM
Loading MBR to RAM	The Master Boot Record (MBR) is loaded into RAM.	Running the Bootloader
Running the Bootloader	Bootloader finds and loads the OS kernel.	Load OS Kernel
Load OS Kernel	The OS kernel is loaded into memory.	Initialize Kernel data structures & hardware
Initialize Kernel data structures & hardware	The kernel sets up memory, CPU, and system processes.	Load Driver Hardware
Load Driver Hardware	The OS loads drivers for system components.	Starts the OS
Starts the OS	Core OS services and processes begin.	Load User Data (GUI/TERMINAL)
Load User Data (GUI/TERMINAL)	The user interface is prepared.	Shows User Interface
Shows User Interface	The system is ready for use.	STOP

References

- Unix and Linux system administration handbook by Evi Nemeth, Garth Snyder, Trent R. Hein, Ben Whaley, Dan Mackin

- [Baeldung - Computer Boot Process](#)

- [AutomateInfra - Windows Boot Process](#)

- [YouTube - Boot Process](#)

Conclusion

This table represents the computer boot process flowchart in a structured manner. Understanding these steps helps in troubleshooting boot issues and optimizing system performance.