AL MUSTAQBAL UNIVERSITY

COLLEGE OF DENTISTRY

COMPUTER SCIENCE

Lecture 4

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Computer - Software

Software

Is a set of programs, which is designed to perform a well-defined function , that tell the computer what to do and how to look.

A program

Is a sequence of instructions written to solve a particular problem.

Computer programmers write the codes/instructions that make-up software applications/programs.

There are two types of software : -

• **System Software**

• **Application Software**

(Fig.1)

Operating System

An Operating System (OS) is the most important software that runs on a computer,(OS) acts as an interface between the user and the computer hardware and controls the execution of all kinds of programs which is performs all the basic tasks like file management, memory management, process management, handling input and output, and controlling peripheral devices such as disk drives and printers.

 It also allows you to communicate with the computer without knowing how to speak the computer's language, Without an operating system, a computer is useless.

The Operating System is a program with the following features :–

• An operating system is a program that acts as an interface between the software and the computer hardware.

• It is an integrated set of specialized programs used to manage overall resources and operations of the computer.

• It is a specialized software that controls and monitors the execution of all other programs that reside in the computer, including application programs and other system software.

The operating system's job

Your computer's **operating system** (**OS**) manages all of the **software** and **hardware** on the computer. Most of the time, there are several different computer programs running at the same time, and they all need to access your computer's **central processing unit (CPU)**, **memory**, and **storage**. The operating system coordinates all of this to make sure each program gets what it needs.

Types of operating systems

Operating systems usually come **pre-loaded** on any computer you buy. Most people use the operating system that comes with their computer, but it's possible to upgrade or even change operating systems. The three most common operating systems for personal computers are **Microsoft Windows**, **macOS**, and **Linux**.

(Fig.2) *System Software*

Operating system's GUI

Modern operating systems use **a(graphical user interface**, or **GUI**).

A GUI lets you use your mouse to click **icons**, **buttons**, and **menus**, and everything is clearly displayed on the screen using a combination of **graphics** and **text**

Each operating system's GUI has a different look and feel, so if you switch to a different operating system it may seem unfamiliar at first.
However, modern operating systems are designed to be easy to use, and most of the basic principles are the same.
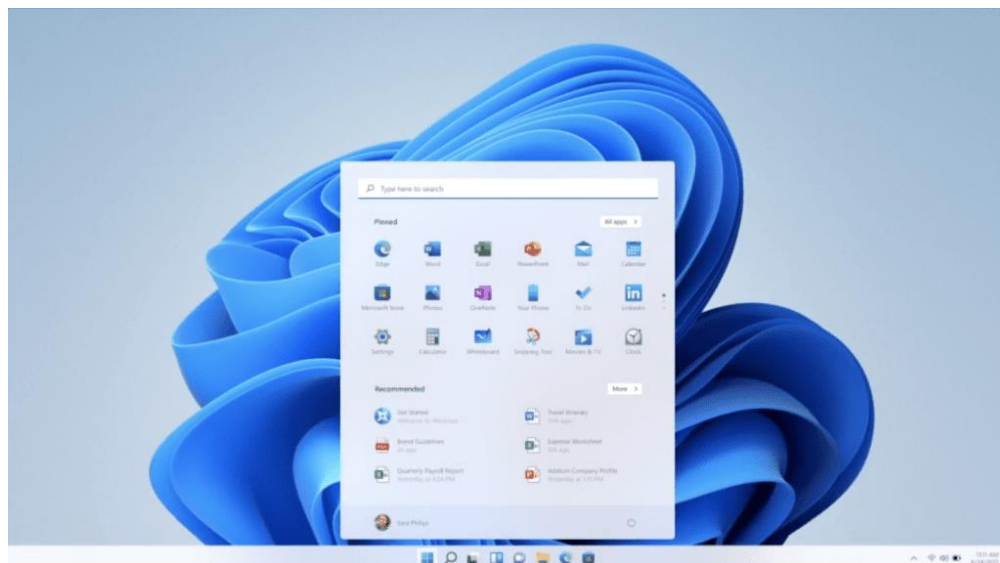
(Fig.3) GUI

Microsoft Windows

Microsoft created the Windows operating system in the mid-1980s.

There have been many different versions of Windows, but the most recent ones are Windows 10 (released in 2015), Windows 8 (2012), Windows 7 (2009), and Windows Vista (2007). Windows comes preloaded on most new PCs, which helps to make it the most popular operating system in the world.

(Fig.4)

MAC -OS

Mac-OS (previously called OS X) is a line of operating systems created by Apple.

It comes preloaded on all Macintosh computers, or Macs

(Fig.5) Mac-OS

Operating systems for mobile devices

The operating systems we've been talking about so far were designed to run on desktop and laptop computers.

Mobile devices such as phones, tablet computers, and MP3 players are different from desktop and laptop computers, so they run operating systems that are designed specifically for mobile devices

- Examples of mobile operating systems include Apple iOS and Google Android


(Fig.6) OS - for mobile devices

Application Software

Application software products are designed to satisfy a particular need of a particular environment,

All software applications prepared in the computer lab can come under the category of Application software.

Application software may consist of a single program, such as Microsoft's notepad for writing and editing a simple text.

It may also consist of a collection of programs, often called a software package, which work together to accomplish a task, such as a spreadsheet package.
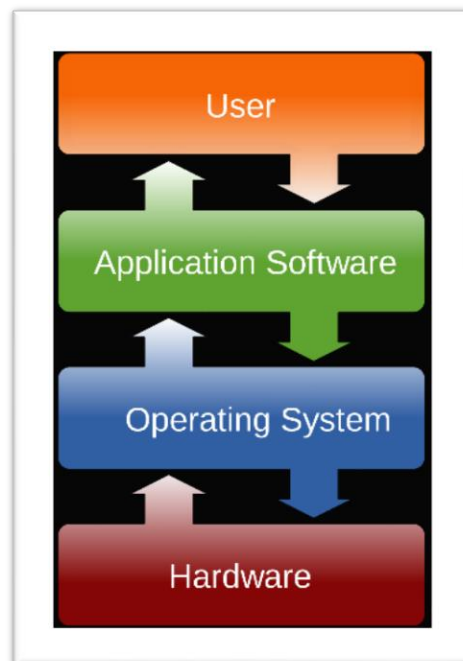
(Fig .7) Application Software Location

Examples of Application software are the following: -

1-Business software

2- Communication software

3- Graphics software

4- Education software

5- Integrated software

(Fig.8) Applications