

OPEN SOURCE TECHNOLOGY

Ms. R.HEMALATHA¹, Ms. PRIYA HARI

¹ Associate Professor, ² Assistant Professor

Department of Computer Science, Sindhi College, Hebbal, Kempapura, Bangalore.

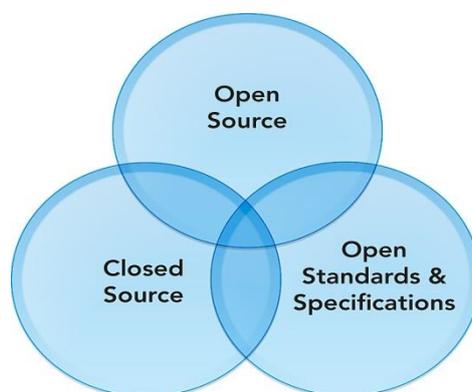
ABSTRACT

The terminology Open Source is commonly used to describe several software development methodologies. Open source software (OSS) is defined as software with its source code available that may be used, copied, and distributed with or without any changes and that may be offered either with fee or without fee. Free and open source software is one of the effective tools that can make the world self-dependent. It facilitates the design and use of your own software. This can also lead to economic liberty as the FOSS is available at a very low cost. The software's are also more secure as the users can report the threats or bugs to the developers and developers can update the software to make it more reliable for the future users. In this paper we present an overview of OSS

Keywords: FOSS, GIS,

I INTRODUCTION

Open source technology is a growing trend in GIS. Open source software is a software in which the source code is used to create the program and is freely available for the public to view, edit, and redistribute. That means it usually includes a license for programmers to change the software in any way they choose: They can fix bugs, improve functions, or adapt the software to suit to their needs.



II How Open Source Works

Even though software is not the only product run by an open source license, it is the most familiar, lending itself and well to handling of its code and adjuncts. Open source offers a transparent platform upon which anyone with the skills to do so can add to the development and production of the software

either for release as a new living form of the software for others to use or for strictly in-house developments only. As outlined in most open source license agreements, ownership of the software can never be transferred to anyone who ever modifies the software. It usually makes it difficult for a developer to take open source software, change it, and then trade it. One problem that has come up repeatedly in open source is with the copyrights assigned to the original software and any changes made to it. Even though most open source software is available to download freely, license remains with the original creator of the software and does not transfer to anyone regardless of any changes, improvements, or add-ons made to the open source software. Although free to download, the software is not free in the sense that the end user can do whatever he/she wants to it including selling it. Open source technology has laid an open source culture among several programmers and developers who hold the open source philosophy. Many open source initiatives arise to spite the large corporations who dominate the markets with costly, difficult and over-commercialized software. In fact, many Linux developers are committed to producing software that competitor or even surpasses the flexibility and compatibility of such software giants such as Microsoft, IBM and Apple.

III Open-Source Software Principles

Open Source Initiative (OSI), a global nonprofit founded in 1998, acts as a leading authority on OSS. Its definition of open-source software includes 10 principles, relating to matters such as:

- Source code availability and integrity
- Software redistribution
- Derived works
- Anti-discrimination
- Distribution and properties of licenses

Licenses

Different licenses allow programmers to modify the software with various conditions attached. Five of the most popular licenses are:

- 1) MIT License
- 2) Apache License 2.0
- 3) BSD License 2.0 (3-clause, New or Revised)
- 4) GNU General Public License (GPL) 2.0
- 5) GNU General Public License (GPL) 3.0

When the source code is changed, OSS needs the inclusion of what you transformed as well as your procedures. The software generated after code changes may or may not be made available for free.

Open-Source Software vs. Commercial Software

Commercially available software doesn't give access to its source code because the software is someone else's scholarly property. As a outcome, users often pay for it. OSS, on the other hand, is a collective effort; The software is shared scholarly property among all who have helped grow or modify it.

Open-Source Software vs. Free Software

Though the terms are frequently used interchangeably, OSS is little different from free software. Together deal with the ability to download and change software without any constraint or trust. However, free software is a concept developed in the 1980s by an MIT computer science researcher, Richard Stallman — defined by four conditions, as outlined by the nonprofit Free Software Foundation. These "four freedoms" emphasize the ability of users to use and enjoy software as they understand it. In contrast, the OSS principles, which the Open Source Initiative developed a time later, place more importance on the alteration of software, and the significances of changing source code, licensing, and distribution.

Evidently, the two overlay; some might say the alterations between OSS and free software are more consistent than practical. But, neither should be confused with freeware. Freeware usually refers to registered software that users can download at no cost, but whose source code cannot be altered.

Open-Source Software and Developers

OSS projects are collaboration opportunities that progress abilities and build links in the field. Areas that creators can work on comprise:

- **Communication tools:** Email, real-time messaging, opportunities, and wikis help developers to find solutions or bound ideas off each other.
- **Distributed revision control systems:** When several developers in different geographical locations modify data and files, these systems accomplish the different versions and updates.
- **Bug trackers and task lists:** These structures allow large-scale projects to observe issues and keep track of their solutions.
- **Testing and debugging tools:** These kinds automate testing during system integration and debug other programs.

IV POPULAR TYPES OF OPEN-SOURCE SOFTWARE

Open-source technologies facilitated to establish much of the internet. Besides, many of the programs in use every day are based on open-source technologies.

Android OS and Apple's OS X are based on the kernel and Unix/BSD open-source technologies, respectively.

Some popular open source software for business includes:

➤ **Open source browsers and communication applications**

- ✓ Juice - podcasting
- ✓ Mozilla Firefox - web browser
- ✓ Mozilla Thunderbird - email client
- ✓ Pidgin - instant messaging
- ✓ Zimbra - email and collaboration server
- ✓ FileZilla - FTP client
- ✓ MediaWiki - information sharing platform

➤ **Open source IT security**

- ✓ Smoothwall - firewall and security tools
- ✓ Wireshark (aka Ethereal) - security application
- ✓ KeePass - password management
- ✓ Clam AV - antivirus software

➤ **Images/multi-media**

- ✓ GIMP - image processing/graphics editing
- ✓ VLC - multimedia file playback
- ✓ Ogg - open video and audio codecs
- ✓ Blender - animation and video editor

➤ **Open source development tools**

- ✓ Ruby on Rails - rapid web application development
- ✓ Eclipse - integrated development environment

V Advantages of Open-Source Software

OSS has numerous advantages:

- Its feature can be easily and significantly improved when its source code is passed around, tested, and fixed.
- It offers a valued learning opportunity for programmers. They can apply skills to the most popular programs available today.
- It can be more secure than registered software because bugs are easily identified and fixed fast.
- As it is in the public domain, and frequently subject to updates, there is a slight chance that it can become unavailable or quickly outdated—an essential plus for long-term projects.

VI CONCLUSION

Though open source software is often free to download and use, open source licenses rarely relocate any proprietorship of the software to the end user or originator. Open source is not restricted to software. Open source viewpoints have been applied to all from medicine to soft drink formulas. The outcome is greater commitment and even cult status among the developers and users of open source technologies.

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