



Open Source Software Engineering

SE ZG587

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22th July, 2023



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Introduction to Open Source Software

Session 1 : Agenda



- About Course and Evaluation criteria
- Proprietary software and examples
- Open Source : what and why
- Open Source Initiatives
- Open Source software and examples
- Advantages and Disadvantages of Open source software

Proprietary Software



- Proprietary software, also known as **Protected** or **Restricted** software,
- Usually owned by an organization or a group of people;
- In order to use a proprietary software, end users must **accept** a License
- Proprietary software, also known as **Non Free software** or **Closed software** , is computer software for which the software's publisher or owner retains Intellectual property rights – usually copyrights of the software, and also sometimes patent rights.
- Non-free or Closed software :
 - It's not about cost of software; it's about source code unavailability

Propriety Software....

- Such Licenses restrict the right of the user, in any of the following manner :
 - Restricted right of redistribution
 - Restricted on reconstructions source code
 - Restricted ways in which the Product can be used or embedded within another Product
- Until recently, proprietary software was the only real model that was used by commercial software
- In proprietary software, the sources code is only available with the owner organization
- Some trusted partner may be given rights to use the same - under the judication of the non-disclosure agreement (NDA)

Open Source



- What is open source ?
 - Open
 - ➔ Collaboration is open
 - Source
 - ➔ Source is freely available
 - What is mean by freely ?
 - Share, Adapt, Modify and Collaborate



Open source is about philosophy and consumer's right, it's about free collaborations by community

Why open source



- Access to the best software
- Greater Privacy and Control
- Extended Hardware Life
- Doing things your way
- Comprehensive Support
- Greater security
- Quick Bug and Security Fixes
- Instant Gratifications
- No cost

Open Source Initiatives (OSI)



- Open-source initiatives (OSI) is a public benefits corporation
- For Education, Advocacy, and stewardship for collaboratives Development
- Founded in 1998 – actively engaged in building open-source community.
- Opens Source Definitions
- Open Standard Requirements
- Open Source Licenses



Open Source Initiative
(<https://opensource.org/>)

Open Source Software (OSS)



- Open Source software (OSS) is a type of software in which **Source code** is released
- Released under a **License** in which the **copyright** holder grants users the rights to **use**, **study**, **change**, and **distribute** the software and its source code to anyone and for any purpose.
- Publicly available for anyone to **use**, **edit**, **inspect**, **modify** and **distribute**.
- Open Source software is usually developed in a collaborative Public manner

Examples of Open source software



Categories of software	Open Source software
Programming Languages	PHP, Java, Python
Presentation Software	Libre Office's Impress, Apache Office's Impress
Communications Software	Free Switch, openPBX, Thunderbird
Content Management System	PHP-Nuke, WordPress, Joomla
Operating system	Linux, Ubuntu, Fedora, FreeBSD
Databases	MySQL, PostgreSQL
Web Design software	Adobe Dreamweaver, Brackets,
Web Browsers	Firefox, Mozilla, Arena, Chromium
Application Servers	JBoss, Tomcat, Glassfish, WebSphere
Source cord Management/ Version control	Git, GitHub, Subversion

Advantage of OSS



Low Cost : OSS usually does not require a licensing fee, hence free of cost

Flexible : Can be modified by anyone and tailored to suit specific business needs

Quality and Reliability : One needs to identify and select an OSS that suits business needs and is of good quality . Usually, a mature OSS is generally viewed to be of good quality and considered to be more reliable

Vendor Independence : in case of use of proprietary software , there is usually a contract with a specific vendor (involving high cost, restricted usage). This is overcome in OSS

Advantage of OSS...



Availability of external Technical Support Services by vendors : For example

- Red Hat (now owned by IBM) provides support for many OSS
 - MySQL supports provided by the patent company MYSQL AB – now owned by Oracle
- **Several open source products have active Online community supports**

Disadvantage of OSS

Lack of Personalised support services :

- Unlike proprietary software, OSS product or packages do not come with personalised support facility over phone or email.
 - However for Some mature OSS, there might be some commercial service provides that may provide support services
- **Limited Choices of OSS products**
- **Continuous changes** : continuous changes are made to open source software – difficult to get a compatible , and bug free version at a particular time
- **No warranty** : No warranty support is provided along with OSS since it is not owned by a single company

References and further readings

Open Source Initiative (<https://opensource.org/>)

Open Source Resources (<https://opensource.com/>)

Open Source Guides (<https://opensource.guide/>)

Working with GitHub for Open Source Software Development (<https://github.com/>)