

Literature review about types of operating system computer science



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The Windows 98 is the upgrade from Windows 95 and is Graphical operating system is designed for the workstations at home or business. When during the development Windows 98 was code named as “ Memphis” and at previous it also called “ Windows 97” based on the earlier production schedule. However, the Microsoft believes that user wants and should have their potential resources and for web technology it should be important part for user interface.

There are two version of window 98 which is first and second edition but through the version of standpoint, they both also considered as version 4. 1. Then for the first version it released on day 11 May 1998 and second edition version is released on day 5 May 1999. For this second edition it improve on fixes some minor issues, USB support which is allow multiple computer modem sharing on web TV, FireWire DV (Digital Video) camcorder support and other.

Windows 2000

Windows XP

Windows xp is a computer operating system and includes the graphical user interface (GUI), which is enable user to work it with variety of programs on our computer, often simultaneously. Nowadays window xp are frequently used by home-user, college and small company such as cyber cafe although windows released new version such as window vista and window 7. This is because windows xp is easy to use and learn by own which is the people unfamiliar with computer, however compared to the newer version which are much more complicated. The windows xp released on October 25, 2001 and <https://assignbuster.com/literature-review-about-types-of-operating-system-computer-science/>

it having two most common used versions which is home and professional. Basically the home edition is for home users for who currently is using the Windows 95, 98 or ME. However for the professional edition which is for workgroup or company using and the previous version of professional edition is Windows NT and 2000.

The minimum requirement of windows xp home and professional edition for the computer hardware are Pentium 233-megahertz processor, minimum 64 megabytes, and minimum 1.5 gigabytes space on hard disk, video adapter and monitor with super VGA (800 x 600) higher resolution.

Windows Vista

Windows Vista is the Microsoft next generation operating system this is because it is totally different from other previous version operating system such Windows 98 or XP. This is evident in all level of the user experience including the appearance and functionality of the GUI, the way workflows are handled, system is configured then the stability and security features. For the windows vista it is expected to be both more secure and stable than previous version of windows this have to thanks to it separation of critical software from the kernel. The Windows Vista formerly code named is “Longhorn” and it date released for Vista is at January 30, 2007 it official launch to consumers and world at stage.

There are having four version of windows vista which is vista home basic, vista home premium, vista business, vista enterprise and ultimate edition.

For the window vista home basic edition it is mainly for people using their computer at home want security without complexity. This home basic edition <https://assignbuster.com/literature-review-about-types-of-operating-system-computer-science/>

includes software functionality such as Internet Explorer, Window Media Player, basic networking and other. However, it does not support the aero shell.

For windows vista business edition is analogous to windows xp and include the features as windows xp which support for domain, multiple network protocols, offline files, remote desktop, roaming user profiles and group. This vista business support the aero shell, IIS, window fax and scan, tablet pc and the full mobility center. However, this edition does not include media center, movie maker and DVD maker.

Then windows vista enterprise edition is optimized corporate desktops. It includes everything of vista business edition, for the additional features such as virtual PC express, Multilanguage user interface and subsystem for UNIX-Based Applications. For this enterprise edition is only available to the enterprise agreement and software assurance with the volume-licensing customers.

For the windows vista ultimate edition it comes with all features of the home premium and enterprise editions. However it also enhanced game performance, access to online subscription, custom themes and enhanced support.

The minimum system requirements for PC to run on windows vista are 800 megahertz processor, 512 megabyte system memory, 20 gigabyte hard drive at least having 15 gigabyte available space, to support super VGA graphics and CD-ROM drive.

Windows 7

Windows 7 is the latest version created by Microsoft after the Windows Vista. However the GUI interface for the Windows 7 operating system is totally different from window vista. This Windows 7 was known the code names as Blackcomb and Vienna and released day is commercially on October 2009. Then Windows 7 is built on Vista Kernel. To end users which are the biggest changes between Vista and Windows 7 are faster boot times and include new user interfaces.

There is having five versions of windows 7 which is windows 7 starter, home basic, home premium, professional and ultimate. For windows 7 starter edition it is an entry level edition for small notebook PC and also other PC with the limited hardware. However, makes our PC simpler when using.

For the Windows 7 home basic is an entry-level edition that offers number of emerging markets to customers with valued price of PC. Then this Windows 7 home basic it make faster and easier to get the programs and documents that we often use. So that, user can spend less time looking and more time doing things that they want to do.

Then for the Windows 7 home premium which provides the entertainment, full functionality on the latest hardware and easy to connect for consumers. With the home premium user can create a home group to share all file, folder through other networked PC.

Windows 7 professional edition it including everything features and function from the entire previous version. For this version users are able to run many

Windows XP productivity programs natively in Windows 7 and also able to recover user data with automatic backups to user home or business network. In addition, company network can connect it easily and secure.

In Windows 7 Enterprise and Ultimate it is the most powerful editions and is designed to both enterprise for customers and consumers who want to using the every feature in Windows 7. And also it helps make users productive at anywhere, enhance security and streamline PC management. Then they also offer the remarkable ease use with entertainment features for home premium and business features for professional, include the flexibility work in different languages.

Then minimum system requirements PC to run on windows 7 is 1 gigahertz processor with 32 or 64 bit processor, 1 GB of main memory, 16 available hard disk spaces, support DirectX9 graphics with 128MB memory and DVD ROM.

Ubuntu

The Ubuntu is an open source operating system is built on the Linux kernel and it is free for end-user to download it. Ubuntu is uses on GNOME (GNU Network Object Model Environment) as it desktop environment, is intended have provide a free, simple and intuitive interface while for the offering is provide a full range of modern desktop applications. This GNOME is intended to make Linux easy to use especially for the non-programmers and it desktop interface is same as window. About this Ubuntu it includes the very best in translations and accessibility infrastructure that free software

community has to offers, to make Ubuntu usable for many people. And also Ubuntu always free of charge, no extra fee for the enterprise edition.

For the Ubuntu names it comes from the Zulu and Xhosa languages which mean “ I am what I am because of who we all are”. Ubuntu pronounced as oo-BOON-too is seen as the traditional African concept, is regarded on founding by the principles of new republic of South Africa and this idea is related to an African Renaissance. Then for the translation of the principle Ubuntu is about “ humanity towards others “.

” A person with ubuntu is open and available to others, affirming of others, does not feel threatened that others are able and good, for the he or she has proper self-assurance that comes from knowing that he or she belongs in a greater whole and is diminished when other are humiliated or diminished, when other are tortured or oppressed.”

Written by Archbishop Desmond Tutu

Debian

Debian is the oldest and in the meantime is one of the most widely used on operating systems in the world. The gain of popularity is due to the Debian is the free open source software under GNU license. For this Debian open source it also runs on Linux kernel with a completely free piece of software which is started by Linus Torvalds and supported by programmers in worldwide. Then the large part of the basic tools is filling out from the operating system that is come from the GNU Project. In Debian it is a Unix based and can be equally well used as a desktop or server operating system,

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which makes multipurpose solution for user machine, no matter whether the user is a server administrator or just a regular user.

For the Debian system it is a bit look like a pyramid. However at the base is a Linux. Then at the top of all are basic tools and mostly from GNU. Then the Debian developers act as architects and for the coordinators which is we should carefully organizing about system and fitting everything together to an integrated stable operating system which is known as Debian GNU/Linux.

The Debian Linux is creating by an all volunteer internet based development. They are around hundreds of volunteers working on it. Most of them are in charge of small particular of the software packages and those very familiar with the software they will package. These volunteer they work together is following a strict set of guidelines governing how packages are assembled. For this guideline it is developed from the cooperatively discussions on internet mailing lists.

The system requirement for PC to run this Debian Linux operating system is must at least giving 4MB memory and 35MB of available hard disk space. If users want to essential full installation, it needs 800MB. To install everything it needs around 2GB.

Fedora core

The Fedora core is the basic Linux operating system, it designed especially for developers and hobbyists. As the tested of red hat enterprise Linux, it allow enterprise user to view the latest features before they are released for the enterprise and Fedora Linux is also a complete distribution. It includes a

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wide variety of command, utilities and applications. In addition the Fedora is primarily geared toward desktop users, although it is a little adapting but also can be used to run server computers. For this Fedora is designed to let user easy to be use. If anyone using the windows or Mac OS will feel right at home.

Moreover, the Fedora focus largely on the desktop which is it provide the powerful office suite by default, example, as well as some excellent pieces of internet software. And also the Fedora works “ straight out of the box”. When user installed, it should be ready to use without any further work.

System requirement for the PC to run on Fedora core is Pentium-class-intel-compatible 32-bit, 200 MHZ, then for the RAM it required at least 256 MB for GUI mode and the hard disk it minimum require 1GB out of 100MB free space.

Gentoo Linux

This Gentoo Linux is started by Daniel Robbins with the name “ Enoch” in 199. After that it change the name to “ Gentoo” kater due to speed increase as a result of EGCS adoption. Then the first version of Gentoo Linux 1. 0 was released on day 31 March 2002. Beside that, the Gentoo Linux is referred as a Source Based Distribution” which means that build all the software will directly used from “ Source Code”. So through this source code developers are able to read and adjust, but computer cannot understand the source code, so that in order to make computer understand source code it need to compile into binaries then computer only able to understand it.

Other than that, Gentoo Linux is a special flavor of Linux that can automatically optimized and customized for any applications and the Gentoo Linux can become an ideal secure server, development workstations, professional desktop, gaming system, embedded solution or other, this is because it near unlimited adaptability, so we calling Gento Linux as a metadistribution.

Arch Linux

At the beginning the Arch Linux was started in 2001 by Judd Vient when he discovered he could not find any distribution that met his ideals. By the way Arch has taken the ideas from Debian and Gentoo, which has gradually evolved into the simple, powerful and stable distribution together with active user and developer population.

Arch Linux is an open source and an i686-optimized Linux of the distribution that was originally based on the ideas from CRUX, this distribution is developed by Per Liden. For the arch it is fast, lightweight flexible and simple. Compared the lightweight to RedHat it is more simple and design make it easy to be extend and mode into whatever kind of system that user build it.

Moreover, Arch Linux also strives to maintain latest stable version of those software. And it also strives to use some newer features that are available for Linux users such as ext3/reiserfs and devfs support.

Slackware

Slackware Linux is a GNU or Linux distribution, it is developed and maintain by Patrick Volkerding. This distribution is a coherent collection of the software which is provide from a usable GNU/Linux system. For volkerding it is start using the GNU or Linux this is because he need a LISP interpreter a project. At that time dominant of GNU or Linux distribution was Softlanding System Linux. For this Slackware Linux it started out as private collection of the Volkerding patches for Softlanding System Linux. For the first version of Slackware Linux 1.0 was release on day 16 July 1993.

It is having many other type of GNU or Linux distributions, so that the Slackware Linux adhere called KISS which refer as Keep it Simple Stupid principle. Then this mean Slackware Linux does not have any complex graphical tools to configure system. So that, the learning curve of Slackware Linux can be for the inexperienced GNU or Linux users, but it also provide some transparency and flexibility.

For another distinguishing of Slackware Linux, it is also complies with the KISS principle is the Slackware Linux package manager. However, Slackware Linux it does not have the complex package manager like RPM or dpkg. The packages is normal tgz files which is refer as tar or gzip, often it include an additional installation script and package description file. Then another feature for the Slackware Linux is initialization scripts. In contrast many other GNU or Linux distributions, that Slackware Linux does not have any directory for each run level with symbolic link to services that is started or killed in run level. If use the simple approach which user can be enable or disable services by twiddling the executable bit of an initialization script.

1. 2 Windows Features

1. 2. 1 Window Types

Overlapped Windows

For the overlapped windows which is a top level windows that include title bar, border and client area, it meant to server the application as main window. However, it is also having a window menu which allow user to minimize and maximize buttons and scroll bars. This overlapped window is using as the main windows include all of these components. By specifying `WS_OVERLAPPED` or `WS_OVERKAPPED` style in `CreateWindowEx` function, for this application it creates an overlapped window. If user see the `WS_OVERLAPPED` style, then window have the title bar and border. However, if user the `WS_OVERLAPPEDWINDOW` style, then the window has a title bar, minimize and maximize buttons and window menu.

Pop up windows

For the pop up window which is special type for overlapped window which is use for dialog boxes and other temporary windows which will appear at outside the application main window. For title bars is optional to pop up windows, otherwise pop up windows also same as overlapped windows on `WS_OVERLAPPED` style.

So that user if user create a pop up windows by specifying `WS_POPUP` style in `CreateWindowEx`. It includes the title bar, specify `WS_CAPTION` style. Then use the `WS_POPUPWINDOW` style to create a Pop up window that having

border and windows menu. For the `WS_CAPTION` style it must be combined with `WS_POPUPWINDOW` style to make window menu visible.

Layered Windows

The layered window can significantly improve the performance and visual effect for window which has complex shape, animates shape or wishes use alpha blending effects. System will automatically compose and repaint the layered windows and then the windows underlying applications. However, for layered windows it is rendered smoothly, without flickering typical to complex window regions. Moreover, the layered windows can be partially translucent which is alpha-blended.

For user who want to create layered window, by specifying `WS_EX_LAYERED` extended window style calling as the `CreateWindowEX` function or `SetWindowLong` function set `WS_EX_LAYERED` after window has been created. For the `SetWindowLong` function it defines as change an attribute of the specified window. Then the function can set 32-bit value at the specified offset into extra window memory.

If some user want faster and more efficient animation or the per-pixel alpha is needed, call `UpdateLayeredWindow`. Then for the `UpdateLayeredWindow` should be used as the primary when application directly supplies the shape and content of layered window, but it without using redirection mechanism the system to provide through `SetLayeredWindowAttributes`. In addition, using the `UpdateLayeredWindow` it directly uses memory more efficiently, this is because it does not need the additional memory for storing the image to the redirected window.

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The `UpdateLayeredWindow` it defines as updates the position, size, shape, content and translucency of the layered window. For the `SetLayeredWindowAttributes` is defines as sets the opacity and transparency color key of a layered window.

1. 2. 2 Windows Relationships

Foreground and background windows

Every single process it may be having multiple threads of execution and each of the thread also can create windows. So this thread create the window which the user is currently working known as foreground thread, while windows is called foreground window. However, other threads are background threads and windows are created by background threads known as background windows.

Thread has priority level to determine that amount of CPU time that threads to receive. Although this application can set priority level of its threads, but normally foreground thread has more slightly priority level than background thread. This is because it has the higher priority, then foreground thread receives more CPU time than background threads. For foreground thread which has the normal base of priority 9 and then for background thread it has normal base priority of 7.

In additional the process that can set foreground window which enable other process set the foreground window by calling as `AllowSetForegroundWindow` function or `BroadcastSystemMessage` function with the `BSF_ALLOWSF` flag.

Then for foreground process it can disable call to `SetForegroundWindow` by calling as `LockSetForegroundWindow` function.

Z-order

Z-order is a window which indicates as the window position in stack of overlapping windows. For this window stack it is oriented along the imaginary axis, z-axis which is extending the outward from the screen. Then for the window at top of the z-order it overlaps to other windows. Next, window at bottom of z-order is overlapped against other windows.

However, system maintains the z-order in single list. And it adds windows to z-order that is based on whether they are topmost, child or top level windows. For topmost windows it overlaps to other non topmost windows, regardless whether it is active or foreground window and topmost windows has their `WS_EX_TOPMOST` style. Most of the topmost windows will appear in z-order before got any non topmost windows. For the child windows it is a grouped include parent in z-order. When the applications create a window, then system should put it as top of the z-order for windows of same type. Then user can use `BringWindowToTop` function to bring window to top of same type z-order of window. Besides that, user can rearrange z-order by use the `SetWindowPos` and `DeferWindowPos` function.

For the `BringWindowToTop` function is defined as bring the specified window to top of the z-order. If it is the top level window, it is activated, while if it is a child window then the top level parent window associate to the child window to activate it. Then `SetWindowPos` Function it define as the changes of

position, size and z-order of a child, top level or pop up window. Then these <https://assignbuster.com/literature-review-about-types-of-operating-system-computer-science/>

windows are ordered according to the appearance on screen and the topmost windows are the higher rank and the first window in z-order. For `DeferWindowPos` Function it is updates the specified multiple window, position structure for specified window.

1. 2. 3 Window Show State

Window Visibility

The Window can be visible or hidden. But the system is displays as a visible window on screen. If it is hide a hidden window by not drawing it. If the window is visible, then user can supply the input to window and view the window is output. If the window is hidden, it effectively disabled. For the hidden window it can process message from system or other windows, but it cannot process the input from user or display output. The application sets as a windows visibility when creating the window.

However the window is visible when `WS_VISIBLE` style is set of window. By default the `CreateWindowEx` function is to create the hidden window unless an application specifies `WS_VISIBLE` style. Typically, this application set `WS_VISIBLE` style after it created a window to keep details of creation process hidden from user. Example, an application it may keep some new window hidden while it customize the windows appearance.

Moreover an application can be determine whether the window is visible or not by using `IsWindowVisible` function. Then the application also can show or hide the window by using `SetWindowPos`, `ShowWindow`, `DeferWindowPos`, `SetWindowLong` or `SetWindowPlacement` function. All of this function is to

show or hide the window setting or removing `WS_VISIBLE` style for window. Before showing or hiding it will send the message to `WM_SHOWWINDOW`.

Disable Window

For the disabled window which is receive no keyboard or mouse input from user, but it can receive the message from other application, windows and system. This application typically can disable a window this is to prevent user from using the window. For example, the application can be disable by push a button in to the dialog box which is prevent user from choosing it. This application can enable a disabled window at any or enabling the window restores as normal input.

At a time only one window can receive the keyboard input, and then the window is said have the keyboard focus. If an application uses the `EnableWindow` function to disable the keyboard focus windows, then the window loses to keyboard focus to be disabled. The `EnableWindow` then set keyboard focus to null, mean no more windows to be focus. If a child or other descendant window has keyboard focus, then descendant window will loses focus when parent window disabled.