Paper

Name

School or Institution Name (University at Place or Town, State)

**Paper**

A computer is just a piece of hardware if it I not equipped with the operating system. An operating system is a software that manages the hardware resources and allows the applications to run on the hardware. With the standardization of building computer hardware, the race for developing operating system has emerged. At earlier different companies were developing proprietary operating system compatible with specific hardware only. One such operating system is known as the UNIX operating system (Sarwar & Koretsky, 2018). UNIX was developed in Bell Laboratories by the iteration of the Multics project. The purpose of the developers was to build a multiuser operating system with a single storage system. In early iterations, UNIX remained as proprietary software and raised questions for developers to develop a free and open source operating system.

Linus Torvalds created Linux as compared to the UNIX. He purchased an IBM compatible personal computer in 1991. The computer was equipped with a disk operating system developed by the technology giant Microsoft. He wanted to use UNIX on his computer, and he found out that he can buy the cheapest version of UNIX in $5,000. It was the point when he started thinking about an open source operating system that provides computing freedom to the general public as well. Along with many other programmers he worked on Linux kernel, and after two years of hard work in 19994, version 1.0 of the Linux kernel was released.

Linux is open source software meaning that the source code of the operating system is available to the public. Anyone having the code can use distribute modify and improve the code as well. Whenever the word Linux is used it usually represents the operating system, but Linux is just a kernel (Xu & Zhou, 2018). The kernel is the core of any operating system that controls the hardware management of the operating system and over the top applications. Linux kernel was developed from scratch, but it inherited many commands from a UNIX system. Most of the libraries and packages are being used from the GNU program which is also an open source program. Although many commands are same for UNIX and Linux but Linux is not a derivative of UNIX. Thousands of programmers around the world contribute to the project and develop applications and operating system programs for Linux.

Linux is mostly used for server computing due to the ease of customizations and open source project. Most of the internet is powered by Linux servers (Sinitcyn et al., 2018). With the increased penetration of personal computers, people are using the Linux operating system on their home computers as well. The exponential increase in personal computing urged developers to create their customized Linux distributions tailored for the needs of common desktop users. All the Linux distributions are based on the same Linux kernel but different desktop environment such as Debian, KDE, etc.

**UBUNTU:**

UBUNTU is the most popular Linux based desktop operating system. It is backed by Canonical on Debian packages. It is most popular among users of personal computers due to the simplicity and ease of navigation. It provides users with a large collection of ready to install applications using a graphical interface instead of a command line approach. It requires at least a Pentium IV computer along with 2 GB of main memory.

**Linux Mint:**

Linux Mint is another Linux kernel-based desktop operating system distribution. It is usually recommended for people migrating from Windows operating system to the Linux because the desktop environment is more or less similar to that of the proprietary operating system. It is available in three main types, Cinnamon edition which is the latest innovation from the developers, Mate edition which id more stable as compared to the Cinnamon edition, and Xfce edition which is a stripped-down, lightweight version of the operating system for low-end devices. Basic requirements remain the same as for UBUNTU.

**Fedora:**

Fedora is Linux kernel-based operating designed for heavy loads and workstations mainly. Most of the web servers are based on the Fedora server distribution package. The company provides many support options that allow the developers to capture the enterprise market for Linux. Basic hardware requirements are the same for eth fedora as well. The company is supported by RedHat Linux which specializes in Server-side operating system development.

**Elementary:**

The elementary operating system is developed by at-least hundred developers. It is based on UBUNTU. It has a sleek and modern desktop environment like Macintosh. It is recommended for people looking for free alternative to Windows or Macintosh operating systems. It is secure, and updates are released frequently to patch up discovered security holes in the operating system. System requirements are 500 MHz of the central processing unit, and one gigabyte of random-access memory.

**Synopsis:**

Ubuntu will release a feature update of its long-term support release version 18.04 consisting features from the latest version (Nestor, n.d.). Along with improved features, the new release will also be based on the latest Linux kernel as well. The user community is excited to see a newer version of GNOME desktop environment along with the change in the kernel. The new release may not update the desktop software because in long term support release cycles the stability of the operating system is more important than the newer software versions. The release will be codenamed as point two feature release of 18.04 LTS version of Ubuntu.

References

Nestor, M. (n.d.). Ubuntu 18.04.2 LTS to Arrive on February 7 with New Components from Ubuntu 18.10. Retrieved February 5, 2019, from https://news.softpedia.com/news/ubuntu-18-04-2-lts-to-arrive-on-february-7-with-updated-components-524785.shtml

Sarwar, S. M., & Koretsky, R. M. (2018). *Linux: The Textbook*. CRC Press.

Sinitcyn, P., Tiwary, S., Rudolph, J., Gutenbrunner, P., Wichmann, C., Yılmaz, Ş., … Cox, J. (2018). MaxQuant goes Linux. *Nature Methods*, 1.

Xu, Y., & Zhou, M. (2018). A Multi-level Dataset of Linux Kernel Patchwork.