

A long time ago, on a friday far, far
away....



Summarizer: May the fourth

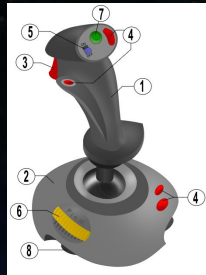
Miguel Mendes
bootcamp #16

<Academia de Código_>



Input/Output:

The difference between these two terms, and examples of devices that use only input, only output, or both:



Boot Sequence

Process through which we initiate any and all processes on our computers.

As we press the -on- button, this typically runs what we know as BIOS (basic input output system).



Hardware, Software...



...firmware??

Firmware is just software “embedded” in a piece of hardware specifically designed to help run that hardware correctly.

an example, I
require...

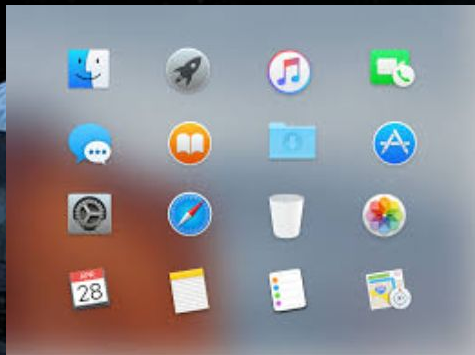


Operating System

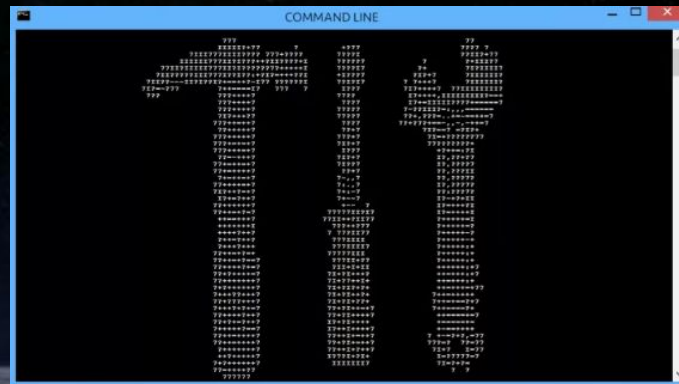
Controls all resources within the computer.

Has two lines of command:

Graphical User Interface



Command Line



UNIX

First portable operating system that was
multitasking and multiuser-enabled.



POSIX

The standard through which it would be possible
to write programs that could run on any UNIX system.



1970's : Let's share our softwares amongst each other!

1980's : Sharing is wack.

... result?



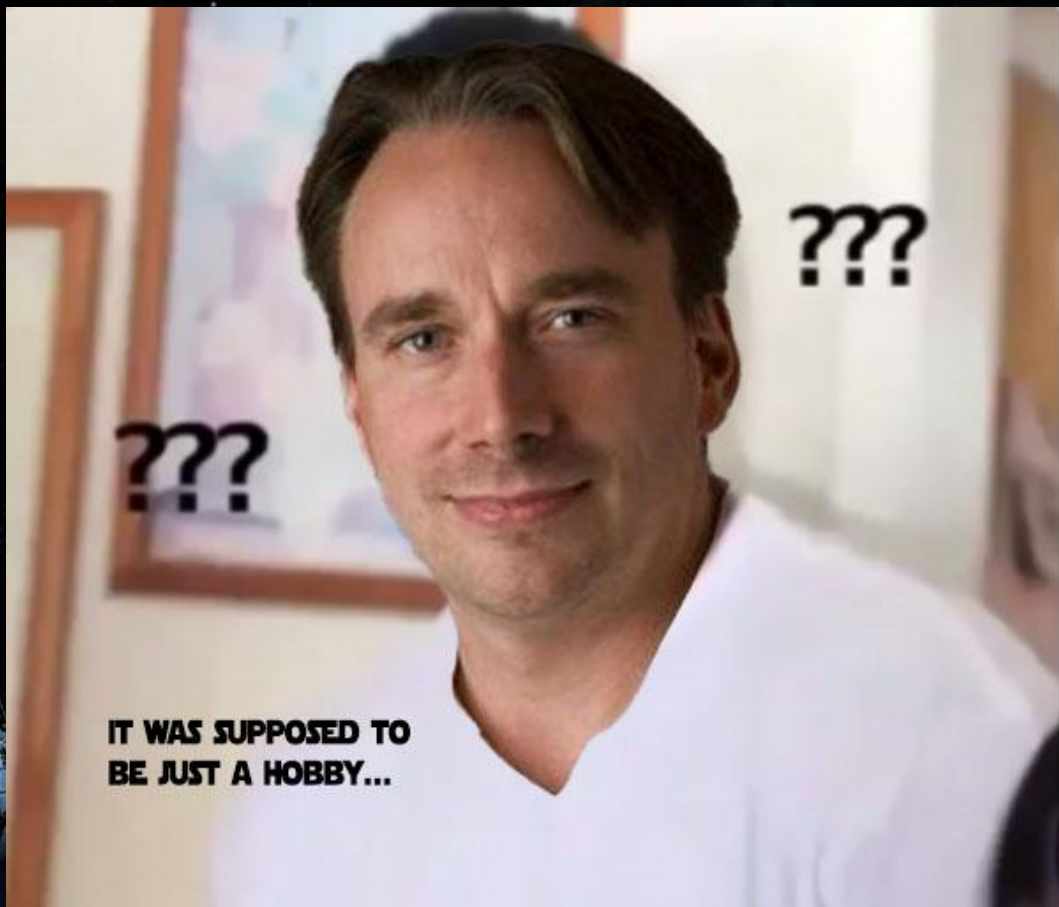
Free Software Foundation

good guy Richard Stallman ->



GNU was created from this movement, and subsequently, our boy Linus Torvalds created the OS known as Linux, the most popular adoption of the GNU software.



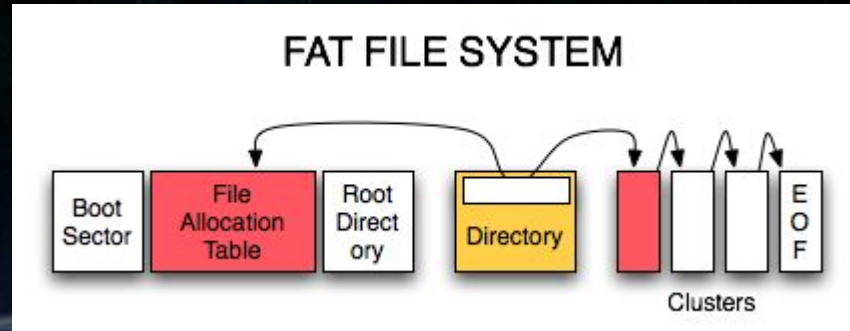


**IT WAS SUPPOSED TO
BE JUST A HOBBY...**



Filesystem

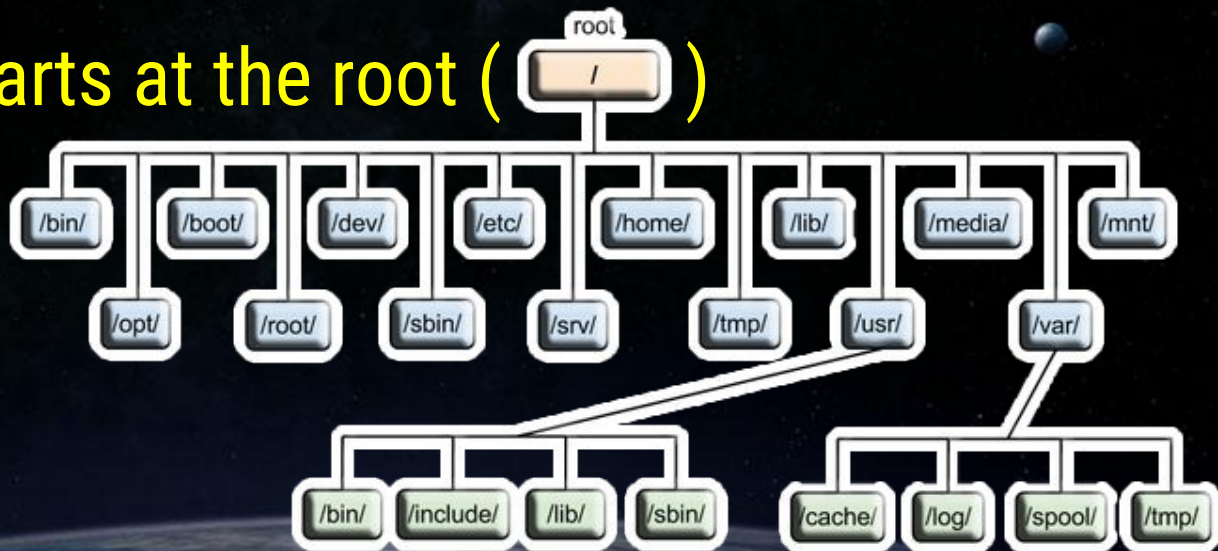
Defines structure and rules of
interaction with data on a disk.



Filesystem

Has a hierarchy that defines the directories structure and contents.

Starts at the root (/)



Processes and Threads

A process is a program in execution in memory.

We used a factory as an example, in this case let's imagine a Death Star mid-construction:



Processes and Threads

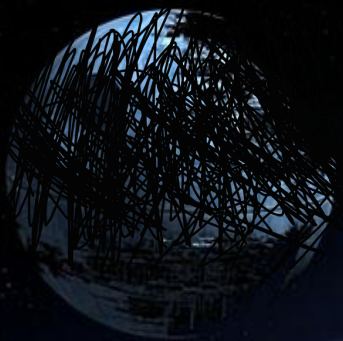
A thread is a sequence of instructions in that process.

(a Stormtrooper working on the Death Star)



Processes and Threads

In this example, think of memory as an industrial area, where there are multiple factories (Death Stars), each with their workers, that don't share the same physical space.



Interprocess Communication

Processes need to communicate
with each other,
but without being
able to share memory
they use the OS's kernel to do so.



Message Queues;

Semaphores (coordination of action);

Signals (notifications);

Pipes/sockets (streams of data);

Shared memory (quick exchange of data
between processes)



Secure Shell Connection

Remote login to a computer located elsewhere through a network of secure protocols, and control it from a distance.



ssh - Authentication through SSH protocol

scp - Copy files using SSH protocol

Asymmetric Cryptography

One public key ----->

<-----One private key



No passwords required

Memory management

Physical Memory - amount of RAM available to the OS



Memory management

Virtual Memory is a combination of RAM and disk space that running processes can use.

Virtual memory makes the system appear to have more memory than it actually has by sharing it between competing processes as they need it.



Memory management

Swap space is the portion of virtual memory
that is on the hard disk, used when RAM is full.



Fin(n)



The resources are:

Files

Devices

It performs:

Device management

Filesystem management

Process management

Memory management

[<take me back>](#)

