SYSTEM ADMINISTRATION

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THE
GOOD
THE
BAD
AND THE
UGLY

SYSTEM FUTURE CAREER

- ✓ Network Engineer
- ✓ System Engineer
- ✓ DevOps Engineer
- ✓ Information Security Analyst
- ✓ Database Administrator
- ✓ Cloud Architect

LESSON - 1

INTRODUCTION TO LINUX OPERATING SYSTEM

LEARNING OUTCOMES

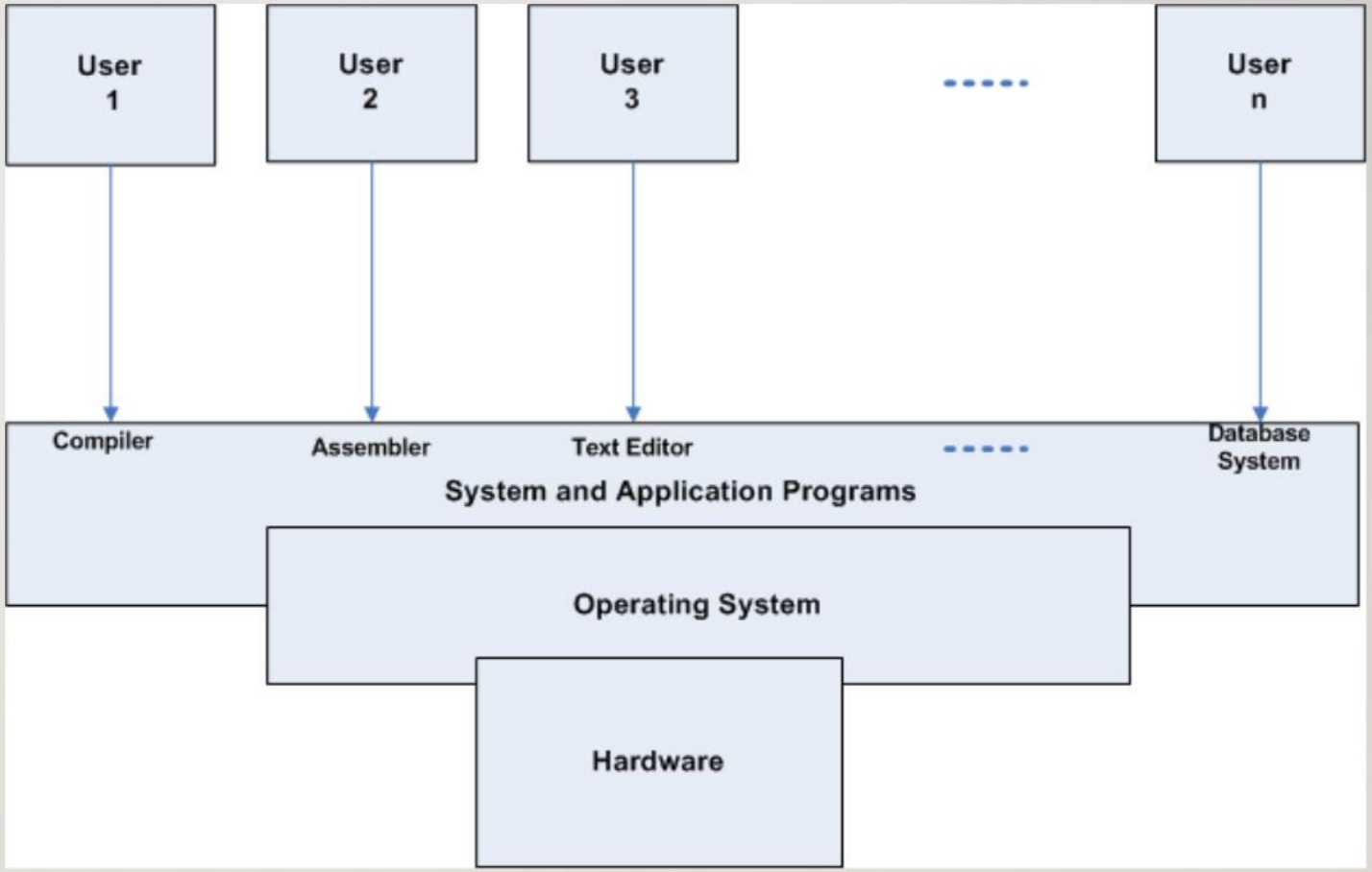
- On completion of this session, you will be able to:
  - ✓ Define Operating System
  - ✓ Identify different parts computer system
  - ✓ Explain the functions of OS
  - ✓ Identify different distros
  - ✓ Draw the Linux system architecture Layer

OPERATING SYSTEM

- What is an Operating System (OS)?
  - An operating system is a part of computer system which acts as an interface between the computer device and user.
  - Operating System is system software which provides services for running applications on a computer system.
  - The computer system is roughly divided into four parts:
    - Hardware
    - Operating system
    - Application programs and
    - users

COMPUTER SYSTEM

Showing different parts of computer system.



FUNCTION OF OPERATING SYSTEM

- **OS functionality can be viewed as following categories:**
  - As a coordinator and traffic cop
    - Manages all resources, settling conflicting request for resources, prevent errors & improper use of computer
  - As Facilitator
    - Provides facilities that every one, standard libraries, make application programming easy & fast
  - Some features gives both
    - File system is needed every one (facilitator) but at the same time must be protected (traffic cop)

INTRODUCTION TO LINUX OPERATING SYSTEM

- Like Windows and other flavor of OS, Linux is also operating system layered between hardware and application software providing specific services to users.
- Unix-like operating system however, Linux is Not Unix
- Linux is **Open Source** operating system

EVOLUTION OF LINUX

- Developed Unix OS by Dennis Ritchie & Ken Thompson
- Started Selling UNIX OS Commercially by AT & T
1. Official AT&T Unix
2. Free BSD Unix

Many company started developing OS:

- AIX by IBM
-SunOS by Sun
- HP-UX by HP

GNU Project started by Richard Stallman to make OS available for every one (real root of Linux)

- Finnish student "Linus Torvalds" written brand new kernel and shared all the source code online (thought it will supports only 386 computers).
- All Linux OS codes were based on Torvald codes (Father of Linux OS)

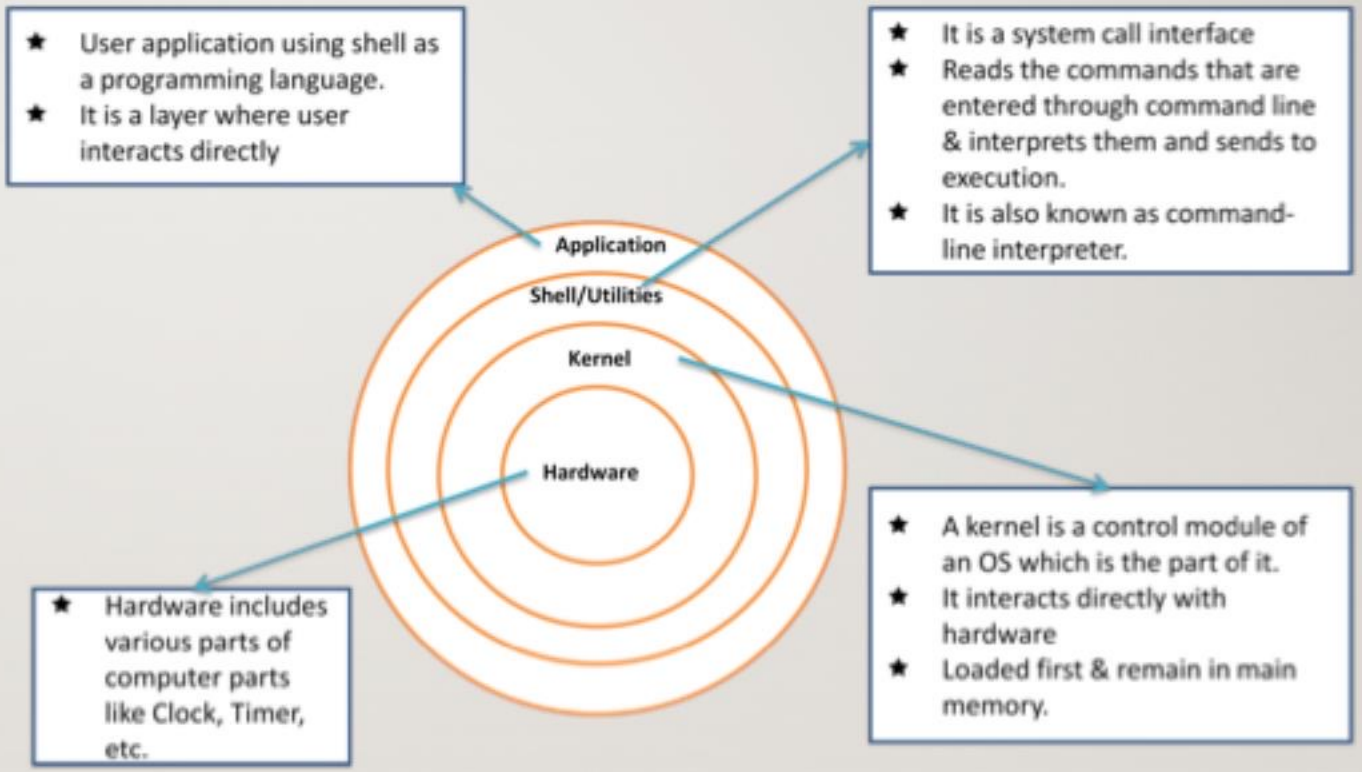
LINUX DISTRIBUTION

- **Linux Category**: Debian-based & RPM-based
- **Distro:** Ubuntu Linux, Debian Linux, Kubuntu Linuxn, Madriva Linux, Redhat Linux, Fedora Linux, CentOS Linux
- **Ubuntu vs CentOS:** Both are open source OS

- Choosing Linux distros depends on what work you want to do.
  - Desktop – Ubuntu and Fedora
  - Server – RHEL, CentOS, Ubuntu

ARCHITECTURE OF LINUX

- Linux has different layers
- Heart of Linux OS is Kernel
- Shell is command-line interpreter
- Application layers provides specific services to user



SUMMARY

In this lesson, you have learnt that:

- the operating system is a system software on which other software are installed to provide the services to the user.
- OS function as coordinator and traffic cop; managing all resources and settle the conflicts requested for resources, as a facilitator; providing the facility that everyone needs and as a both; for example file system is needed by everyone(Facilitator) but file system must be protected(Traffic Cop)
- the Linux OS is an open source OS where downloads are available. The Linux comes with many distributions and some are totally free and some are not.
- finally, the architecture of Linux operating system; which is divided into different layers/parts.