The basics of Computer software

utrains.org


Microsoft
Windows
Linux
MICROSOFT
WINDOWS 95
Microsoft
Windows xp
iOS
android
ubuntu
Windows Vista
Windows 7
Macintosh
redhat

Table of content

1

Introduction to computer software

What is a computer software

Introduction

- A **computer** is made up of two different parts:
  - The **Hardware** that is made up of physical components (**case, CPU, RAM, Hard disk, devices** etc.)
  - The **Software** which is made up of programs that function together to perform a task
- There are two categories of softwares:
  - **The system softwares**
  - **The application softwares**

2

The system softwares

Operating System (OS) and utility softwares

Have you ever wondered how the communication between a user and a computer or even a smartphone takes place?

How can the computer hardware understand the instructions of a user?

The system software

- Whenever you switch on your computer (**laptop, desktop, tablette or phone**), it takes some time to start and to load your home screen
- Behind the scene, the device is starting a **specific software** that will help you control it and run other applications: That is the **Operating system (OS)**

The Operating System

- The **Operating system (OS)** is a set of computer programs that controls and manages the computer hardware.
- It is the **very first software that is loaded** when you switch on a computer device
- Nowadays, we have many examples of Operating systems families of which the most used are : **Windows, Mac OS, Linux, Android**




Why do we need and Operating System?

The Operating System

- Just like human beings, the computer understands a specific language that is called the **machine language or the binary code**.
- A **binary code** is a succession of **zeros and ones (0 and 1)**
- A simple instruction to the computer can be made up of many pages of binary code

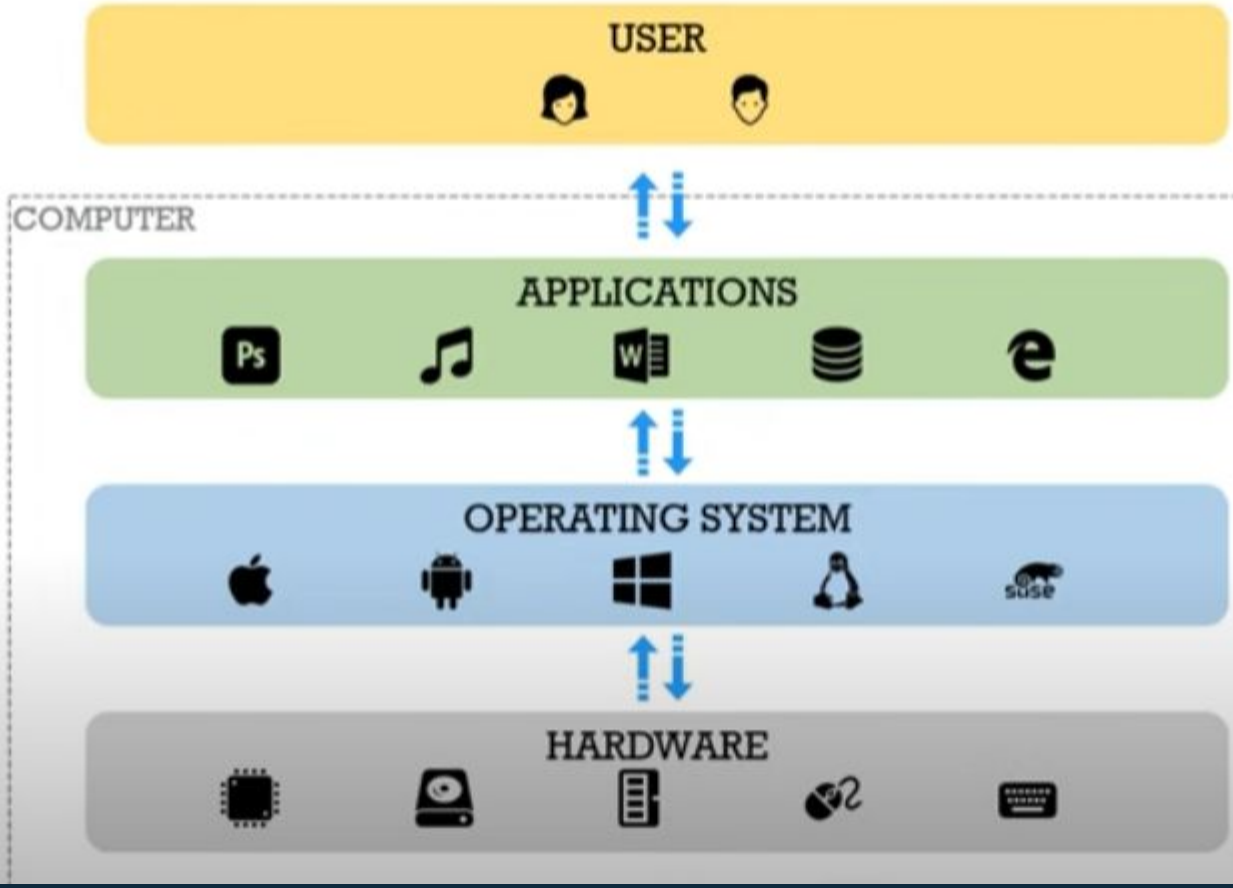
The Operating System

- So it will be a tedious task for a user to master all the instructions that the **CPU** can execute in **binary code**
- Simply put, **the user cannot give commands directly to the CPU** or the Hardware in the **machine language.**
- On the other hand, **the Hardware cannot communicate directly with the user** in **human language**
- There is a need for an intermediary that will communicate and translate the interactions between the user and the Hardware: That is where the **Operating system** is needed!

What is the role of the Operating System in the computer architecture?

Role of the OS

- The **operating system** provides an interface through which human can interact with the computer system
- It **hides the complexities of the Hardware** from the user. That is, it make the computer easy to use by everyone by providing a nice interface through which human can interact with the computer
- It **manages the hardware and the software resources**
- It also **acts as an intermediary between the user and the whole computer system.**

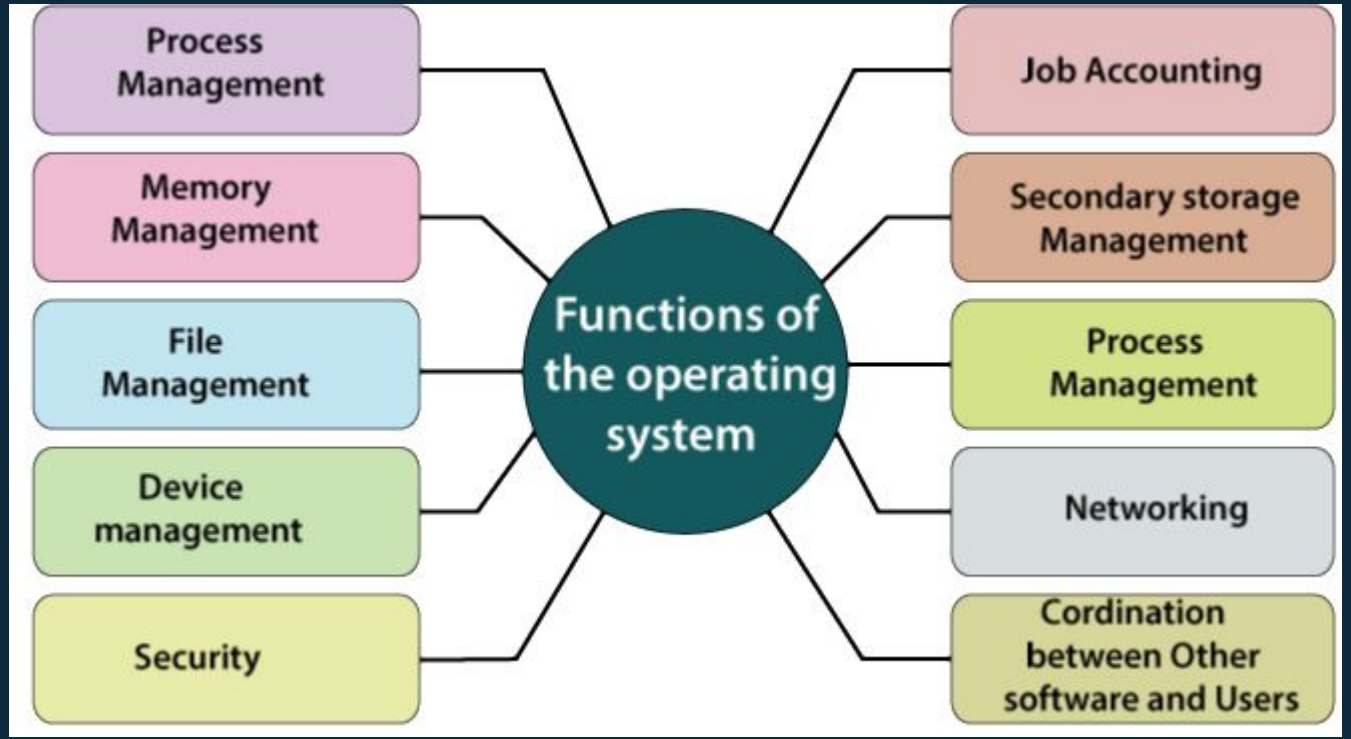

USER
COMPUTER
APPLICATIONS
OPERATING SYSTEM
HARDWARE

Functions of the Operating System

Functions of the OS

- The main functions of an **Operating System** are:
  - **Process management**
  - **File system management**
  - **Memory management**
  - **I/O (Input/Output) management**
  - **Security management**
  - **Users management**
  - **Applications and devices management**

Functions of the OS



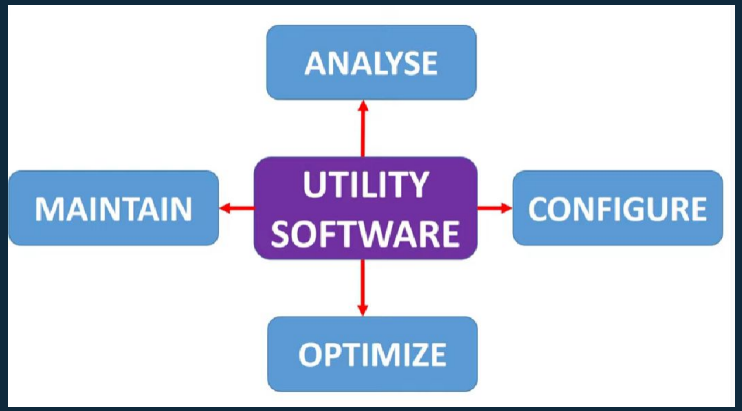
System softwares are generally subdivided into two: Operating systems and utilities software

Let's briefly go through utility softwares

Utility softwares

Utility softwares

- **Utility softwares** are programs that are used to **analyse, configure, optimize and maintain** the computer
- Most of these softwares are integrated to the **Operating system** but can also be installed afterwards



Examples of Utility softwares

- We have may types of utility softwares including:
  - **Antiviruses softwares**
  - **Disk management tools (compression, cleanup, defragmentation, ...)**
  - **File managers**
  - **Backup utility**
  - **Network utilities**
  - **etc...**

3

Application softwares

Categories of application softwares

Applications Softwares

- An **application software** is a set of programs that helps the user to perform a specific tasks. It is made to meet a specific user need.
- There are many **categories of application softwares**:
  - Word processing softwares
  - Spreadsheets
  - Presentation softwares
  - Multimedia softwares
  - Web browsers
  - Games
  - Databases softwares
  - Educational softwares
  - Enterprises softwares
  - ...

Word Processing softwares

Word processing apps

- **Word processing** softwares are used to create text documents like **letters, memo, reports, faxes** ...
- They have features that enable the user to **create, edit, beautify, save and print texts.**
- The following are some word processing softwares:

Spreadsheets

Spreadsheets apps

- **Spreadsheet application software** is used to perform **automatic calculations.**
- In this software, **data is stored in a table format**.
- The following are some examples of spreadsheets:

Presentation apps

Presentation apps

- These apps help you to represent your ideas with **text, graphs, images, audios and even videos on a slide**
- The following are some examples of presentation apps:

Other apps

Other applications

- **Multimedia softwares** to create images, record and play sounds, create and play videos etc.
- **Database softwares** helps you to create and manage databases
- **Educational softwares** facilitates the learning of a particular subject
- **Browsers** helps you to open and navigates on internet web pages

Thanks!

Any questions?

You can find us at:

website: http://utrains.org/

Phone: +1 (302) 689 3440

Email: contact@utrains.org

Click on the link below to contact the support team for any issue!

utrains.org/support/

Create a ticket for your problem and we will get back to you soon!