

# **Užití Open alternativ v knihovních a informačních službách** **The use of open alternatives in library and information services**

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## **Abstract:**

The contribution is based on author's long term experience in the field of open source software, open document format and other open information technologies. In the introduction is defined Open Access movement like a specific paradigm of the service for citizen. In the next part of the contribution the attention is given to the basic principles of so called open technologies, products and services. There are presented its advantages and disadvantages there. In the next part the author notices the possibilities of the usage of these technologies in the practice of the library and information services. In the conclusion the advantages are shortly repeated and presented perspectives of the applications for the information systems and libraries which are created in frame of the open technologies.

Key words: Open Access, open source software, community search engines

## **1. Introduction**

At the beginning we can quote some Thomas Jefferson's ideas about free spread of information: "If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called an idea, which an individual may exclusively possess as long as he keeps it to himself; but the moment it is divulged, it forces itself into the possession of everyone, and the receiver cannot dispossess himself of it. Its peculiar character, too, is that no one possesses the less, because every other possesses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me. That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature, when she made them, like fire, expansible over all space, without lessening their density at any point, and like the air in which we breathe, move, and have our physical being, incapable of confinement or exclusive appropriation. Inventions then cannot, in nature, be a subject of property."

The development and widespread adoption of Internet, the recent technological advances along with the increasing cost of journal subscription and the shrinking budgets of Information Organisations have brought forward the Open Access movement. A lot of people do not want to pay the access to a content of the Internet, to the data in the public services and other services. The open alternatives to the products and services in the field of information technologies emerged years ago and they are used more and more nowadays.

## **2. Definitions**

We will define an Open access with both large and small terms. The large terms will define like a lot of open technologies, products and services and the small terms will be studied like an Open access to the librarian data only. The term open is used in sense free, but it means free like free speech no free beer. The Open access of services and

products to citizens came about from the quite newer adoption of paid strategies, which had long been in use by the private sector to sell goods and services in field of the information systems and libraries electronically. This radical change came about as a result of a number of reasons. These are namely, the pervasiveness of the World Wide Web; the growing online population; the lower cost of providing services online; and increased public expectations of the information and librarian services.

The Open Access movement has emerged during the past few years as an alternative way of disseminating scientific information cost-free without the indifference of Publishing Industry. Bailey [2005] defines Open Access as follows:

"free availability on the public internet, permitting any users to read, , copy, distribute, print, search, or link to the full texts of articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose without financial, legal or technical barriers other than those inseparable from gaining access to the internet itself.

From Bethesda principles we can derive next definition of Open Access Publication. An Open Access Publication is one that meets the following two conditions:

1. The author(s) and copyright holder(s) grant(s) to all users a free, irrevocable, world-wide, perpetual right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship, as well as the right to make small numbers of printed copies for their personal use.
2. A complete version of the work and all supplemental materials, including a copy of the permission as stated above, in a suitable standard electronic format is deposited immediately upon initial publication in at least one online repository that is supported by an academic institution, scholarly society, government agency, or other well-established organisation that seeks to enable open access, unrestricted distribution, interoperability, and long-term archiving (for the biomedical sciences, PubMed Central is such a repository).

Other licenses for open access to the data were origin in the frame of the Creative Commons. Creative Commons is a non-profit organisation that promotes the creative re-use of intellectual works, whether they are owned or public-domain. Creative Commons has created a set of copyright licenses that are available free of charge. These licenses indicate that copyrighted works are free for sharing, but only on certain conditions. The Creative Commons licensing tools allow authors to define the nature of the agreement in terms of attribution (giving credit to the original source material), commercialisation, derivative works, and distribution. Creative Commons enables authors and creators to label their work "Some rights reserved" or even "No rights reserved." The license is expressed in three ways: a Commons Deed (a simple, plain-language summary of the license), a Legal Code (to ensure that the license will stand up in court) and a Digital Code (a machine-readable translation of the license that helps search engines and other applications identify the terms of use).

This paper is mentioned about the Open Source Movement and the larger context of intellectual property rights too. The Open Source Movement consists of loosely organised groups of people pursuing a goal of developing and distributing software projects whose primary common characteristic is that the source code for these projects, is freely distributed along with the executables and documentation of the projects. The Open Source Movement is, as we use the term, composed of many groups and individuals as well as the anticipatedly named Open Source.org. Here is most of the Open Source.org's definition [OS.org 1999 ]:

Open source doesn't just mean access to the source code. The distribution terms of open-source software must comply with the following criteria:

1. Free Redistribution
2. Source Code in distribution

3. Derived Works -The license must allow modifications and derived works
4. Integrity of The Author's Source Code. - i.e.. the code of one author must not be attributed to another nor can changes be allowed without a new attribution
8. License Must Not Be Specific to a Product.

The Open Source approach is a new way of looking and implementing the intellectual property rights of producers of computer code. Beyond being free, in the economic sense, Open Source aims at becoming free in a political and philosophical sense, as we will see. These issues of value and freedom are intimately tied with ownership which leads to the notion of the intellectual property rights and laws concerning both the creators of the code and the code itself. It is evident, that intellectual property rights constitute the formal boundary between ideas and enterprise. The World Intellectual Property Organization [WIPO 1999] defines it as: Intellectual property comprises two main branches: industrial property, chiefly in inventions, trademarks, industrial designs, and appellations of origin; and copyright, chiefly in literary, musical, artistic, photographic and audio-visual works. Some copyright laws provide that computer programs are to be protected as literary works. One of the big issues being worked upon in the development of the Open Source concept is this notion of intellectual property: how the source code is free and how the context it is in is also free.

### **3. Examples of open alternatives**

#### **Denmark's Resolution on Open Standards :**

Motion for Parliament Resolution Regarding Use of Open Standards for Software with Public Authorities. Proposed March 30, 2006 by Morten Helveg Petersen (Radikale Venstre (RV), Marianne Jelved (RV), Naser Khader (RV), Martin Lidegaard (RV) and Margrethe Vestager (RV)

Parliament directs the government to ensure that the use of information technology, including software, within public authorities is based upon open standards.

No later than January 1st, 2008, the government should introduce and maintain a set of open standards that can serve as inspiration for other public authorities. Hereafter, open standards should be a part of the basis for public authorities' development and purchase of IT software, with the aim of furthering competition.

The government should ensure that all digital information and data that public authorities exchange with citizens, corporations and institutions are available in formats based on open standards.

Procurement of information technology by the public sector should be based on the Government service's assessment of how working and service is done most efficiently, properly and economically. It is, however, a political task primarily to ensure that there is a determined strategy for public authorities' procurement and use of software, so that it generally is to the benefit for users, citizens and business.

Secondly, it is a political task to ensure that the use of information technology by public authorities ensures the democratic rights of all citizens to be able to freely receive digital information from public authorities and to be able to freely send digital information to them. These political goals can only be met if the public sector demands that software, that is used in the public sector and for communication with the public sector, is based on open standards.

Thirdly, it is a political task to ensure the settings for open competition.

Fourthly, an insistence on open standards is crucial in these years, when municipal and county authorities unite their IT systems as a consequence of the municipal reform. [By January 1st, 2007, the number of municipal authorities in Denmark will be reduced to approximately a third, as cities with low population are joined together to form larger municipal units, or "communes". At the same time, counties are joined to form larger "regions"] A part of this must be that all public home pages, intra-nets and IT based tools

should be accessible by persons with handicaps, according to the guidelines that are recommended by "Kompetencecenteret it for alle", a part of IT- og Telestyrelsen [The National Administration for IT and Telecom - translator's note]

Fifthly, there are important commercial-political perspectives associated with the introduction of open standards in public administration.

Sixthly, there will presumably be considerable long-term economical advantages in introducing open standards in public administration

Government IT policy should ensure the public sector the best possible software at the lowest possible price. This includes such parameters as functionality, stability and security.

Government IT policy should contribute to a competitive market for software in Denmark.

Open standards means that the standard is

- well documented with its full specification publicly available,
- freely implementable without economically, politically or legal limitations on implementation and use, and
- standardised and maintained in an open forum (a so-called standards organisation) through an open process.

In the coming years, a substantial growth in the public sector's use of digital administration is expected, and thereby a larger general use of IT and the Internet in both the public sector and between the public sector and the private sector. In order to achieve the expected gains of digital administration, there must be openness regarding the choice of IT, and openness in communication, data exchange and electronic documents, as well as systems that can speak to each other, so that citizens, corporations and public authorities can communicate. Thus, openness is a fundamental demand as well in relation to enhancement of competition as in entertaining the democratic aspect of information technology. Therefore, the government should no later than January 1st, 2008, introduce and maintain a set of open standards [ see ISO\_IEC\_26300\_2006].

**Birmingham** City Council is the lead authority on the project which began last year. It has embarked on one of the most ambitious projects, replacing the software on 300 PCs - at its central library and 39 local libraries - with open source. The spokesman told silicon.com: "Nine months ago our library infrastructure was in need of updating and what we've done is look at open source as an alternative to conventional desktop software. We've implemented a refresh of the desktop which uses open source software throughout."

#### **4. Example in the field of a digital libraries**

**DSpace** is a groundbreaking digital library system to capture, store, index, preserve, and redistribute all your scholarly research material in digital formats. DSpace captures your data in any format – in text, video, audio, and data. The data can be distributed over the web. It indexes your work, so users can search and retrieve your items. It preserves your digital work over the long term. DSpace provides a way to manage your research materials and publications in a professionally maintained repository to give them greater visibility and accessibility over time. One of the leading uses for DSpace is as an institutional repository(IR). Definition of the institutional repository by Clifford A. Lynch [2003]:

"A university-based institutional repository is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members. It is most essentially an organisational commitment to the stewardship of these digital materials, including long-term preservation where appropriate, as well as organisation and access or distribution".

#### **Internet services and search engines**

A lot of people do not want to pay the access to a content of the Internet, to the data in the public services and other services. They use open technologies for sharing of the free content for example youtube.com and use or adopt other search engines in opposite with

the proprietary search engine google.com. They use often open source web browser Firefox with available extensions. Some of these are the reaction at the fact that the common Google search is not so appropriate for them. Thousands of people participate at the wikipedia content or similar technologies. Examples of hundreds alternative search engines are at [readwriteweb.com 2007]. One of the alternative search engines is the **Gobyus** portal. Gobyus.eu - is a large project where you can find useful services for your web sites. Gobyus portal offers Free and Payd services (3 account types - Free, Silver and Gold). Here you can find all what you need for your web site. You may use our free services for personal and for commercial purpose also. All you need is only one registration into Gobyus Account and you can use all Gobyus services in one account. Gobyus services in Gobyus portals and in Gobyus portal domains: Gobyus search engine - Advanced Gobyus free search engine and Gobyus search directory. Search internet with top world search engines. Submit your web site into Gobyus search engine.

Free website statistics. Advanced and very detailed statistic for your website. With this free service you can see detailed information about your website visitors. Reliable, fully graphical and real time free web site statistics. Easy to use, no installation required, simple copy and paste free web counter HTML code into your web site!

Free banner exchange. High-quality, professional free banner exchange designed to help you advertise, promote your web site and increase your web site traffic. Detailed real time numeric and graphical statistics, advanced settings, precise targeting, multiple banners support, click-thru rewards, easy to join...

Free web content - Free web content for your web site - free web poll, free rss feed reader script, page rank checker, traffic rank checker, visitors rank checker, rss feed directory, free exchange rates, search box - add attractive and fresh web content into your website.

## **5. Security in proprietary and open software**

We can compare situation in the field of the information systems security with the proprietary and open source software. The case study next: Internet Explorer was unsafe for 284 Days in a year 2006. Security Fix spent the past several weeks compiling statistics on how long it took some of the major software vendors to issue patches for security flaws in their products. Since Windows is the most-used operating system in the world, it makes sense to lead off with data on Microsoft's security updates in 2006. On the other hand Internet Explorer's closest competitor in terms of market share – open source Firefox browser -- experienced a single period lasting just nine days last year in which exploit code for a serious security hole was posted online before Mozilla shipped a patch to remedy the problem. [washingtonpost.com 2007]

The community which develops PHP language has initiated action called the month of PHP bugs "formerly known as March". In the frame of this action are rectified bugs in a product. Tens of bugs were discovered in the product there. This initiative is an effort to improve the security of PHP. However we will not concentrate on problems in the PHP language that might result in insecure PHP applications, but on security vulnerabilities in the PHP core. During March 2007 old and new security vulnerabilities in the Zend Engine, the PHP core and the PHP extensions will be disclosed on a day by day basis. We will also point out necessary changes in the current vulnerability management process used by the PHP Security ResponseTeam. [Hardened-PHP Project, 2007].

Open source developers can use developer communities to track down bugs and fix them in a surprisingly short time less than four business hours, in many cases, according to the latest survey from Evans Data [zdnet.co.uk 2005].

The findings come from an October survey of more than 450 developers currently working on open source projects. Evans looked at the amount of time between the discovery of a serious bug in a program and finding a solution for the bug. Researchers found that 17 percent said that on average it takes them less than four business hours to find a fix.

Another quarter said it took them four to eight business hours, Evans said. "Some of the main strengths of open source software development are the communities that have grown into knowledge repositories for development. Using these communities an open source developer can find and fix severe bugs much more rapidly," said Evans president John Andrews, in a statement. Substantial numbers of developers also said it takes them longer to fix bugs □ 28 percent said it too eight to 24 business hours, and 30 percent said it took them more than 24 business hours.

## 6. Conclusion

The development and widespread adoption of Internet, the recent technological advances along with the increasing cost of journal subscription have brought forward the Open Access movement. A lot of people do not want to pay the access to a content of the Internet, to the data in the public services and other services. The open alternatives to the products and services in the field of information technologies emerged years ago and they are used more and more nowadays. In a contribution we defined an Open access with both large and small terms. The large terms we defined like a lot of open technologies, products and services and the small terms was studied like an Open access to the librarian data only. The Open access of services and products to citizens, came about from the quite newer adoption of paid strategies, which had long been in use by the private sector to sell goods and services in field of the information systems and libraries electronically. This radical change came about as a result of a number of reasons. These are namely, the pervasiveness of the World Wide Web; the growing online population; the lower cost of providing services online; and increased public expectations of the information and librarian services. The open alternatives are mostly more secure, more flexible more robust then proprietary products and services. Standards are usually free available and features of the products are clear to use.

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