

Proprietary Software versus Free and Open Source Software

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Abstract

This paper explains in a simple way the differences between proprietary software and Free and Open Source Software and highlights the advantages of having Free and Open Source Software in your organization. It was written during summer 2009 (to raise awareness) while I worked for the Government of Alberta.

Proprietary software is distributed with several restrictions: users are not allowed to access and modify the source code and in most cases, they are not allowed to copy or share the software. One example of proprietary software is Microsoft Internet Explorer. By contrast, with free and open source software, users are allowed to access and modify the source code and copy or share the software. One example of free and open source software is Mozilla Firefox.

The use of browser is evolving. In 2004, 4% of internet users were surfing with Firefox and 90% with Internet Explorer. Now, 27% are surfing with Firefox and 63% with Internet Explorer. Webmasters and software developers are already using more Firefox (47%) than Internet Explorer (40%). One advantage with free and open source software is that the community can adapt the software to their own needs and not let someone else decide what they need. Firefox respects the web standard¹ at 93%, instead of only 20% for Internet Explorer.

It is the same with the third version of the Post Office Protocol which allowed e-mail clients to retrieve e-mail from a remote server: this standard is used by all internet providers and webmail. Until 2009, only one webmail was not using this decade-old standard: Windows Live Hotmail, a proprietary software.

¹Formal standards and other technical specifications that define and describe aspects of the World Wide Web (Wikipedia)

One other famous free and open source software is OpenOffice.org, an office application like Microsoft Office. Many governments, companies and cities decided to switch. For example:

- Spanish Andalusian Education: 255,000 workstations
- Macedonian Education: 180,000 workstations
- French Capital Region : 175,000 USB keys
- French Tax Agency: 80,000 workstations
- Spanish Extremaduran Education: 70,000 workstations
- French National Gendarmerie : 70,000 workstations
- ...

In 2005, the Commonwealth of Massachusetts mandated that all public documents should use Open Document Format, the default OpenOffice file format. Open Document Format was an ISO standard two years before Office Open XML (Microsoft Office 2007). On one hand, people will respect the standard, while on the other hand, one private company tries to impose its own standard. Without the Massachusetts mandate, Microsoft would have never created its own ISO standard.

Using open source software is less expensive. With open source software European companies save 36% from their software R&D. Every year, in the United States of America, 400 million dollars are invested in open source start-ups. The USA government, itself is switching to open source. Closer to home, the City of Vancouver is thinking Open Data, Open Standards and Open Source.

If an organization chooses free and open source software instead of proprietary software, they choose to invest in their own workforce instead of investing in a (foreign) private company. Maybe it seems easier to use proprietary software than to hire someone with the necessary technical skills, but is it not more gratifying to be involved with local resource development?

Imagine that your own organization needs to develop software or an information system. One easy way is to ask a company to develop proprietary software: you only need to give the specifications and sign the check. The inconvenience is if you need any changes, you will need to sign another check. If you have skilled people but proprietary software you still need to sign a check: you do not have the code. It is the same as going to the restaurant, you do not see the recipe and you do not know what there is inside.

One other solution is to develop everything yourself. In this case you need a lot of technical skills, you need to hire people and you need to manage them. This has its own problems of course, but the big advantage is that you control the software from A to Z, you developed it and you can modify it to your changing needs.

There is a third solution: ask an open source start-up to develop the product for you. With free and open source software, you will have the control of the entire product. If you need to make changes and you have internal personnel with the skills, it is easy to do. You can also ask the start-up who made the software and if the price is too expensive, you can go to another start-up because you have the code of the software, or the “recipe book”.

Looking at the long term, free and open software becomes a really good deal, because the product evolves with the needs of your product or information system. Because your needs are in a constant evolution and free and open source software is always evolving, it is really a reactive relationship.

How powerful is free and open software? Let's say your own software or information system is developed; and you have to choose between keeping your software selfishly, as proprietary software or to choose to share it as free and open source software. In the beginning, it will not make very much difference because you already paid for this software. It may even cost you because if you share it, it will be free for your main competitor.

Now, you decide that your software will be free and open source software, at the same time the open source company who developed the software for you becomes an expert in this software. Of course, they developed the software; they know it really well and you participated in the success of this start-up. Now, your main competitor is interested in this software. So he asks the startup company to develop it one step further. He may choose to not share the modification, but let's say your second main competitor chooses this software and pays for more development, and he decides, like you, that it belongs to the community. Now, we have a new version of the product, and this will be the new reference. It is like a tree with branches, one branch dies, i.e. changes are made by the first competitor, and one other branch is living. With the dead branch, the first competitor can not distribute his own software without distributing the code. If your software contains free code and you will distribute it, you do not have any choice, it needs to be a free software. This is the real power of free software. It is so powerful that Microsoft compares Free Software to a cancer, or a virus.

Now let's say, a few years later, you need to update your software or information system. The good news is that it is very likely that the last version of software will fit your needs, and if it does not, adapting this software to your needs will be very fast and cheap. Free and open source software is really reactive, or even

proactive. Not only you have the recipe book, but you can become the greatest chef. Do you still prefer to go to the restaurant, order, not see what is inside and pay the bill?

In 2009, Apache HTTP Server became the first web server to surpass the 100 million web site, and it is a free and open source software. Now, it is your choice to be on the cutting edge or not.

Last but not least, if you are a socially responsible company or a tax-payer based organization, consider in which way will you show more respect for your community and your fellow-citizens. By spending their money in a (foreign) private company, or investing in developing your own community?

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English review : Melissa Fook-Sheung and Jaime Haraldson

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