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Microsoft Windows is one of the most used operating systems today; they are popular for their simplicity and ease of use. Microsoft is well known for creating their PCs to work with their Windows OS, running on Intel or AMD processors (Henderson, “Microsoft Windows”). They also created a mobile phone based on the Windows operating system (Henderson, “Microsoft Windows”). Windows utilizes a graphical user interface along with a command line interface, allowing people who are not tech savvy to be able to perform daily tasks on their computer without having to know much about the process behind it works (Levy; “Powershell”). Microsoft also offers many Microsoft 365 applications that can be downloaded onto their Windows OS such as Word, Excel, and PowerPoint. But unlike Windows, for the average tech-illiterate person, Linux is not so friendly. So, what is Linux?

Linux, created by Linus Torvalds, is an open-source, operating system that is a free alternative to Windows and MacOS (Henderson, “Linux”). Linux is used for many things. Some of which you may not be familiar with, such as Android phones! Android is based on the Linux OS (Henderson, “Linux”). Many people who are tech-oriented use Linux for their web servers, creating databases, and running programs (Henderson, “Linux”). Unfortunately, Microsoft 365 applications such as Excel and Word are not available on Linux. But luckily LibreOffice was created for Linux, as a free open-source alternative to offer applications that are like Microsoft 365. (Henderson, “Linux”).

What is a file system? Simply put, a filesystem is what stores and organizes your files (photos, videos, applications, etc.) in a storage device (Hargrave). They allow you to access information, such as where the files are located, what permissions they give you, and their names (Hargrave). How does this work? When you open a file, your operating system, such as Linux, uses the file system to open it (Lavarian). Without it, your computer would have no idea where anything is (Lavarian). It would be like scattering your notes and homework and shoving them into your backpack; imagine how hard it would be to find what you need when class starts (Lavarian). A cool feature is that they also can offer encryption, preventing attackers from having access to your important files, such as medical records (Lavarian).

One of the most used filesystems used by Linux is ext4, short for extended filesystem (Anderson). Ext4 offers checksums, extents, and journals (Anderson). Checksums check to make sure data has not been corrupted, extents map large amounts of data together, and journals keep track of changes made, so if something goes wrong, the journal can revert the changes (Anderson). Another filesystem used on Linux is XFS. Like ext4, XFS also uses checksums and extents (Anderson). When deciding between XFS and ext4 it is good to keep in mind how large your files will be. With large files you may want to consider using XFS as it works much better with them and for smaller files choose ext4 (Anderson). No matter what filesystem you choose you will find that they both are fast, reliable, and secure.

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