

# Support for built in utility programs computer science essay

[Technology](#), [Computer](#)



Report that explains the purpose of operating systems by outlining the basic functions in general, saying how they are used to facilitate users.

An Operating system is software that lets the user interface with the computer and also manages number of applications. Most number of PC's has built in Operating system installed. Operating systems created to take control of the operations of applications such as email programs, word processors and web browsers. Straight after the computer is switched on the operating system needs to be loaded into the RAM before any other program can be run. Operating system is automatically loaded into RAM as soon as the PC turns on which is done by the boot strap loader which is stored in the PC's ROM chip.

All the Operating systems perform basic functions such as:

Managing resources – These applications coordinate all of the PC's resources which include keyboard, printer, monitor, mouse, storage devices and memory. Operating system manages to perform a file structure on the computers hard drive where the data can be saved or retrieved. When a particular data is saved, the Operating system saves the data and attaches a name to the data and remembers where the data was saved for any future use. File system is the way the Operating systems organizes the information into files. Almost all the Operating systems use hierarchical file system which organizes the files into folders under a tree structure which makes it easy for the user to get the data.

Providing a user interface -. Users interact with programs and hardware through user interface. Most of the Operating systems provide the GUI which is graphic user interface where graphic objects or icons are used to represent commonly used features.

Running applications -These are the programs which load and run applications such as spread sheets and word processors. Almost all the operating systems support multitasking where more than one application can be run at the same time. When a user is requesting the application to be open the operating system locates the program and loads it into the RAM. If more programs are loaded the operating system must allocate the computer resources.

Support for built in utility programs -The operating system uses the utility program to identify problems, repair damaged files, locate lost files and back up data. This makes the easy for the user as the operating system does the hard work by solving the problem where the user just has to wait for the result.

Control to the computer hardware -The operating system is in the middle of the programs and the BIOS. Bios controls the hardware, but all programs that need hardware resources has to go through the operating system.

Operating system can access the hardware through BIOS.

Task 2 B M1

Report that compares the features and functions of two different operating systems by reviewing the features and functions and present a comparison

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of the two summarising their respective strengths and weaknesses in context.

I am going to compare windows and Linux operating systems.

## Introduction

Windows -It is an operating system software and GUI produced by Microsoft. Microsoft released their first windows operating system in 1985 as an add-on to MS-DOS in response to the growing popularity of the graphical user interfaces. Windows dominated the Personal computers around the world when it came out in the market which overtook MacOS which was launched in 1984. By October 2009 windows had roughly 91% of the market share of the client operating systems for the use on the internet. The latest release client version of windows is windows 7, the latest release server version is Server 2008R2 and the latest release of mobile operating system is windows phone 7.

Linux – Linux refers to the family of Unix-like PC Operating system using Linux kernel. Linux can be installed in number of different computers and video game consoles, to mainframes and supercomputers. Linux is the top server operating system, accounting for more than 50% of installations and runs on the fastest top 10 supercomputers in the world. Using Linux in desktops has increased in recent years. The name Linux comes from Linux kernel, created in 1991 by Linux Trovalds.

## Comparison of the two operating systems

Out of these two operating systems windows is the most famous OS, whereas Linux is the most famous OS that is free. The two OS compete against each other for user-base in the PC market as well as the server market, which are also used in schools, business offices, intranet and internet servers, homes, government offices, supercomputers, and embedded systems. Windows are top in the personal computer and desktop markets with approximately 90% of the desktop market share, and accounted for about 66% of all servers sold in the year 2007. In the server market share windows received 36. 3% and Linux received 12. 7%. By November 2007, Linux OS powered 85% of the worlds powerful supercomputers where compared to windows 1. 4%.

Linux and windows are different in the cost, versatility and stability with each looking to get better in their superficial weak areas. Normally, some major areas of superficial weakness usually cited have included the poor “ out-of-box” usability of the Linux desktop for the mass-market and vulnerability to malware windows. Both are areas of fast development in both sides. Linux is not a complete operating system when you compare it to Windows operating environment. Linux doesn't have built-in GUI interface. Users are free to use the former windows graphic user interface with Linux where each provides a different look and feel.

## Functions

Windows offers much easier user interface called graphic interface unlike Linux, where it only has one GUI for users to choose from. These facts in

some cases could make the using of the OS much easier as the user can choose what they are comfortable with. One of the advantages of Linux is that it comes from multiple choices of GUI's so that it can help provide an easy starting ground for either windows or Mac users. Both windows and Linux allow hardware to successfully communicate with the software in similar way. But however the Linux has some compatibility problems which can cause trouble when trying to install hardware drivers. Whereas the being one of the top OS in the world are finding that hardware drivers is a push over.

### Security

Windows are more infective to a virus then Linux as windows is the most attacked OS in the world. And most the viruses aren't even compatible with Linux hence making Linux inherently safer.

Performance – The performance reduces massively in windows simply because windows takes to much power unlike Linux which doesn't use much power to work, which means that there is much more power available to be used for the user of Linux which makes the performance faster.

Stability – Because of the work all around the world by the millions of users of Linux which have full and free access to the source code where they are trying to make Linux more stable unlike the few 100, 000 windows tech's with a licence to modify the windows source code. Also the fact that the Linux OS has more consistent fileling system and Linux also don't use much

processor power to run which automatically makes the Linux OS a more stable OS.

Cost – You have to pay for all the Windows operating systems unlike the Linux operating systems which are free and full access. You can also download the Linux software for free unlike the windows operating system where you have to pay.

Usability -Windows operating systems are one of the easiest operating system to use because of the lack of things you can do with it along with legal problems. Windows is also more spread operating system then Linux so it has the better hand when it comes to personal computing. Linux is also easy but the users aren't confident enough so are not willing to use the free Linux OS.

Conclusion- After researching about these two operating systems along with the points that i have made I believe that Linux is the better operating system then windows with better benefit, However as far as the hardware is concerned windows doesn't have the skill to work on the Power PC processors, unlike Linux. Linux would be one of the growing operating systems in the world which would be the main rivals of windows in the future.

Here is a Comparison table

Linux

Windows

Price

Most of the Linux operating systems are free and lower costing than windows.

Windows operating systems can be bought around the price of \$50 to \$150 per each licence copy.

### Ease

Linux has massively improved in their usability but windows are much easier for new computer users.

Microsoft have made lots of changes and have made it much more easier to use the operating system, but it still might not be the easiest software to use but is definitely easier than Linux.

### Reliability

Most of the Linux systems are

Especially reliable and can run for months and years without having to reboot it.

Windows has made some fabulous improvements to their Reliability in their last versions of windows but its still not better than Linux.

### Software

Linux does have number of software, utilities and games available but it can't compare to the large amount of software windows has.



Because there are more people using windows around the world there are more software, utilities and games available in windows.

### Software Cost

Many of the software, utilities and games are freeware or open source. Most of them are free and some of them cost really less then compared to windows.

Windows also has software, utilities and games for free but majority of the programs will cost around \$20 to \$200.

### Hardware

Linux and hardware manufactures have made great improvements for Linux and will support most hardware devices, whoever there are many different companies that still do not offer drivers for their hardware.

Windows has much more support from the hardware manufactures for windows hardware devices because of the large amount of windows users.

### Security

Linux always has been safe and secure but it can also be attacked but when you compare it to windows Linux is much safer.

Although windows has made vast improvements to their security but still continues to be venerable to the viruses.

### Support

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Linux has large amounts of help online or books around the world to help any user.

Same with windows also has large amount of help to their users with books, documentation guides help centre etc.

<http://www.techquark.com/2009/02/comparison-linux-vs-windows.html>

Name

Linux

Windows

Creator

Linus Torvalds, et al.

Microsoft

First public release

1992

1993

Predecessor

Unix[g 2], Minix [g 3

MS-DOS, OS/2, Windows 3. x

Latest stable version

Linux kernel 2. 6. 35. 2; GNU C Library 2. 11

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Windows 7 (NT 6. 1. 7600)

Latest release date

2010

2009

Cost/ Availability

Free

Home Basic (Retail) \$99. 95, Home Premium (Retail) \$119. 95, Business (Retail) \$299. 95, Ultimate (Retail) \$300. 95[1]

Preferred licence

GNU GPL, GNU LGPL and other licenses

Proprietary

Target system type

Comparison of Linux distributions

Workstation, Personal computer, Media center, Tablet PC, Embedded system

Computer architectures supported

x86, x86-64, PPC, SPARC, Alpha, others

x86, x86-64, IA-64

## File systems supported

ext2, ext3, ext4, ReiserFS, FAT, ISO 9660, UDF, NFS, and others

NTFS, FAT, ISO 9660, UDF; 3rd-party drivers support ext2, ext3, reiserfs[8], and HFS

## Kernel type

Monolithic with modules

Hybrid

## Source lines of code

~ 9 million (Kernel) lines of code for userland applications vary depending on the distribution

~45 million

## GUI default is on

No

Yes

## Package management

MSI, custom installers

## Update management

Windows Update

Native APIs

POSIX

Win32, NT API

Non-native APIs supported through subsystems

UNIX, Mono, Java, Win16, Win32

DOS API, Win16 (only in 32-bit versions), POSIX, .NET