



# TYPES OF OPERATING SYSTEM

# TYPES OF OS <sup>[1]</sup>

Distinguished by the response time and how data is entered into the system

- Single user
- Multi user
- Multitasking
- Multi processing
- Embedded
- Real time

# [1] SINGLE USER [1]

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## **TWO TYPES:**

- Single user, single task
- Single user, multi tasking

# Single user, single task

- Designed to manage the computer so that one user can effectively do one thing at a time.
- Example: The Palm OS for Palm handheld computers



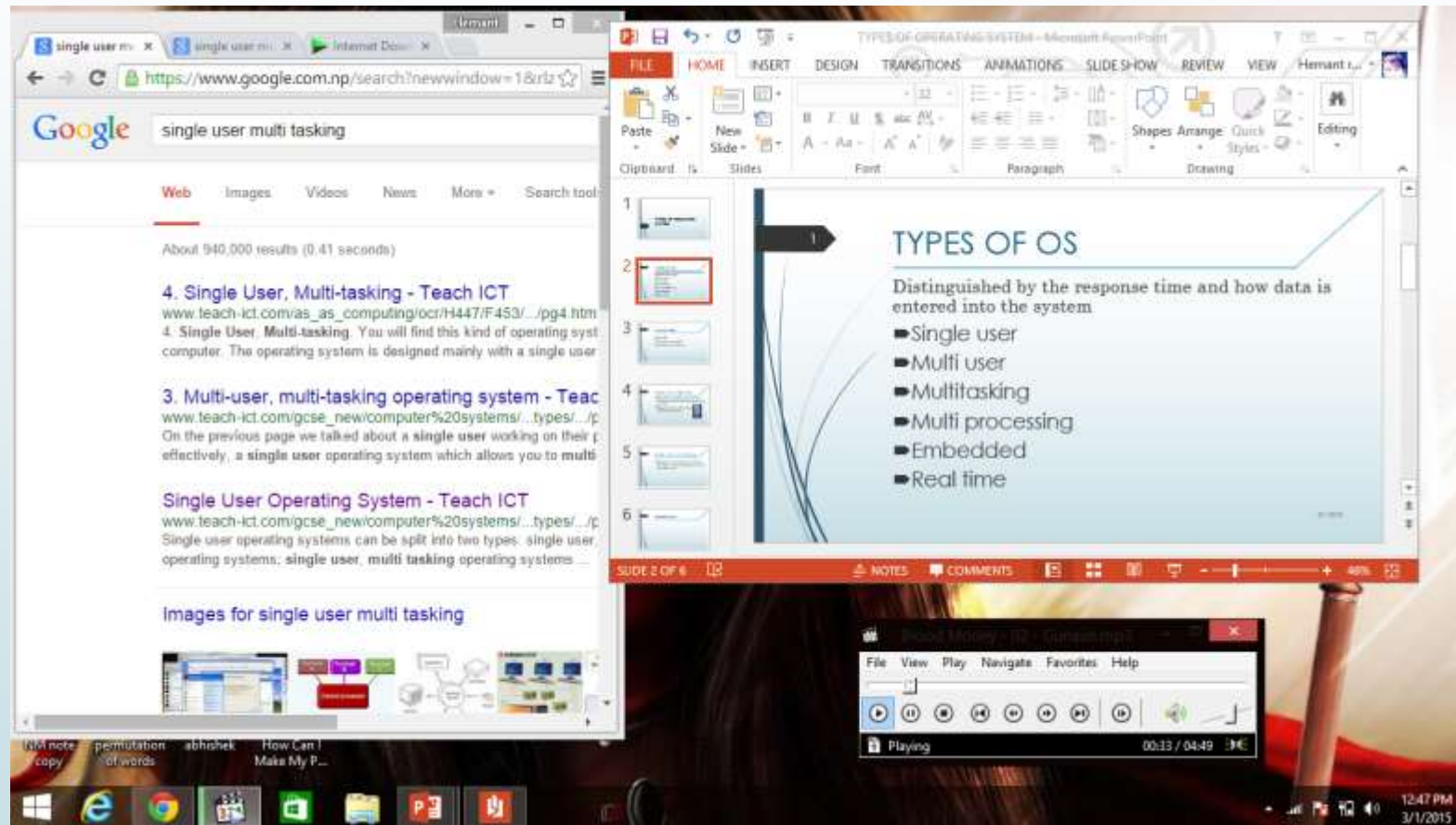
# Single user, multi tasking

- Designed with a single user in mind but can deal with many applications running at the same time
- Type of operating system most people use on their desktop and laptop computers today



## CONT.....

- Examples: Microsoft's Windows and Apple's Mac OS platforms
- For Example: It's entirely possible for a Windows user to be writing a note in a word processor while downloading a file from the Internet while printing the text of an e-mail message.



## [2] MULTI USER [2]

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- Allows many different users to take advantage of the computer's resources simultaneously
- Allows multiple users to access the computer system at the same time
- Time Sharing system and Internet servers as the multi user systems



## CONT.....

- Examples: UNIX, VMS and Mainframe Operating systems



## [3] MULTI TASKING [3]

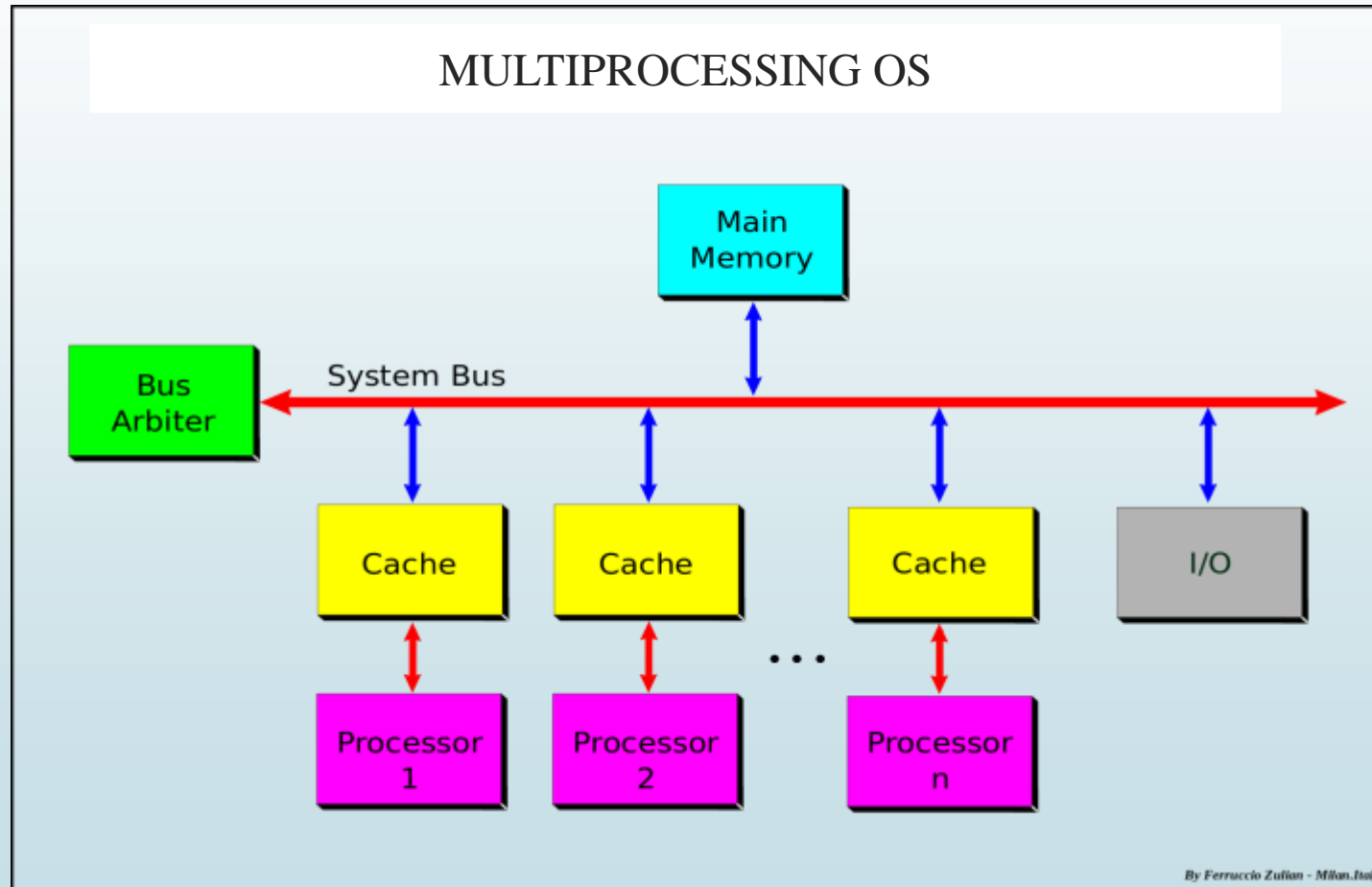
- Allows more than one program to run concurrently.
- The tasks share common processing resources, such as a CPU and main memory
- In the process, only one CPU is involved, but it switches from one program to another so quickly that it gives the appearance of executing all the programs at the same time.



screenshot of Debian Linux (version 7.1, "Wheezy") running the GNOME desktop environment, Firefox, Tor, and VLC media player, all at the same time.

## [4] MULTI PROCESSING [3]

- Multiprocessing, in general, refers to the utilization of multiple CPUs in a single computer system
- Enables several programs to run concurrently
- The term also refers to the ability of a system to support more than one processor and/or the ability to allocate tasks between them



## [5] EMBEDDED OS [4][5]

- Designed to be used in embedded computer systems
- Are able to operate with a limited number of resources on small machines like PDAs
- Are very compact and extremely efficient by design
- is a computer that is part of a different kind of machine
- Examples include computers in cars, digital televisions, ATMs, airplane controls, digital cameras, GPS navigation systems, elevators, and among many other possibilities.

## CONT.....



Embedded OS in a car



Android OS in digital camera



## [6] REAL TIME OPERATING SYSTEM [6]

- is a multitasking operating system that aims at executing real-time applications
- The main objective of real-time operating systems is their quick and predictable response to events
- In it, the time interval required to process and respond to inputs is so small that it controls the environment



## CONT....

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- Examples: QNX, RTLinux
- Are used to control machinery, scientific instruments and industrial systems

# CONT.....

## virtualization and real-time systems

**AEROSPACE  
& DEFENSE**



**AVIONICS**



**MEDICAL**



**SECURE  
CLIENT**



**NETWORK  
SECURITY**



**EMBEDDED  
DEVICES**



# REFERENCES

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- [2] <http://en.wikipedia.org/wiki/Multi-user> last accessed on March,1,2015
- [3] <http://ecomputernotes.com/fundamental/disk-operating-system/multitasking-operating-system> last accessed on March,1,2015
- [4] [http://en.wikipedia.org/wiki/Embedded\\_operating\\_system](http://en.wikipedia.org/wiki/Embedded_operating_system) last accessed on March,1,2015
- [5] <http://www.techopedia.com/definition/30014/embedded-operating-system> last accessed on March,1,2015
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# QUERIES!!!

