Chapter 5.20
Social Aspects of Open Source Software:
Motivation, Organization, and Economics

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ABSTRACT

Open source software/free software (OSS/FS), also abbreviated as FLOSS/FOSS (free/libre and open source software), has risen to great prominence. Existing literature from diverse disciplines or through interdisciplinary studies have tried to explain the growth and success of the phenomenon. This chapter describes and discusses OSS/FS under the scope of three major aspects: motivations that lead to OSS/FS, the organization of OSS/FS communities and the economic theory as a means of explaining the manifold phenomenon. Furthermore, the chapter analyzes the social implications that lie underneath the OSS/FS diffusion, together with the social processes that take place in OSS/FS communities in an effort to enhance our understanding of the diverse mechanisms that disseminate OSS/FS rapidly.

INTRODUCTION

"Free software" is a matter of liberty, not price. Free software is a matter of the user's freedom to run, copy, distribute, study, change and improve the software. In order to be able to make changes and to publish improved versions, one must have access to the source code of the program. Therefore, accessibility to source code is a necessary condition for free software. The freedom to improve a program and release it to the public, so

that the whole community benefits, complies with the philosophy that introduced free software: the prosperity and freedom of the public in general.

The idea of open software is not new for institutes and universities, yet its rapid growth and significance to mainstream information technology (IT) business was not accomplished before the Internet became widespread and the emergence of electronic commerce (e-commerce). The spread of the Internet made possible the collaboration of communities and the ability to handle massive decentralized projects, while a significant portion of e-commerce runs on OSS/FS.

OSS developers from around the world collaborate, self-organize and rarely meet face-to-face. Questions about their motivations, about the organization of their communities, and the ethics and social implications of the phenomenon inevitably arise. This chapter, by presenting and analyzing recent developments and discussions of the existing literature, aims to contribute to the understanding of the economic and social aspects related to the open source phenomenon.

BACKGROUND

In 1985, Richard Stallman (1992) created the Free Software Foundation (FSF) (2006) and designed the GNU General Public License (GPL) (GNU General Public License, 1991), OSS/FS's first formal licensing contract.

The FSF's definition of free software stresses the abandonment of property rights, which it terms "copylefting." Copyleft uses copyright law, but flips it over to serve the opposite of its usual purpose; instead of a means of privatizing software, it becomes a contractual means of keeping software open.

The Open Source Initiative (OSI)[1] was founded by Eric Raymond. While the FSF and the OSI work to help each other, they are not the same thing. The FSF uses a specific license and provides software under that license. The OSI seeks support for all open-source licenses, including ones from the FSF. The infrastructure and philosophy of the two movements has sometimes led them to divergence, yet the two groups are working toward the same goal, which remains a conciliating factor. The terms OSS/FS and FOSS as used in this document will refer to both movements.

ORGANIZATION OF OSS COMMUNITIES

The OSS/FS organizational structure follows a bottom-up approach that relies on generally accepted protocols of communication and a shared notion of validity. The strength of these elements is enhanced by the peculiar characteristics of the software good and the structure of the OSS/FS license.

Licenses are the basic element in the structure of FOSS projects and there are almost as many open licenses as OSS/FS projects. Most of these projects are released under GPL copyleft license, whose design allows attuning the incentive of the FOSS developers, serving the goals of the FOSS community better than other legal frameworks. The GNU GPL was the first and is still the most popular open license enacted, but there are also other widely used licenses that are known to be compatible with the GNU GPL, such as the GNU library or Lesser General Public License (LGPL), original MIT/X (The MIT License, 2006) and BSD (The BSD License, 2006).

Copylefting is a means of copyrighting a program, but at the same time a programmer actually signs the GPL. With this arrangement, the program is simultaneously freely usable, but protected from becoming someone's private intellectual property. It is also a way of linking the programmer and his contribution together permanently, while the contribution is publicly observable. This creates an environment where programmers have an incentive to signal their abilities via the copyleft community.