

Innovative Issues and Approaches in Social Sciences



Volume 4 Number 1 January 2011

SIDIP

ISSN 1855-0541

Innovative Issues and Approaches in Social Sciences (IIASS)

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Založba Vega
Vega Press

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Publishing information:

IIASS is exclusively electronic peer reviewed journal that is published three times a year (initially in January, May and September) by Vega Press and it is available free of charge at <http://vega.fuds.si/>

Scope:

IIASS is electronic peer reviewed international journal covering all social sciences (Political science, sociology, economy, public administration, law, management, communication science, etc.). Journal is open to theoretical and empirical articles of established scientist and researchers as well as of perspective young students. All articles have to pass double blind peer review.

IIASS welcomes innovative ideas in researching established topics or articles that are trying to open new issues that are still searching for its scientific recognition.

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A look at the state of open source use in Slovenia (Freeing Slovenian organizations)

Matej Mertik¹

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Abstract

What does the world "freedom" mean to you? How can you achieve "freedom" for your organization in IT? Why is "freedom" so important? Where did it all began? How "free" is Slovenia in terms of IT "freedom"? These are the sort of questions we will try to tackle as we had already implemented some of the steps in introducing free libre open source software (FLOSS). However, have we done enough to stimulate the opportunities that the FLOSS technology has to offer?

Keywords: open source, free software, proprietary software, public administration, adoption

Introduction

There was a time when all software was open source. Clearly, nobody used the terms "free software" or "open source" - it would have been like saying "free air" or "open newspapers". The idea of making software a secret came along later.

This was the environment the Internet was born into. The Internet is nothing more than a collection of freely-available standards, and examples of software which implement those standards. Those standards embody some remarkable engineering: the net has scaled from a few nodes at the US universities to billions of connected computers. Along the way it has enabled entirely new ways of doing business, and swept away the mess of networking protocols that we had to contend with in the 1980s.

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Almost all the software that the Internet is built from is free or open source. Examples are the Apache web server that powers over half the websites in the world, the Bind name server, which resolves domain names into IP addresses, and the Linux operating system which drives most of the servers on the planet.

Slovenia has some predispositions that show that there are good opportunities to use all the possibilities and advantages of open source movement and philosophy. Firstly, we are a small country. As a small country we cannot afford to be laggard adopter. We need to stop buying software we have no need for. We need to educate broad technical skills rather than the narrow expertise in branded products, so that we will be able to pick up and adapt the most appropriate technology at the time. Secondly, the economy of Slovenia is dominated by the small to medium sized companies. Open source software eliminates a significant proportion of license costs and this can have important push up to improve the competitiveness of the small to medium sized companies. Thirdly, there is an increasing acceptance of open source in the public sector through establishment of open source policies in the European Union. And last but not the least. Open source software development is about collaboration and knowledge sharing. Both are extremely important for the future of Slovenia's development and both can be significant improved, so we should all strive to make them a part of Slovenia's social and cultural perspective.

A brief history of FLOSS

The global software industry has evolved in four distinct eras: invention of computer (1945 - 60), the beginning of software industry and emergence of independent software vendors (1961 - 75), the popularization of personal computer with new market and (1995 - present) Internet with web-based applications. During the first era the IT panorama was dominated by large computers, mainly installed in companies and governmental institutions.

IBM was the leading manufacturer, way ahead of its competition. The software was never considered as a standalone commercial good or service but it was mainly carried out by the manufacturers and was customized for each specific machine. In the second era software

industry became more mature and it started to supply software directly to the users. With the rise of personal computer in the third era, the packaged software product became popularized.

Access to computers was no longer limited to large companies and governments and this created a growing demand for variety of commercial software applications. The fourth era began with the boom of Internet and the software companies start develop web-based applications without worrying about deployment or installation. During the first and the beginning of second era only a few people in corporate research laboratories or academia were developing software. The software was neither patented or considered patentable as its development was mostly subsidized by computer manufacturers like IBM. It was common practice to exchange and share source code and researchers and developers were able to work collaboratively to improve software without worrying about violation of intellectual property rights. The formal intellectual property rights such as copyright and patent came along later. With it license holders could now only to install and use the software and they were unable to make any alteration to it or redistribute to others. This in a way constrained the scope for follow-on innovation and was viewed by some as limiting the rights of software users.

The Free Software Foundation (FSF) was established in the 1980 by a programmer at Massachusetts Institute of Technology (MIT) named Richard Stallman. Activist and supporters of the original software development culture started to participate in project belonging to FSF. In the same time The General Public Licence (GPL) was created to promote a culture of sharing where the key message was that the software users should always be able to learn, create, modify and circulate software without having to pay anything. In 1991, Linus Torvalds, a computer science student from Helsinki, sent an on-line invitation to anyone who might be interested to work with him on developing his Linux kernel project into a real operating system. All the source code was made public under the GPL. The project become an enormous success. Not only that kernel had been developed, but numerous utilities and innovations had been created on top of Linux to enrich the usefulness and competitiveness against commercial software. The adoption of a version of Linux by Google as the operating system of

their gigantic search engine provided a solid statement about the quality of software. By the 1990 the term open source was adopted by a group of supporters who strongly believed in collaborative software development but did not completely reject the role of proprietary software on the market.

FLOSS versus Proprietary software

The situation of open free / open source programs in relation to proprietary ones is not very different: they are both distributed under a licence. The difference lies in what the licence allows.

There are two well known types of open source licences: copyleft or strong types of licences and permissive licences. The GPL (General Public Licence), known as copyleft, requires all derived work or enhancement of the software to be freely modifiable, distributable and usable under the same licence as the original. Developers have a legal obligation to release the source code if they make changes to some GPL licensed software and intend to commercialise the modified version as a product. This prohibits integration of GPL licensed software into proprietary software.

Permissive licence on the other hand, such as Berkley Software Distribution (BSD), impose less strict conditions on what can be done with software. Integration with proprietary software or modifying it without releasing is therefore possible. We can say that restrictive licenses tend to protect the freedom of the developers, whereas the permissive licences focus on the freedom of the users.

The various existence of open source licences make open source software more friendly and approachable to the business world. It is possible for software firms to adapt, collaborate or even commercialise open source software as a viable form of business. Usually first-time adopters of an open source project may just download an application and start using it. But as their IT departments become more and more familiar with the software and the companies more depended on it for their operations, the contributions back to the project itself become quite a common practice.

FLOSS value

Although the majority of open source developers are volunteers who are not sponsored or subsidised by manufacturers or corporate labs, many open source software projects do have a huge commercial value. The Apache web server, for example, is being used to host more than 50 percent of all web sites in the world [5]. The Sun's MySQL is one of the most popular systems for database management with more than eleven million installations [10]. There are more and more examples of organizations on internet, such as Google and Amazon, that have used FLOSS licensed technology to build billion-dollar organisations. This has allowed them to maintain remarkable pace of development, agility and robustness - all at low cost that would have been unthinkable had they had to pay licence fees for every server or software component used to build their systems. Indeed, for every rapidly expanding companies, the use of FLOSS would seem to be the only choice. This examples and many more has not only given rise to totally different development methods, but also to practically opposite ways (in many aspects) of understanding IT that breaks many conventional assumptions about nature of software business.

There are not many companies turning over huge profits from providing FLOSS services and software. The reason being the fact that the value of FLOSS does not lie in its sale but rather in the value derived from its use. In other words, the economic benefits of FLOSS are spread across all users who would otherwise be obligated to purchase commercial software.

So how does Slovenia, a small country with limited resources, makes use of the opportunities that FLOSS can bring? Given all the above, it would seem inevitable that responsible CIO in companies, business owners, politicians and above all, we the educationalists, would be rushing to increase the use of FLOSS. But are we?

FLOSS in Slovenia

First visible contribution in introducing FLOSS in Slovenia was the project OKO, which was supported by the Ministry of Education, Science and Sport, the former Ministry of Information Society and the LUGOS (the Linux User Group of Slovenia) in 2003 [2,6]. The main goal of the OKO project was to introduce the use of open source software to educational organizations. One of the major challenges in the use of FLOSS software was the lack of knowledge within the educational institutions. Thus, the fundamental task of OKO project was to train teachers so they could make use of the open source didactic-based applications [2].

The result of the group was the Slovenian distribution of Linux based on Fedora Core 2.0 which had graphical desktop, Web browser, e-mail and Office Suite.

All the software was available in the Slovenian language including extensive literature available in electronic and printed form.

Although the OKO project was important for the FLOSS introduction, it did not mount the main challenge. It turned out that FLOSS installed as an alternative with well known commercial software was not widely used. However, in 2007 the Ministry of Higher Education, Science and Technology, announced a tender, for the first time, for a selection of a contractor that will establish and develop Slovenian Open Source Centre (COKS). Selected was a group of commercial companies and non-profit organizations under the leadership of the company Agenda d.o.o. The Centre provides assistance, support services and solutions for public and private sectors. All services carried out by COKS are implemented under the selected group of organizations.

The Centre acts as a national coordinator of the strategies open source and encourages cooperation between the various non-profit organizations, businesses and individuals [7]. It is also a part of the FLOSS centres network around the world [8].

In 2009, the Free Software Foundation Europe Fellowship Slovenia was established [9]. The FSFE Slovenia promotes the use of open-source and open standards, and organizes important events and conferences on the advantages and the use of open source in public sector. It also

cooperates with the FSF Europe and contributes to the awareness of the importance of introducing the acts and policies that direct the use of open source and open standards in Slovenia and Europe.

Freeing Slovenian organizations

Despite the obvious capability of FLOSS software to deliver "enterprise" solutions and other benefits mentioned, the level of interest in FLOSS by those in charge of IT implementation projects in Slovenian business and government sector is minimal. Many, if not most in Slovenian IT, see FLOSS as something to be avoided; an annoyance and a risk.

Other than through Firefox, most of the end users never come across open source software. Hardware vendors constantly fail to give customers the choice (it is still exception) and the resulting price savings that are available elsewhere in the world - by simply having GNU/Linux or OpenOffice available on laptops, and PCs.

This blinkered attitude is crippling Slovenian competitiveness and condemning our business. In the government sector it creates dependencies upon the overseas monopolies and vendors, which is not only costly but, we might say even - disloyal.

Slovenia as a small country simply cannot afford to be laggard adopter. In terms of IT, the country is stagnating and the first thing we need to do is prompt changes. Other countries such as the UK, Denmark, Finland, Germany, France, Austria, recognise that FLOSS and the accompanying philosophies are the driving force of innovation [1,4]. They see a highly engaged community of intelligent, thoughtful and motivated participants who take considerable pride in the value of "freedoms" of FLOSS and the opportunities it confers to improve common wealth of their society. Those countries are developing and adopting policies to make sure they do not miss out. A close look at what these countries are doing and also a look back at the history of open source are bound to give us a clue what FLOSS could mean for us. In this direction the new European agenda EIFv2 creates some good directions [11]. It will be interesting to see what the Slovenian strategy regarding FLOSS will bring this year, as it is clear that the open source technology has moved into the mainstream and it is gaining the momentum.

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