

Google Chrome Operating System

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Abstract- Google chrome is a revolutionary invention in the field of operating system. Google chrome is an operating system which is based on Linux kernel. It built upon the open source project.

I. INTRODUCTION

Google chrome is an open source operating system designed by GOOGLE. It works with web application and installed application. The operating system is based on Linux and will work only on specifically designed hardware. Almost a web thin client operating system which is written in C and C++.

II. WHY GOOGLE CHROME OPERATING SYSTEM IS BEING USED

- All work is done in a browser.
- Can surf the web any time and from anywhere.
- Devices will always up to date.
- Devices will safely share.
- Not need much RAM.

III. GOOGLE CHROME VS WINDOWS

Basis	Windows	Google chrome OS
Interface	configurable and effective on touch screen devices	more intuitive and consistent
Cloud and Connectivity	Microsoft's approach to the cloud is more flexible and works better on the move	Google's cloud-first approach has its strengths

Management and Security	more advanced management tools and administration features	Smaller business Chrome OS devices need precious little time or work, highly secured.
Performance	snappy, and there's a bigger range of hardware available	starts up faster
Price	Expensive	Less expensive

IV. APPLICATION

- **Remote application access and virtual desktop access**
In that we can access any other computer which is not physically present. Example if we use our PC to access any other PC document form our PC the PC is not physically present at the user site then also the user can see the document of others.
- **Integrated media player and file manager**
We can view jpegs and enable us to playback mp3 and while offline we can handle multimedia file also. It also integrate additional storage source into the file manager relying on installed extensions that use the file system provider API.
- **Support for Android application**
It is basically use a native client based environment that provides the platform necessary to run android software.
These applications does not required modification to run on chrome OS.[1]

V. HARDWARE USE IN CHROME OPERATING SYSTEM

There are three hardware uses in Google Chrome Operating System

- Chrome Book
- Chrome Box
- Chrome Bit



Chrome Book [2]



Chrome Box [3]

Chrome Book

The Chrome Book is look and feel like the normal Laptops but it is much lighter than laptop. The chrome book is faster and easier. In chrome book all software are installed are chrome software. It has multiple layers of security, cloud storage and the most popular Google product built in. The first Chrome Book is CR-48 it is a reference hardware design that Google gave to tester and reviewer.

The Chrome Book is to be used with an Internet connection. Most of chrome book's documents and apps exist in the cloud. Google automatically provides 100GB of cloud storage for every chrome book.

It works in offline also these are the example:

- Check calendar for appointment.
- Write emails with Gmail offline.
- Create and edit document with Google Drive.
- Listen to music.
- Note taking with Google keep.
- Save WebPages for offline reading.

Chrome Box

Chrome Box is hardware device which is look like a normal external hard disk drive. Supports single application, a browser. It is a desktop, this desktop introduces the ability of attaching our own devices like mouse, keyboard, monitor it minus the bulkiness we get in the traditional desktop tower. If you are into more web based computing, or you are an educator looking to simplify the computers at your school then you have the right idea in pursuing a chrome box.

Design & Feature

- i) Looks like a mini desktop and has square chassis with its own power supply.
- ii) Basic setup with 16GB which help system start up in 18 seconds.
- iii) We have multiple tabs without slowing your system.

User Interface

How actually the chrome was look like

- It is based on graphical user interface.
- Originally it has full screen window interface.
- It can be overlapped and resizable window.
- Browser tab can be dragged to new position or merged with another tab strips.
- Mouse enabled shortcut list across the bottom of the screen.

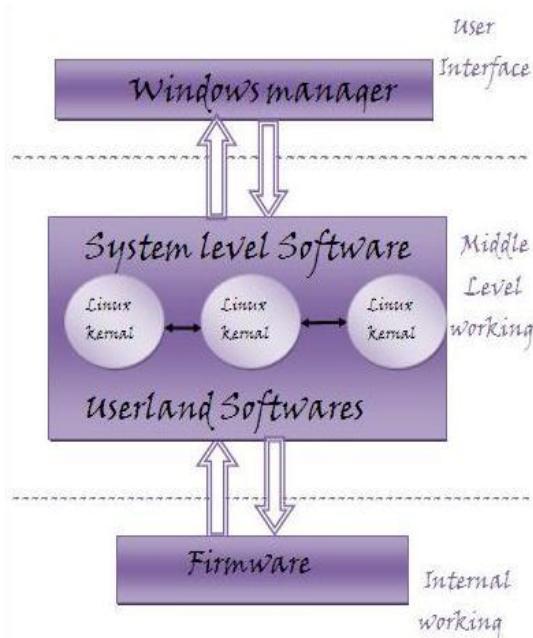


User interface of Google Chrome Operating System[4]

VI. ARCHITECTURE

The Google Chrome OS is based on three tier architecture.

- i. Firmware
- ii. Browser and windows manager
- iii. System level software and user land services.



The **Firmware** helps in quick boot process and also incorporate to the recovery of System whenever requires .It also provide security by checking all steps in boot process.

Functionality of Firmware.

1. System Recovery.
2. System Boot.
3. Fast Boot.

The **System level/User-land Software**: Chrome OS's system level software includes a Linux kernel that is used to increase the speed and performance of the system.

User-land Software has been trimmed to essential, with management by upstart, which can launch services in the interest of faster booting.

The **Window Manager**: The window manager is responsible for handling the user's interaction with multiple client window. Window manager cum browser helps in user interaction by log on and uses the internet services and various Google app.

VII. SECURITY

- Run in secure sandbox mode. In that the interface is provided in isolation mode.
- Prevent malware and viruses from accessing data.
- Small list of verified programs, each and every user signed and verified before accessing.

VIII. CONCLUSION

- Operating system like chrome OS is going to be the future of computing.
- Available for enterprise computing solution in succeeding releases.
- Update version of OS for powerful laptop and desktop.

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