

# Week Report 3

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## Summary of presentations

### Introduction to Linux

**What is an operating system?** An operating system (OS) is the essential software that makes computer hardware useable. The OS's kernel allows for applications to run and manages computer resources.

**Aside from a kernel, what other parts make an operating system?** The some other parts of an operating system are Shells, Libraries, Utilities, Productivity Software, Graphical User Interfaces.

**What is a Linux distribution?** Linux is a Unix-like operating system that provides generally provide the user with a variety of options for customization. A Linux distribution is a customization or fork of the original Linux OS (or its successors). A distribution of Linux has a Linux kernel, an installer (with a package manager), core unix tools, startup scripts, and supplementary software. Most distributions are free of cost, dominate the business server market, and can run on almost any kind of computer hardware.

**What is Ubuntu?** Ubuntu is the most common linux distribution. It is free of charge, modifiable, and accessible. It was based off of Debian and was designed to be more user friendly.

**Define the following terms: Open Source, Closed source, free software** Open source is means that the code for a software is accessible to the public and people are allowed see and help improve that software to some extent. Closed source means that the code for a software is not accessible to the user; It can also mean that there are restrictions upon reverse engineering, modification or distribution. Free software means that software can be modified and that the code is viewable to the public.

**What are the 4 freedoms defined by the free software foundation?** People can what they want with software, they can see the code and modify it however they want, they can share the software with others, and they can share modified versions of the software.

### The basics of Virtualization

**What is virtualization?** Virtualization is when a user creates a virtual version of something (usually operating systems or video game consoles).

**List 3 benefits of virtualization** Virtualization can protect the operating system from malicious/buggy software, reduce the cost of a business in need of a machine to fulfill multiple roles, and can allow software for one machine to work on another that it was not designed for.

**What is a hypervisor?** A type of hardware or software that manages the creation, manipulation, and execution of virtual machine environments.

**What is virtualbox** Virtualbox is a type 2 hypervisor that allows the user (in this case myself) to run another operating system (Ubuntu 22.04) on top of their device's native operating system (Win11).

### Exploring Desktop Environments

**What is a desktop environment? (Provide 3 examples)** An iteration of a desktop running over an operating system, usually has a graphical user interface. 3 examples of desktop environments are Linux Mint's Cinnamon, Ubuntu's default Gnome Desktop environment, and elementary OS' Pantheon Desktop environment.

**List 4 common elements of desktop environments** Desktop Environments usually have a display manager, a file manager, icons, and a favorites bar.

**What is Ubuntu's default desktop environments?** Ubuntu's default desktop environment is the GNOME desktop environment.

**What are the official flavors of Ubuntu?** The official flavors of Ubuntu are Edubuntu, Kubuntu, Lubuntu, Ubuntu Budgie, Ubuntu Cinnamon, Ubuntu Kylin, Ubuntu Mate, Ubuntu Studio, Ubuntu Unity, and Xubuntu.

What is a Shell

**What is Bash?** Bash is a language used to interact with the Bash Shell. It can be used to execute all kinds of tasks.

**How do you access the Linux CLI?** You can access the Linux CLI by typing Ctr + Alt + T and a terminal emulator will appear.

**What is a console terminal?** A console terminal is a physical machine used to provide a machine with commands to execute.

**What is a terminal emulator?** A terminal emulator is a virtual form of console that provides the same utility without the need to have a large expensive machine.

**Provide 3 examples of Linux commands** PWD which tells the user the present working directory, CD which is used to move between directories, and touch which can be used to make files.

Managing Software

**Which command is used for updating ubuntu** The command `sudo apt update` is used to update ubuntu.

**Which command is used for installing software. Provide an example.** The command `sudo apt install` is used to install software. // `sudo apt install vlc`

**Which command is used for removing software. Provide an example.** The command `rm` is used to remove software. // `rm songList.txt`

**Which command is used for searching for software. Provide an example.** The command `apt search` is used to search for software. // `apt search calculator`

**Define Package** A downloadable container that holds the components to install programs.

**Define Library** Sharable code that can be recycled to fulfill a variety of tasks.

**Define Repository** A large catalog of software available for download. Can contain all kinds of useful material.