Week Report 3

Summary of Presentations

Introduction of Linux

What is an operating system?

- An operating system provides all fundamental software features of a computer, enables you to use the computer's hardware providing you the basic tools that make the computer useful.

What is a kernel?

- An OS kernel is a software component that is responsible for managing low-level features of the computer.

Aside from a kernel, what other parts make an operating system?

- Daemons/Shells, Graphical Desktop Environment, Libraries, and Applications.

What is a Linux distribution?

- Any operating system that runs the Linux kernel. ie: Ubuntu, Red Hat, Debian, and many others

What is Ubuntu?

- A Linux distribution, freely available with both community and professional support.

Define the following terms: *Open Source*

- The software may be distributed for a fee or free. The source code is distributed with the software.

Closed source

- The software is not distributed with the source code. The user is restricted from modifying the code.

Freeware

- The software is free but the source code is not available.

Shareware

- The software is free on a trial basis.

Free software

- The software is distributed with the source code and can be free of charge or obtained by a fee.

What are the 4 freedoms defined by the free software foundation?

- *Freedom 0* - use the software for any purpose
- *Freedom 1* - examine the source code and modify it as you see fit
- *Freedom 2* - redistribute the software

- *Freedom 3* - redistribute your modified software

The Basics of Virtualization

What is virtualization?

- Creating virtual versions os something.

List 3 benefits of virtualization

1. Allows running multiple OSs on one machine without dual booting
2. Offers the ability to save the state of the machine at a give time and roll it back and forward
3. Allows programs coded for one type of hardware or OS to work on another that it's not designed to work on

What is a hypervisor?

- Software or hardware in charge of creating, managing, and running virtual machines.

What is virtualbox?

- A powerful x86 and AMD64/Intel64 virtualization product for enterprise as well as home use and an extremely feature rich, high performance product for enterprise customers, as well as the only professional solution that is freely available as Open Source Software.

Exploring Desktop Environments

What is a desktop environment? (Provide 3 examples)

- Provides a predetermined look and feel to the GUI and is typically broken up into Desktop Settings, Widgets, Favorites Bar, etc.

List 4 common elements of desktop environments

1. icons
2. windows
3. toolbars
4. folders

What is Ubuntu's default desktop environments?

- GNOME Shell and KDE Plasma

What are the official flavors of Ubuntu?

- Xubuntu, Ubuntu MATE, Linux Mint, Lubuntu, Deepin, Elementary OS, Raspberry Pi

What is a Shell?

What is Bash?

- A program that provides interactive access to the Linux system.

How do you access the Linux CLI?

- Terminal Emulator, Linux Console

What is a console terminal?

- A device that gives you access to the console of your computer.

What is a terminal emulator?

- A program that allows you to access the Linux CLI.

Provide 3 examples of Linux commands

1. `date`
2. `clear`
3. `uname`

Managing Software

Which command is used for updating ubuntu?

- `sudo apt update`

Which command is used for installing software? Provide an example.

- `sudo apt install ...`
- ie: `sudo apt install firefox`

Which command is used for removing software? Provide an example.

- `sudo apt remove ...`
- ie: `sudo apt remove firefox`

Which command is used for searching for software? Provide an example.

- `apt search "..."`
- ie: `apt search "web browser"`

Definition of the following terms:

- ***Package:*** archives that contain binaries of software, configuration files, and information about dependencies.

- ***Library:*** reusable code that can be used by more than one function or program.

- ***Repository:*** a large collection of software available for download.