



OPERATING SYSTEM

TOPIC :- OPERATING SYSTEM AND THEIR TYPES

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WHAT IS OPERATING SYSTEM ?

❖ An operating system is a program that acts as an interface between the **user and the computer hardware** and it **controls** the execution of all kind of programs. It is also known as resource manager of the system.

Examples :- Microsoft Windows, Linux, macOS etc.



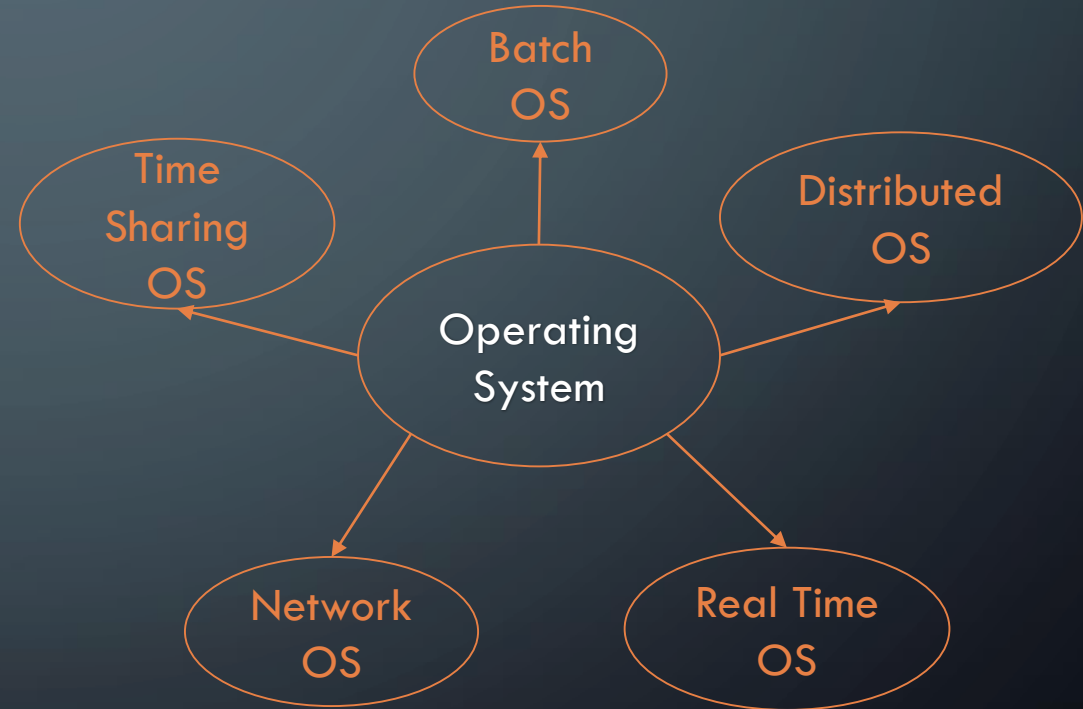
OPERATING SYSTEM AS RESOURCE MANAGER

Operating System is called resource manager as it manages different resources like main memory, CPU, I/O devices so that each resource is used optimally and system performance doesn't deteriorate.

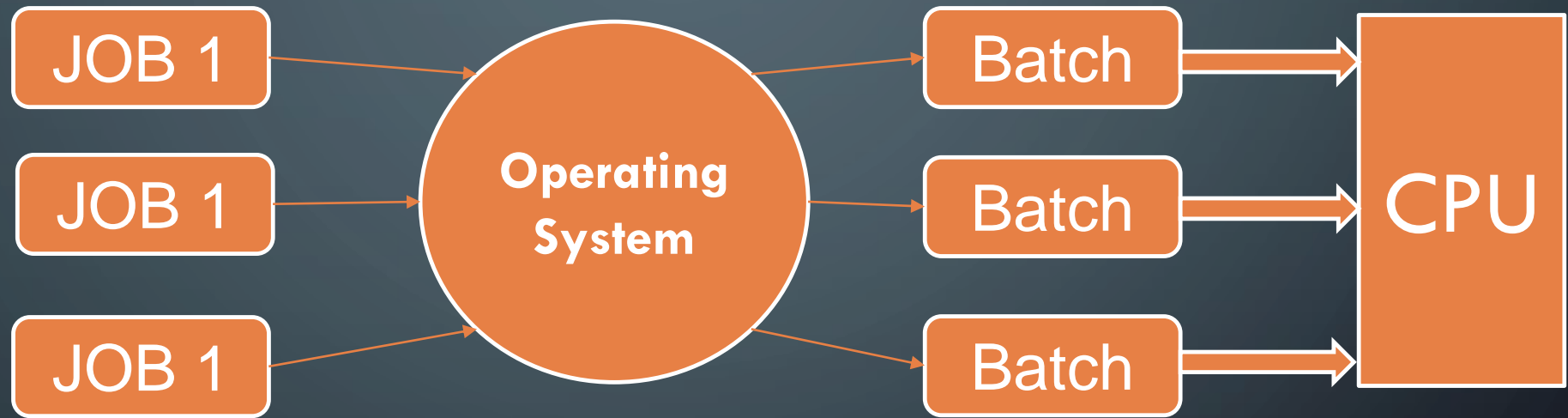
TYPES OF OPERATING SYSTEM

There are FIVE Types of Operating System

- Batch Operating System
- Time Sharing Operating System
- Network Operating System
- Real Time Operating System
- Distributed Operating System

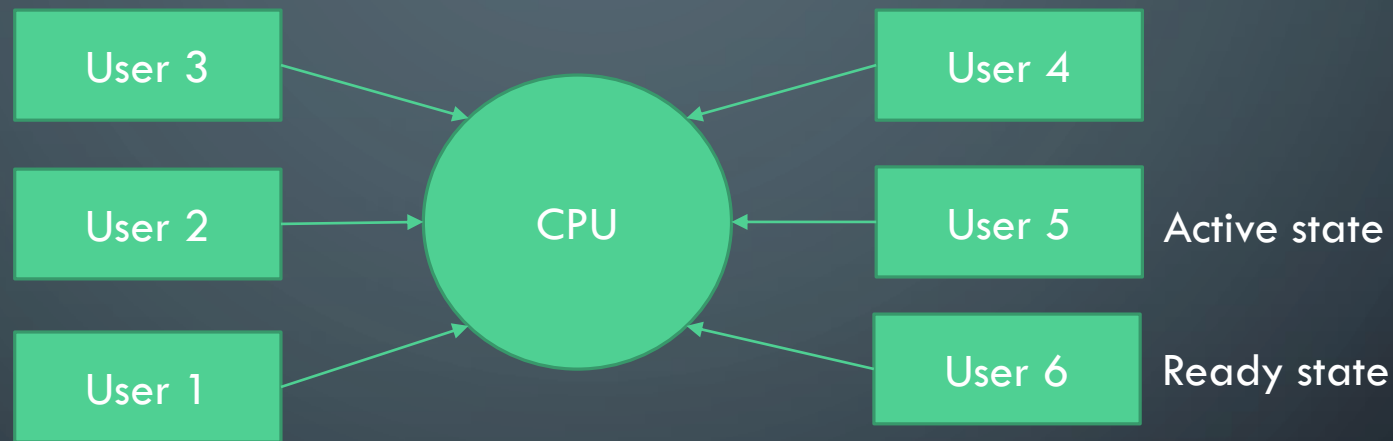


BATCH OPERATING SYSTEM



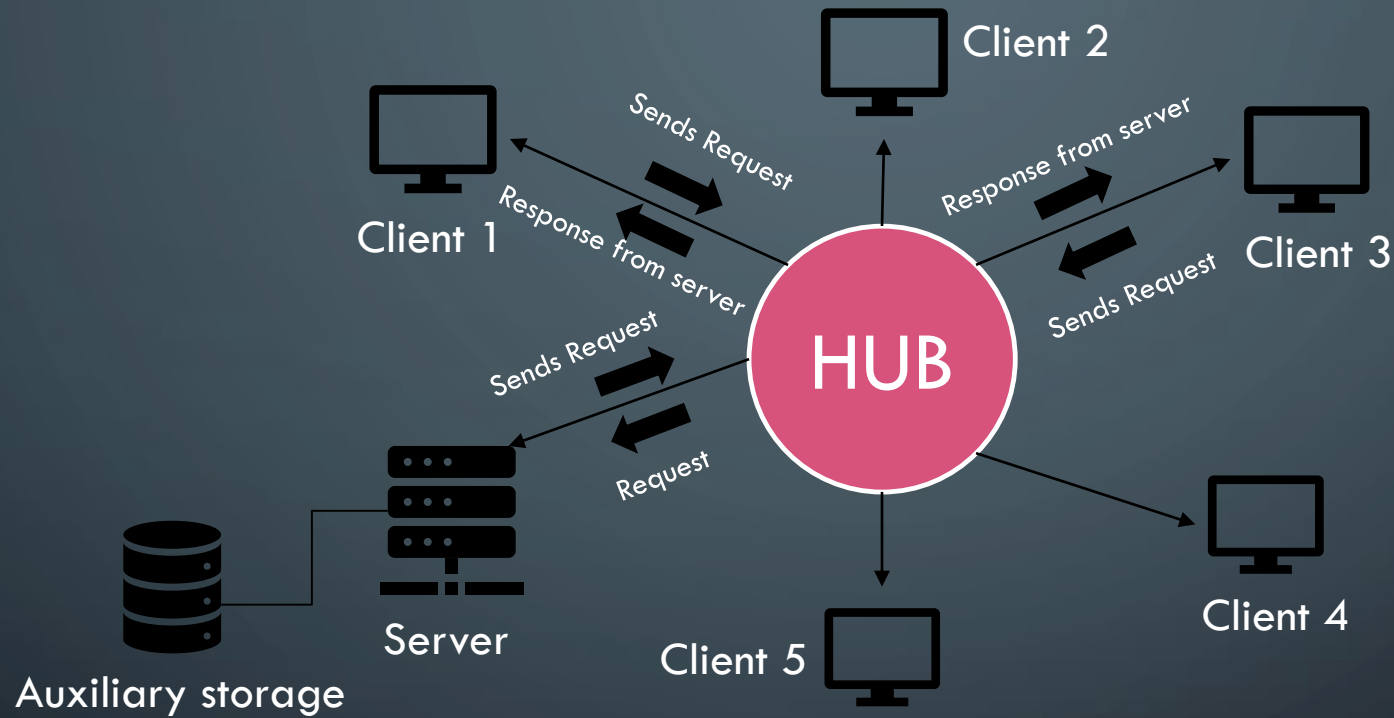
An Operating System that allows multiple user to use it, without direct communication between them. It achieve this by keeping all users in separate **'batches'** means they cannot interact with each other directly

TIME SHARING OPERATING SYSTEM



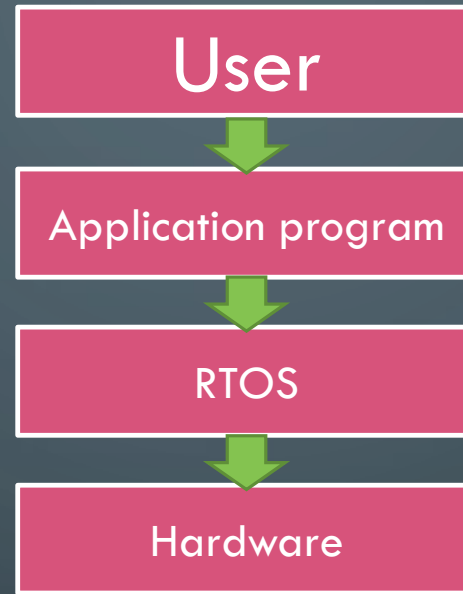
It is a type of Operating system in which user can perform more than one task and each task **gets the same amount of time to execute**. It is also called a multitasking operating system

NETWORK OPERATING SYSTEM



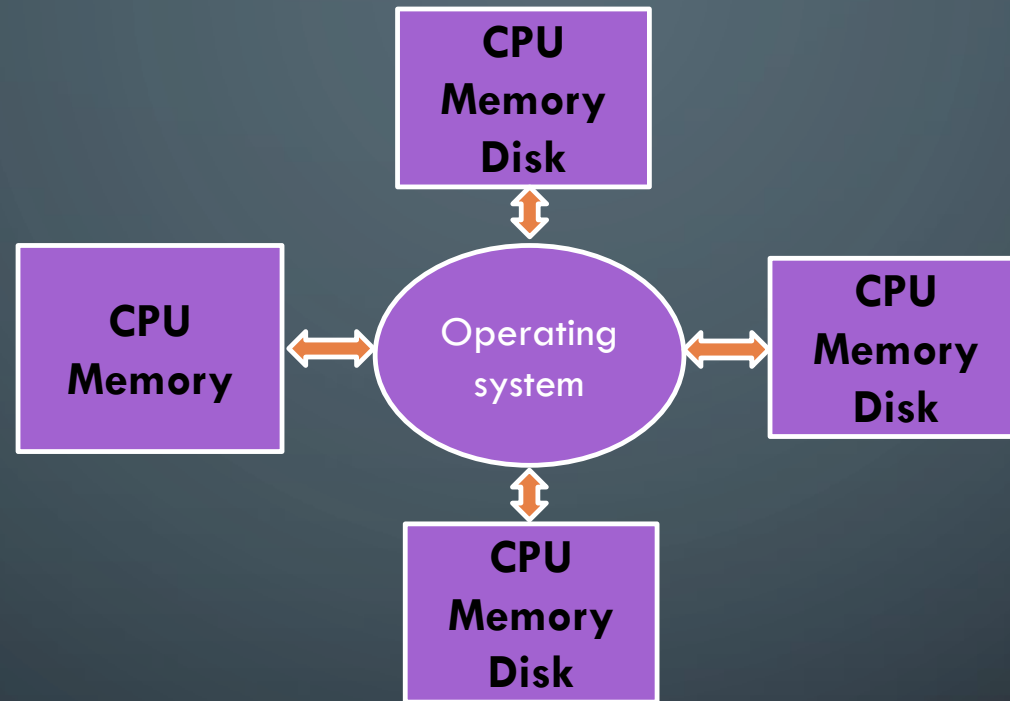
It is a specializes operating system for a network devices such as a router switch or firewall.

REAL TIME OPERATING SYSTEM



A Realtime Operating System (RTOS) is a type of operating system. That acts as an interface between the system **hardware and the user**. It handle all the interactions between the **software** and the **hardware**. It is used in real time systems where the time **constraints are fixed and followed strictly**. This means the **response time is very small**. Moreover the system should **perform the given task in a fixed time** otherwise, it results in a system failure. Response time is the time within which the **system takes the input, processes the data, and gives the results**. Moreover they are used in systems like **robots, missile launches, airplanes** etc.

DISTRIBUTED OPERATING SYSTEM



A distributed operating system is an important type of operating system. A program that acts as an interface between the **system hardware and the user**. Moreover it **handles all the interactions between the software and the hardware**. A distributed operating system is the one in which **several computer systems connected through a single communication channel**. Moreover, these system have their individual processors and memory.