



# Session#01

TOPIC:  
OPERATING SYSTEM

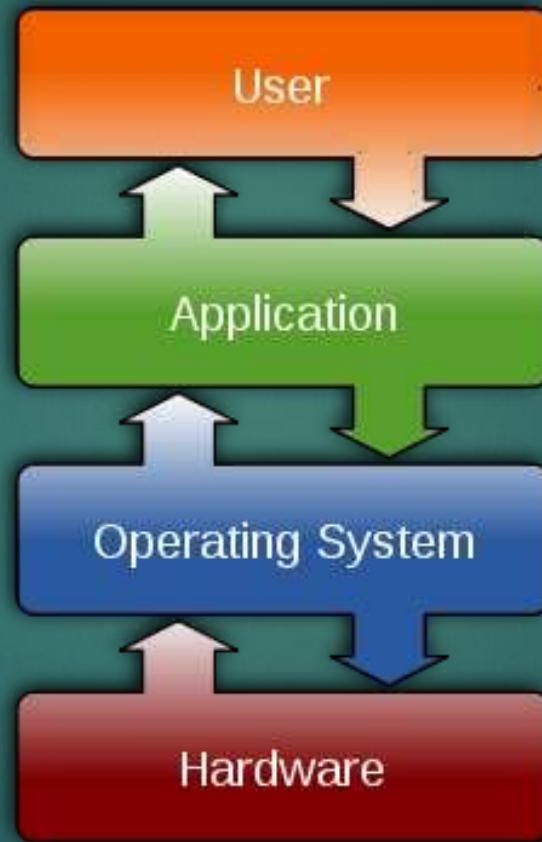
# Operating Systems

1. Operating Systems
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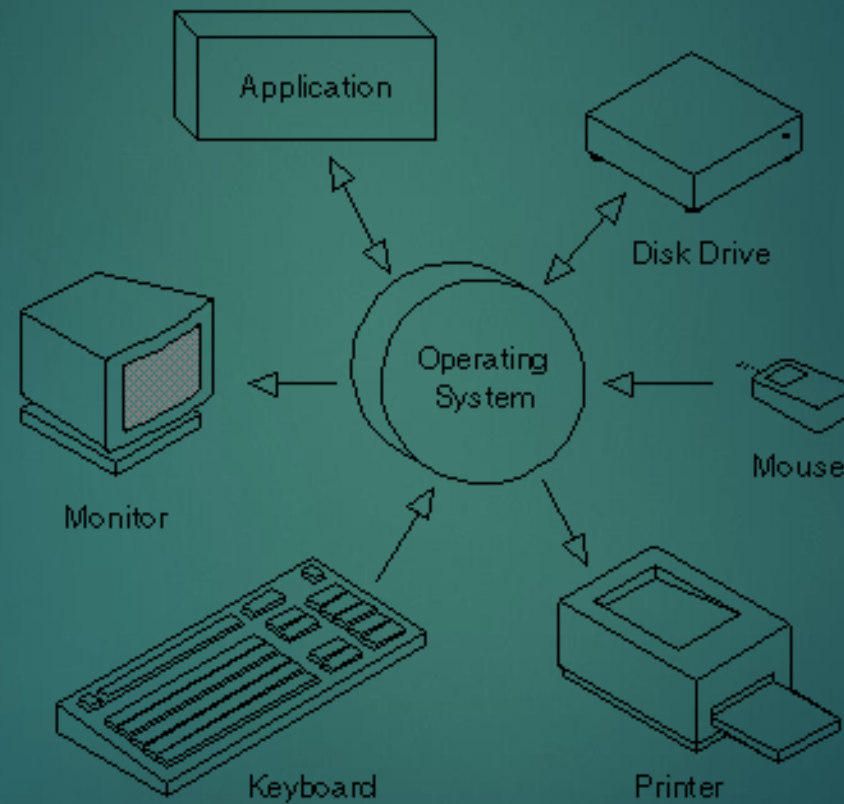
# Operating Systems

- The operating system is the most important program that runs on a computer.
- Operating system is an interface between computer and user.
- It is responsible for the management and coordination of activities and the sharing of the resources of the computer.

# Operating Systems



# Operating Systems



# Types of Operating System

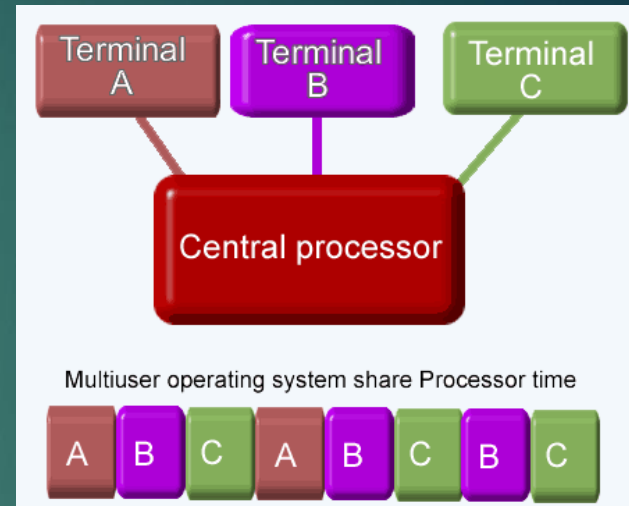
## Multi-user vs. Single user

- A multi-user operating system allows multiple users to access a computer system concurrently.
- Time-sharing system can be classified as multi-user systems as they enable a multiple user access to a computer through the sharing of time.
- Single-user operating systems, as opposed to a multi-user operating system, are usable by a single user at a time.

# Types of Operating System

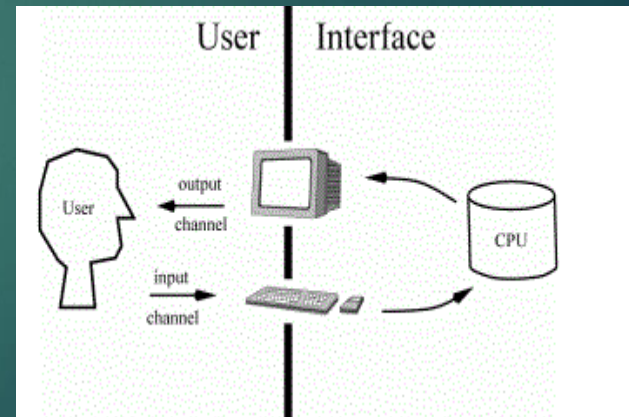
## Multi-user Example

- Ubuntu
- macOS
- All linux based OS
- Unix
- IBM AS400
- Windows 10

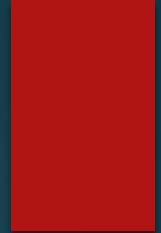


## Single-user Example

- Windows 95
- MS-Dos
- Windows NT Workstation
- Windows 2000 professional



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## Major Functions of Operating System

- Resource management.
- Data management.
- Job management.
- Standard means of communication between User and Computer.



# Major Functions of Operating System

## Resource Management

- The resource management function of an OS allocates computer resources such as CPU time, main memory, secondary storage, and input and output devices for use.

## Data Management

- The data management functions of an OS govern the input and output of data and their location, storage, and retrieval.
- It also is responsible for storing and retrieving information on disk drives and for the organization of that information on the drive.

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## Job Management

- The job management function of an OS prepares, schedules, controls, and monitors jobs submitted for execution to ensure the most efficient processing.
- A job is a collection of one or more related programs and their data.

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## Standard Means of Communication between User and Computer

- The OS also establishes a standard means of communication between users and their computer systems.
- It does this by providing a user interface and a standard set of commands that control the hardware.

# User Interface

- A program that controls a display for the user (usually on a computer monitor) and that allows the user to interact with the system.
- The user interface allows the user to communicate with the operating system.
- The user interface provides means of:
  - **Input** : Allowing the users to manipulate a system.
  - **Output**: allowing the system to indicate the effects of the users' manipulation

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## Types of User Interface

- Command line interface
- Menu Driven
- Graphical user interface

# Types of User Interface

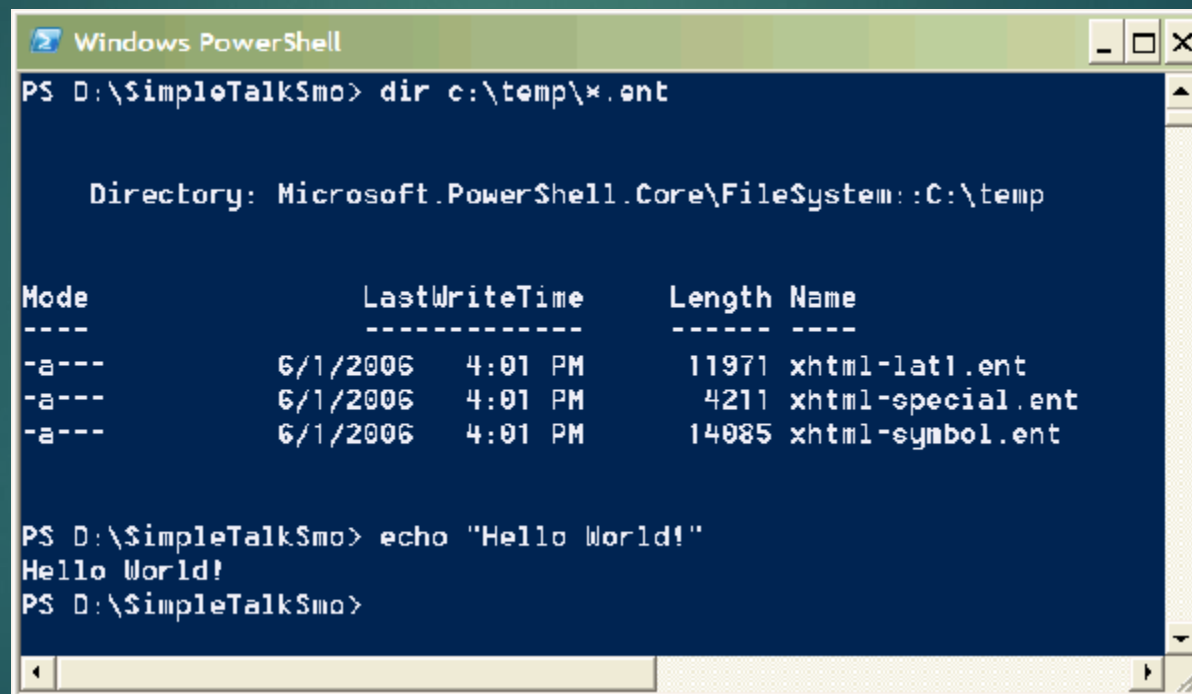


## Command Line Interface (CLI)

- A command-line interface is a mechanism for interacting with a computer OS or software by typing commands to perform specific tasks.
- This method of instructing a computer to perform a given task is referred to as "entering" a command.
- Accept input via keyboard only.
- Not suitable for beginners.

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## Command Line Interface (CLI)



```
Windows PowerShell
PS D:\SimpleTalkSmo> dir c:\temp\*.ent

Directory: Microsoft.PowerShell.Core\FileSystem::C:\temp

Mode                LastWriteTime         Length Name
----                -
-a---             6/1/2006   4:01 PM          11971 xhtml-lat1.ent
-a---             6/1/2006   4:01 PM           4211 xhtml-special.ent
-a---             6/1/2006   4:01 PM          14085 xhtml-symbol.ent

PS D:\SimpleTalkSmo> echo "Hello World!"
Hello World!
PS D:\SimpleTalkSmo>
```

# Command Line Interface (CLI)

## Example of commands

Command	Description
DIR	To display list of files or folder
COPY	To copy file or folder
MD	To make new folder
CLS	To clear screen
Quit	To quit



# Continue..

## Menu Driven

- With a **menu driven** interface the user interacts with the computer by **selecting options from a menu**.
- A typical program will have many menus which the user can access.
- Here is an example of one menu from a word processing package :

Style Menu

1. Change Font
2. Change Font Size
3. Font Effects (Underline, Bold, Italic)
4. Justification
5. Continue Editing Document

Please Select Option (1-5) : \_



# Continue..

## Graphical User Interface (GUI)

- Is a type of user interface which allows people to interact with computer with images rather than text commands.
- Accept input via keyboard and pointing devices.
- Easy to learn.

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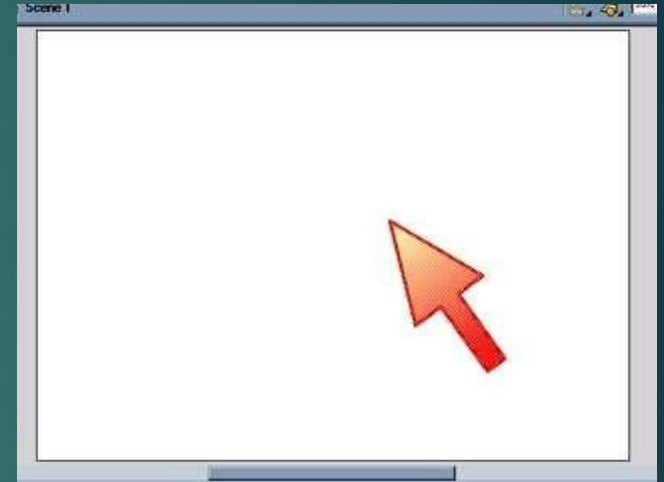
## Elements of Graphical User Interface

- Pointer
- Icons
- Desktop
- Windows
- Menus

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## Pointer

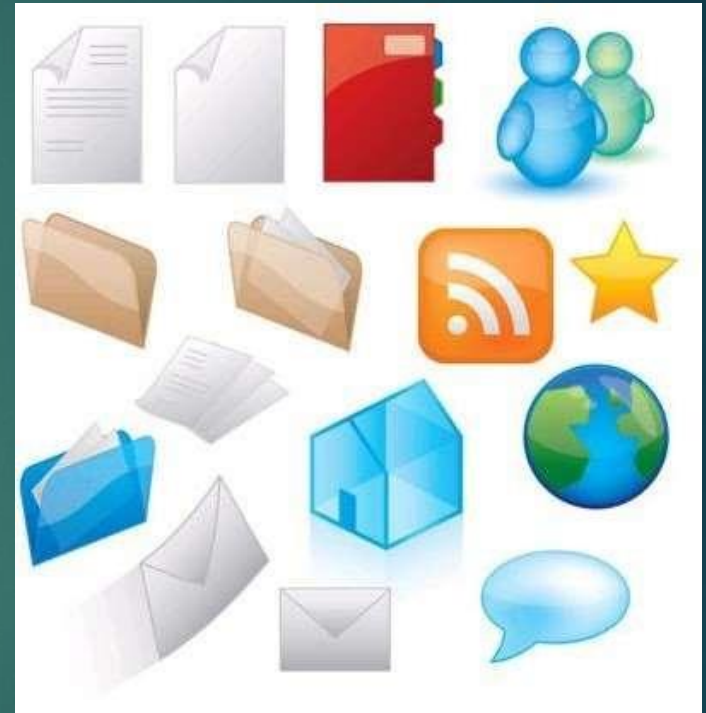
- A symbol that appears on the display screen and that you move to select objects and commands.
- Usually, the pointer appears as a small angled arrow.



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## Icons

- An icon is a small graphical representation of a program or file. When you double-click an icon, the associated file or program will be opened. For example, if you were to double-click **My Computer** icon, it would open **Windows Explorer**



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## Desktop

- The **desktop** is the primary user interface of a computer.
- It includes the **desktop** background (or wallpaper) and icons of files and folders you may have saved to the **desktop**.
- In Windows, the **desktop** includes a task bar, which is located at the bottom of the screen by default.

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## Desktop





# Continue..

## Windows

- Used to divide the screen into different areas.
- In each window, you can run a different program or display a different file.

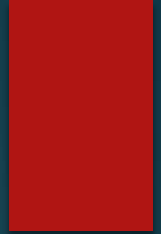


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## Windows



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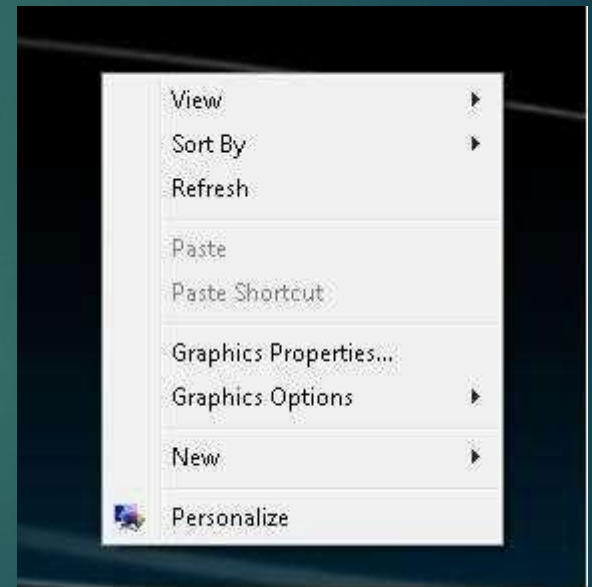
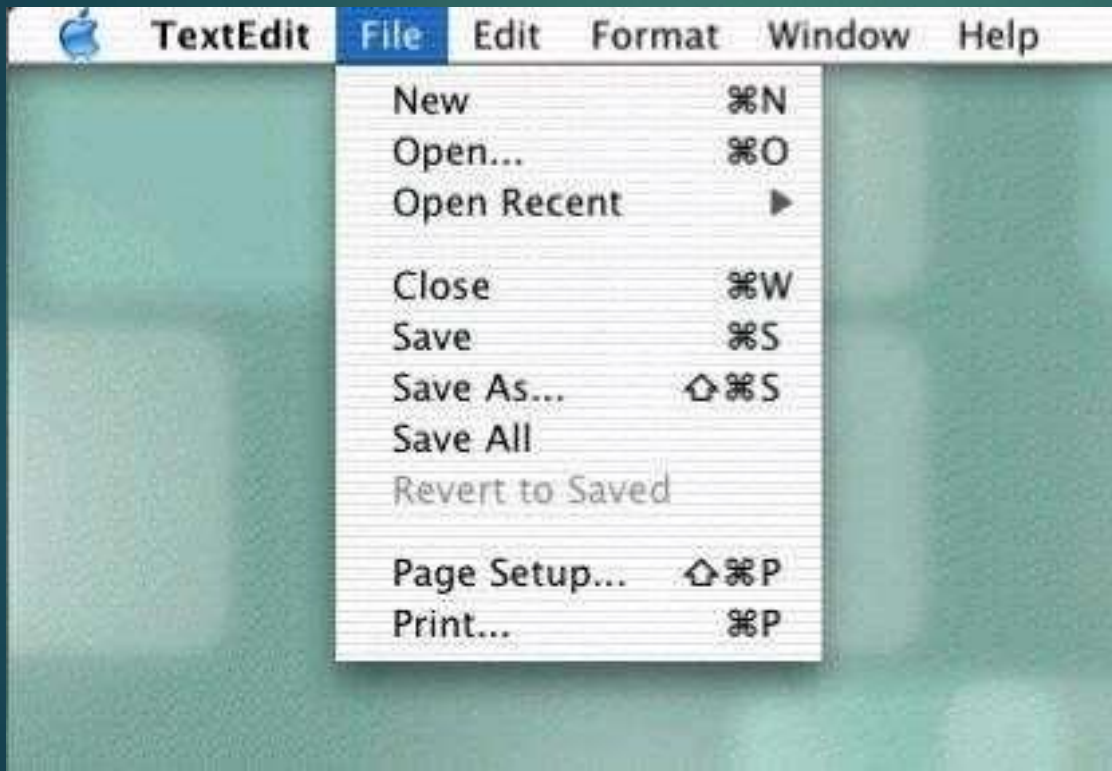


## Menus

- Most graphical user interfaces let you execute commands by selecting a choice from a menu.
- Two types of menu:
  - Pull-down menu
  - Pop-up menu

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## Menus



# Operating Systems

## Examples of Operating System

- MS-DOS
- Windows
- Mac OS
- Linux
- Solaris
- Android

# Continue..

## Windows

- Produced by Microsoft, Inc.
- Using graphical user interface.
- Support multitasking and multiuser.
- First version: Windows 1.0 (1985)
- Latest version: Windows 10 (Present)



# Windows

