

Comparative Study of Open Source Verses Closed Source with Respect to User's Perspectives

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Abstract

Open source (Linux) verses closed source (Windows) is a vital subject of debate since the inception of computers. In This paper we illustrate the pros and cons of both Linux and window operating system. The paper also compares and analyzes both the operating system and suggests that which one is more customizable, easy to use and faster in running for end user. It also explains the key features of both Linux and window operating system.

Keywords: Linux; Windows; Operating systems.

1. Introduction

The most commonly used operating system to date is Windows. Every time one enters an internet café or uses a school computer, it is likely that that computer is running some on version of Windows. But is Windows really the most efficient operating system? The majority of common users will have to agree, but a select few believe otherwise. Many programmers and computer supporters believe Linux to be a far more efficient and usable system because of its flexibility and efficient code. Even so, among the common users, Linux is probably the least known and most underused computer system in the country. The objective of this paper is to determine which system basically is better for users both common and adept.

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2. Full access vs. no access

Having access to the source code is possibly the single most significant difference between Linux and Windows. The fact that Linux belongs to the GNU Public License ensures that users (of all sorts) can access (and alter) the code to the very kernel that serves as the foundation of the Linux operating system. If You want to peer at the Windows code? Unless you are a member of a very select (and elite, to many) group, you will never lay eyes on code making up the Windows operating system [1]. We can look at this from both sides of the screen. By giving the public access to the code opens the operating system (and the software that runs on top of it) to malicious developers who will take advantage of any weakness they find. If having full access to the code helps bring about faster improvements and bug fixes to keep those malicious developers from being able to bring the system down [1,2].

3. Licensing freedom vs. licensing restrictions

Along with access comes the difference between the licenses. The every IT professional could go on and on about licensing of PC software. By looking at the key aspect of the licenses (without getting into legalize). With a Linux GPL-licensed operating system, we are free to modify that software and use and even republish or sell it (so long as you make the code available). Also, with the GPL, you can download a single copy of a Linux distribution (or application) and install it on as many machines as you like. With the Microsoft license, you can do none of the above. We are bound to the number of licenses we purchase, so if we purchase 10 licenses, we can legally install that operating system (or application) on only 10 machines [1,2].

4. Online peer support vs. paid help-desk support

This is one issue where most companies turn their backs on Linux. But it's really not necessary. With Linux, we have the support of a huge community via forums, online search, and plenty of dedicated Web sites. And of course, if we feel the need, we can purchase support contracts from some of the bigger Linux companies (Red Hat and Novell for instance). However, when we use the peer support inherent in Linux, we do fall prey to time. we could have an issue with something, send out e-mail to a mailing list or post on a forum, and within 10 minutes be flooded with suggestions. Or these suggestions could take hours of days to come in. It seems all up to chance sometimes. Still, generally speaking, most problems with Linux have been encountered and documented. So chances are good we'll find your solution fairly quickly. On the other side of the coin is support for Windows. Yes, we can go the same route with Microsoft and depend upon the peers for solutions. There are just as many help sites/lists/forums for Windows as there are for Linux. And you can purchase support from Microsoft itself. Most corporate higher-ups easily fall victim to the safety net that having a support contract brings. But most higher-ups haven't had to depend up on said support contract [1,2].

5. Full vs. partial hardware support

One issue that is slowly becoming absent is hardware support. Years ago, if we wanted to install Linux on a machine we had to make sure you hand-picked each piece of hardware or we installation would not work 100 percent. In 1997-ish, trying to figure out why we couldn't get Caldera Linux or Red Hat Linux to see our modem. After much looking around, we found we were the proud owner of a Win modem. So we had to go out

and purchase a US Robotics external modem because that was the one modem we know would work. This is not so much the case now. You can grab a PC (or laptop) and most likely get one or more Linux distributions to install and work nearly 100 percent. But there are still some exceptions. For instance, hibernate/suspend remains a problem with many laptops, although it has come a long way. With Windows, we know that most every piece of hardware will work with the operating system. Of course, there are times (and we have experienced this over and over) when you will wind up spending much of the day searching for the correct drivers for that piece of hardware we no longer have the install disk for. But we can go out and buy that 10-cent Ethernet card and know it'll work on your machine (so long as you have, or can find, the drivers). We also can rest assured that when you purchase that insanely powerful graphics card, we will probably be able to take full advantage of its power [1].

6. Command line vs. no command line

No matter how far the Linux operating system has come and how amazing the desktop environment becomes, the command line will always be an invaluable tool for administration purposes. Nothing will ever replace our favorite text-based editor, sash, and any given command-line tool. We can't imagine administering a Linux machine without the command line. But for the end user not so much. We could use a Linux machine for years and never touch the command line. Same with Windows, we can still use the command line with Windows, but not nearly to the extent as with Linux. And Microsoft tends to obfuscate the command prompt from users. Without going to Run and entering cmd (or command, or whichever it is these days), the user won't even know the command-line tool exists [1,2].

7. Centralized vs. non-centralized application installation

With Linux we have (with nearly every distribution) a centralized location where you can search for, add, or remove software. In package management systems such as Synaptic; with Synaptic, we can open up one tool, search for an application (or group of applications), and install that application without having to do any Web searching (or purchasing). Windows has nothing like this. With Windows, you must know where to find the software you want to install, download the software (or put the CD into your machine), and run setup.exe or install.exe with a simple double-click. For many years, it was thought that installing applications on Windows was far easier than on Linux, and for many years, that thought was right on target. Not so much now. Installation under Linux is simple, painless, and centralized [1,2].

8. Flexibility vs. rigidity

We always compare Linux (especially the desktop) and Windows to a room where the floor and ceiling are either movable or not. With Linux, we have a room where the floor and ceiling can be raised or lowered, at will, as high or low as you want to make them. With Windows, that floor and ceiling are immovable. We can't go further than Microsoft has deemed it necessary to go. Take, for instance, the desktop. Unless we are willing to pay for and install a third-party application that can alter the desktop appearance, with Windows we are stuck with what Microsoft has declared is the ideal desktop for you. With Linux, we can pretty much make your desktop look and feel exactly how you want/need. We can have as much or as little on our desktop as we want.

From simple flat Fluxbox to a full-blown 3D Compiz experience, the Linux desktop is as flexible an environment as there is on a computer [3].

9. Automated vs. non-automated removable media

When we had to mount your floppy to use it and unmounts it to remove it. One issue that plagues new Linux users is how removable media is used. The idea of having to manually "mount" a CD drive to access the contents of a CD is completely foreign to new users. There is a reason this is the way it is. Because Linux has always been a multiuser platform, it was thought that forcing a user to mount a media to use it would keep the user's files from being overwritten by another user. On a multiuser system, if everyone had instant access to a disk that had been inserted. Things have now evolved to the point where Linux subsystems are set up so that we can use a removable device in the same way we use them in Windows. But it's not the norm. And besides, we doesn't want to manually edit the `/etc/fstab` file [4].

10. Threats and Problems

Every Windows user has faced security and stability issues. Since Windows is the most widely used OS, hackers, Spammers target Windows frequently. Consumer versions of Windows were originally designed for ease-of-use on a single-user pc without a network connection and did not have security features built in. Microsoft releases security patches through its Windows Update service approximately once a month although critical updates are made available at shorter intervals when necessary [5].

Many times users of Windows OS face the "BLUE SCREEN OF DEATH", caused by the failure of the system to respond, and eventually the user has to manually restart the PC. This is very frustrating for the user since they may lose valuable data. On the other hand, Linux is very stable and more secure than Windows. As Linux is community driven, developed through people collaboration and monitored constantly by the developers from every corner of the earth, any new problem raised can be solved within few hours and the necessary patch can be ready at the same time. Also Linux is based on the UNIX architecture which is a multi-user OS, so it is much more stable than single user OS Windows [6].

11. Multilayered run levels vs. a single-layered run level

Linux' inherent ability to stop at different run levels, with this, we can work from either the command line (run level 3) or the GUI (run level 5). This can really save our socks when X Windows is fubared and we need to figure out the problem. We can do this by booting into run level 3, logging in as root, and finding/fixing the problem.[5]With Windows, we're lucky to get to a command line via safe mode -- and then we may or may not have the tools you need to fix the problem. In Linux, even in run level 3, we can still get and install a tool to help you out (hello `apt-get install APPLICATION` via the command line). Having different run levels is helpful in another way. Say the machine in question is a Web or mail server. We want to give it all the memory we have, so we don't want the machine to boot into run level 5. However, there are times when we do want the GUI for administrative purposes (even though you can fully administer a Linux server from the command line). Because we can run the `start xcommand` from the command line at run level 3, we can still start up X Windows and have your GUI as well. With Windows, we are stuck at the Graphical run level unless you hit a serious

problem [7].

12. Conclusion

We saw the pros and cons of both the operating systems. If you are an average user, who uses the computer for some email, little bit of presentations or spread-sheets, movies and web browsing, Linux is definitely the operating system you should use. It enables you to accomplish everything that you normally do using Windows it's much more secure, has little or no maintenance, and its free of cost. For advanced users, say web designers, gamers, programmers who develop software for the Microsoft platform, or have certain applications that only run on Windows, you should stick to Windows. The goal of Linux, on the other hand, was to provide an open source version of UNIX, a very prominent operating system in the government and in the academe (Alampay). Linux was meant to target computer hobbyists so that anyone mildly interested in operating system can opt to build their own version.

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