

CASE STUDY PACKAGE

OPEN SOURCE SOFTWARE AS A SOCIAL PRODUCT AND A SOCIAL FORCE

GROUP 27

1. LEARNING OBJECTIVES

1. Be able to define Open Source Software.
2. Learn about motives driving open source software development.
3. Explore how framing open source software in different ways demonstrates different stakeholder perspectives.
4. Investigate the various degrees of freedom of open source software based on the license types.

2. CASE INFORMATION

The interactions between society and technology are manifested by the dynamics of open source software development. Open Source Software can be described as a type of software licensing in which the source code is open to the public and can be independently modified and redistributed. This topic was selected because several different types of software licenses exist and each embodies different social values and desires. Furthermore, the discussion of open source software presents an opportunity to explore and dispel common misconceptions about the technology.

In the open source community there are several key stakeholders, including developers, users, peripheral support businesses, and regulators. The role of developers in the community is to build, maintain, and modify the software. Users form the bulk of the community, and enjoy a closer relationship with developers than would be expected in proprietary circles. They are responsible for using and testing the software. Peripheral businesses operate on the principle that paid services can be offered to complement the software. Their primary customers are large businesses who require support beyond that offered by the community. Regulators are tasked with authorship and enforcement of intellectual property laws.

Despite the common base philosophy of open source software, not all open sourced products share the same degrees of freedom. Due to the variety of different software licenses available to developers and companies producing software, software liberties vary greatly in the permissions and responsibilities given to the original developers, users, and developers who wish to fork or contribute to the software. One major concept that distinguishes two different classes of open source licenses is “copyleft” (Stallman, 2012). In a copyleft license the source code is released to the public with the caveat that any redistributions of the software must abide by certain restrictions set forth in the license. For example, the General Public License (GPL) is a copyleft license. This license requires that any derivatives of the software must also be released under the GPL (Open Source Initiative, 2007). In contrast, a non-copyleft license such as the MIT license allows anyone to take the source code of the software, modify it and distribute it under a variety of other licenses including closed-source licenses (Open Source Initiative, 2009).

Open source software has a high degree of relevance to engineers. Career opportunities exist for engineers in software-related fields working with, developing, or engaging with open source software. With this in mind, it is clear that engineers will represent various groups with a stake in open source software, often times with conflicting interests. The introduction of open source software gives a

different perspective of engineering design, deviating from the present social mindset in which all designs are privately owned, used, or distributed. Open source software is an ideal means to explore the connectivity between society and technology.

3. ADDITIONAL READING

Open Sourcing May Be Worth the Risk (Harvard Business Review):

http://blogs.hbr.org/cs/2012/10/open_sourcing_may_be_worth.html

(Optional) If You're Going To Kill It, Open Source It! (MAKE Magazine):

<http://blog.makezine.com/2011/04/28/if-youre-going-to-kill-it-open-source-it/>

4. DISCUSSION QUESTIONS TO CONSIDER

1. Do you think that software should be released as open source? To what degree? Why or why not?
2. What are the benefits of publishing software as open source versus releasing it as proprietary software?
3. What are the major factors influencing the decision to open source? How can society influence this choice?
4. What are the challenges with protecting intellectual property rights when dealing with open source software?
5. What is the role of open source software in the engineering profession? What about in engineering education?

5. ADDITIONAL INFORMATION

5.1 DEFINITIONS

Fork: a fork refers to when one copies significant amounts of source code from a software package and creates a new, distinct piece of software based off of it. Free or open source software is able to be forked with no prior permissions, but may require specific copyright conditions (Icinga, 2012).

Open Source Software: Open Source Software can be described as a type of software licensing in which the source code is open to the public and can be independently modified and redistributed (Open Source Initiative, 2012).

5.2 SOURCES

Icinga. (2012). Frequently Asked Questions. In *Icinga: Open Source Monitoring*. Retrieved from <https://www.icinga.org/faq/>

Open Source Initiative. (2012). The Open Source Definition. In *The Open Source Initiative*. Retrieved from <http://opensource.org/docs/definition.php>

Open Source Initiative. (2009). The MIT License (MIT):Licensing. In *The Open Source Initiative*. Retrieved from <http://opensource.org/licenses/MIT>

Open Source Initiative. (2007). GNU General Public License. In *The Open Source Initiative*. Retrieved from <http://opensource.org/licenses/GPL-3.0>

Stallman, Richard. (2012). GNU Operating System. What is Copyleft?. Retrieved from <http://www.gnu.org/copyleft/copyleft.html>