

SUCCESSFUL IMPLEMENTATION OF OPEN SOURCE SOFTWARE IN LIBRARIES

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Abstract

As the costs of frequently emerging technologies go up day by day, minimizing the disparity of resources between well-off and less wealthy libraries is a real challenge. With the free source code, simple customization, and growing user community, OSS is a viable tool that can help the libraries for the fundamental alteration. By utilizing open source solution as a part of the library, cost that generally would be spent on proprietary solutions can be utilized for other resources or services or can be diverted to hire educated, technical support that provides patrons with the know how to better use already existing resources. This paper aims to point out the benefits of the open source software and the signifying end of the proprietary driven model that has prevailed for more than 20 years or more. This also includes the successful implementation of open source solutions to the parent library.

Key Words

Open source software, Digital Library, Library Automation, Dspace

Introduction

In the present digital era of information dissemination and most of the library services are based on information technology as well as resources available in electronic formats. For many libraries, organizing information sources like books and other media can be a challenging task, especially as the library grows with more resources. Now just because the world has been blessed with wonderful software solutions that make everything easier to do, **doesn't mean that every library is using these solutions**. However, the high price of such software prevents most of the libraries from using

them. So as to deal with this issue, and for the benefit user communities of libraries, organizations and individuals have developed software, which are distributed free of cost. Known as free/open source software, these are extensively available on the internet and can be downloaded, installed, modified and distributed.

The open source phenomenon represents a drastic revolution in the software trend, it is often mistakenly and paradoxically characterized as a collective initiative of the technologically sound professionals who serves proactively to develop very high-quality software by means of a fresh point of approach. This paper aims to describe about the open source software and how they are boon to the LIS professionals.

Definition of open source software

The Open Source Definition

“The Open Source Initiative (OSI) maintains the Open Source Definition (OSD), version 1.9 at 12 September 2003”, which has 9 clauses:

1. Software must be able to be freely distributed, without requiring a royalty or fee for sale.
2. The source code for the program must be available, and, if not included in a distribution, must be easily available (for example, downloadable from a web page) in a form which allows a programmer to modify the program.
3. Modifications and derived works must be allowed, and these must be able to be redistributed under the same terms as the original software.
4. The integrity of the original source code must be able to be maintained, either by requiring modifications to be distributed as “patch files”, or by requiring modified versions to have a different name or version number.
5. There must be no discrimination against persons or groups.
6. There must be no discrimination against any field of endeavour.
7. The license must apply to anyone receiving a copy of the program, without requiring them to agree to another license.

8. The license must not be specific to a particular product or distribution.
9. The license must not apply to other software distributed along with the licensed program(s) (Open Source Initiative 2003).

The OSI maintains a list of approved licenses at <http://www.opensource.org/licenses/> and has a certification mark that can be used on any software that is distributed under an OSI-certified license. In September 2003, the OSI listed 45 OSD-compliant licenses, and the FSF listed 56 “free” licenses. Most of these, like the GNU General Public License (GPL) and the GNU Library or Lesser General Public License (LGPL), appear on both lists. The GPL/LGPL are by far the most popular of F/OS licenses.

In other words OSS can be defined as “Open Source Software is computer software whose source code is available under a license (or arrangement such as the public domain) that permits users to use, change, and improve the software, and to redistribute it in modified or unmodified form (www.richchristiecomputer.com), It is often developed in a public, collaborative manner. It is the most prominent example of open source development and often compared to user generated content” (Wikipedia).

Key points of successful adaption of OSS in Libraries

To changing trend of library services, Internet technologies has given new choices in committing the information needs of their user communities. Libraries are adapting Open Source Software as a way to minimize the huge costs of commercial products and as a viable alternative to the proprietary library automation/digitization software. Open Source Software certainly appears to give libraries more control over technological choices and an ability to facilitate their users in multiple means. Reasons for the success of open source software’s

Accessibility

The OSS are available freely and either can be downloaded from the Web or from the organisation. The many people use established communication channels and co- operation methods and make the OSS available to the community.

Flexibility

Many OSS projects integrate a large number of updation with very different emphasis and background. This facilitates the understanding for special requirements and, at the same time, offers the potential to quickly implement needed adjustments.

Speed

The speed by which there is reaction to problems, errors or security leaks of the software is legendary. A large group of people that want to make a product successful immediately undertake the tasks and test new versions, is significantly faster and more successful than the proprietary competitors.

Motivation

OSS developers are (experience themselves) part of a community that works on a collaborative success (- product). Often they are, by the way, no part-time hobby developers but professional developers that create OSS full-time. Also, the standard for governmental financed projects to provide the resulting software cost-free for others (that does not necessarily mean OSS or free software), supports the motivation.

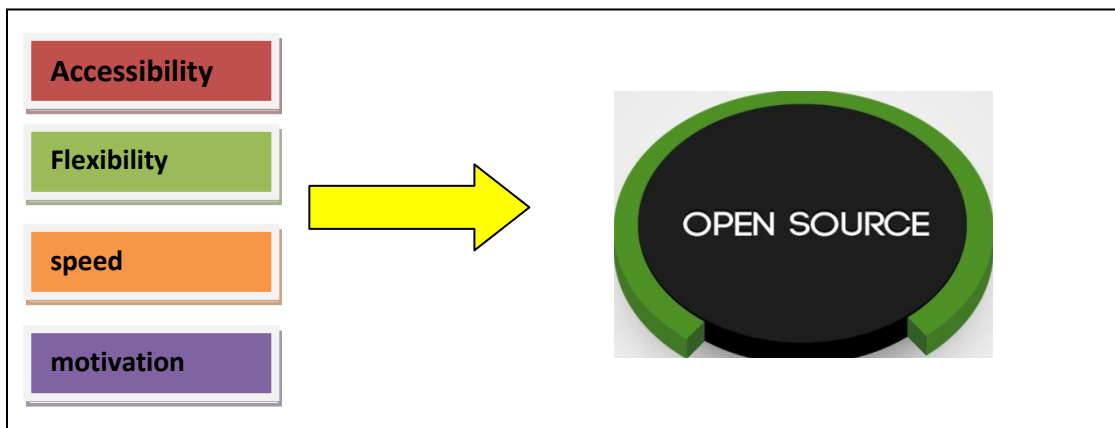


Fig-1(showing the key points of success of OSS)

The benefits of Open Source Software

The first perceived advantage of open source models is the fact that open source software is made available gratis or at a low cost. Some of the benefits of Open Source Software are:

- ❖ **Free from vendor's lock-in:** Disappointment with vendor lock-in is a bitter reality for all IT users. Notwithstanding to ongoing license costs, there is absence of portability and the powerlessness to customizing programming to address particular issues. Open source exists as a revelation of flexibility of choice.
- ❖ **Smooth administration of the License:** Obtain the product once and introduce it the same number of times and in the same number of areas as you need. There's no compelling reason to tally track or screen for permit compliance.
- ❖ **Support:** Support is accessible for open source-frequently better than proprietary solutions. Initially, open source support is openly accessible and available through the online group by means of the Internet. Furthermore second, numerous tech organizations are presently supporting open source with free online and numerous levels of paid support.
- ❖ **consolidation potential:** Again, Linux and open source applications and administrations can frequently scale impressively. Various choices for burden adjusting, grouping, and open source applications, for example, database and email, give associations the capacity to scale up for new development or merge to accomplish more with less.
- ❖ **Cost effective:** reduce costs, give users more control and increase software performance. Motivations for using and developing open source software range from philosophical and ethical reasons to pure practical issues. In general, Linux and open source solutions are elegantly compact and portable and as a result require less hardware power to accomplish the same tasks as on conventional servers (Windows, Solaris) or workstations. The result is you can get by with less expensive or older hardware.
- ❖ **Quality software:** Evidence and research indicate that open source software is good stuff. The peer review process and community standards, plus the fact that source code is out there for the world to see, tend to drive excellence in design and efficiency in coding.
- ❖ **Unified management:** Specific open source technologies such as CIM (Common Information Model) and WBEM (Web Based Enterprise Management) provide the

capability to integrate or consolidate server, service, application, and workstation management for powerful administration often scale considerably. Multiple options for load balancing, clustering, and open source applications, such as database and email, give organizations the ability to scale up for new growth or consolidate to do more with less.

Implementation of OSS in libraries

Ⓢ Requirements

The selection of open source software for library activities is driven by the nature of collection, availability of skilled staff, budget, and management support. Thus while considering the OSS for libraries, they have to focus on the following factors.

Implementation costs :

For some software, implementation is quite easy, and will take a staff person 10-30 minutes to install. More complex applications take days of staff and/or consultant time to implement, and convert information from an old system. When evaluating the options for a particular solution, be aware that in some cases open source projects can be more difficult to install than their proprietary counterparts, especially if the folks doing the installing are new to Open Source Software.

Software Acquisition Cost :

Some proprietary products have very low software acquisition costs. Other products can have high acquisition costs. In some cases, non profit organizations can get many software packages or web-hosted applications donated or at reduced costs, which may reduce or eliminate the acquisition cost for the software. Sometimes, however, organizations are limited in how many copies of a product will be reduced-price or donated. Virtually all open source software is available for no acquisition cost whatsoever, and no multiple licenses are needed.

Ⓢ Tips for successful Implementation

- If you are adapting the OSS first time then maintain both for few months so that your library can run smoothly. But if you are switching from proprietary software to OSS, then take the

back-up regularly, work with the OSS in back-end. After successful testing for every aspect, you can quit the last one and make the OSS full-functional.

- If you're interested for completely switching operating systems, you can start by simply using open source applications that work for Windows.
- See how the new solution impact on the user community.
- Re-check frequently to see if more open source applications have been adapted for Windows (if you haven't yet switched to Linux).
- Educate your staff! Select a few programs your library wishes to host or promote and familiarize the library staff with them, so that they will be able to answer user queries.
- Be mindful that you're downloading the latest version of a product. Older versions are likely to have bugs in them or might not work properly. Older versions are kept around to monitor the changes that have been made to the open source software, but often have old errors that cause problems, which have been fixed in newer
- Be aware of OSS limitations. "There are three major issues in using or re-using open-source software; quality, documentation, and licensing terms." Read more on this here.
- Check activity level: When was this software last released? Do developers keep a current forum about changes?
- Teach patrons Do patrons bother asking how to use it? Do patrons seem interested? Look out for opportunities! Listen to what patrons want, not what brand names they use.
- Advertise within the library! Hold events like lectures or hands-on tutorials to teach patrons about various software options.

More about the different types of OSS related to Library

In the culture of of open source software, few are listed in the table shows in which way library can be benifited from those OSS.

List of OSS for Libraries

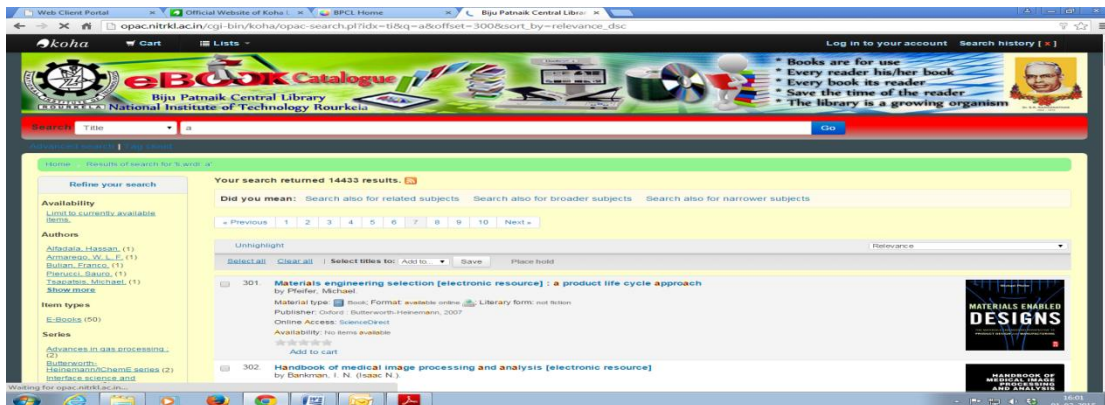
Sl. No	Category	Name of the OSS	URL	Description
1	Library Automation	CDS/ISIS, Winisis Koha • LibLime • Koha Support Evergreen New Gen Lib	http://portal.unesco.org/ www.koha.org www.liblime.com http://koha.org/support www.open-ils.org http://www.newgenlib.com/	Intigrated Library Software
2	Digital Library Software	D-Space E-Print Green Stone Fedora	www.dspace.org www.eprint.org www.greenstone.org	Institutional Repository Software
3	Content Management	Drupal Joomla Word Press Weebly	www.drupal.org www.Joomla.org	Web portal/website design
4	Lib 2.0	Blogger Facebook Google Sites Skype	www.blogger.com Facebook www.facebook.com www.google.com/ www.skype.com	Extending Library Services

More about the OSS running successfully at Central Library, NIT-Rourkela

1. Koha integrated library management software

There are so many open source library software are available such as CDS/ISIS, Evergreen, Koha and NewGenLib for different operating systems. KOHA open source software for library management is now adopted by most of the libraries and also at BPCL, NITR for management of e-books and Periodical due to its unique architecture, features like Simple, clear interface for librarians and members, Circulation and borrower management and Cataloging module with integrated Z39.50 client of the software and support of the open movement community developer. In use worldwide, its development is steered by a growing community of libraries collaborating to achieve their technology goals. Koha's impressive feature set continues to evolve and expand to

meet the needs of its user base. The current version of KOHA is 3.18 as on Feb-2015. This screen shot is the e- book catalogue of NIT, Rourkela



2.Dspace as Institutional Repository software

DSpace is the software of choice for academic, non-profit, and commercial organizations building open digital repositories. It is free and easy to install and completely customizable according to the needs of any organization/institution. DSpace preserves and enables easy and open access to all types of digital content including text, images, moving images, mpegs and data sets. It facilitates an ever-growing community of developers, committed to continuously expanding and improving the software. We are using Dspace in our institution as a repository to Scholarly publications (Journal article, conference paper, book chapter, etc.) of NITR community. Below is the screen shot of the home page of Dspace@nitr .



3. E-Print

E-print is first and one of the most widely used open digital library software. It is a Web and command-line application based on the LAMP architecture. is primarily used for institutional repositories and scientific journals. In our institution we are using this OSS as a repository to thesis and dissertations. Below is the screen shot of the home page of etd@nitr .



4. Joomla

Joomla is an Open Source Content Management System(CMS) popular all over the world for everything from simple websites to complex. It is an easy to install, simple to manage, and reliable. It uses only open source software for installation and use. Biju pattanaik Central Library has developed its own website using this. Below is the screen shot of the home page of can be seen at <http://library.nitrkl.ac.in/> .



5. Facebook as a social media for information dissemination at BPCL, NITR

Basically we can use Facebook to make direct person to person direct contact with people who work in other libraries or organisations through interaction – that whole process of communication. For built a good communication with the users and the same clients, we have to set up a Facebook page for the library. The below screen shot is the

Facebook page for BP central Library , NITR.



Conclusion

The open source Culture likewise gives a chance to library staff to be effectively included being developed ventures, to improve their abilities and to utilize an extensive variety of technological application for library functions. On the other hand, the implementation of OSS on a wide scale will generally rely on long-term commitments by the associations. Libraries and library experts need to empower themselves with required innovative aptitudes, and address conceptual, social, monetary, specialized, human issues in a collective way for more prominent productivity and expense funds. Librarians need to understand open source license for promotion the use of Open Source Software. This is the best way to face the difficulties postured by business programming in the market. It will likewise expand the self-governance and control of the expert over programming arrangements. The advent of open source library software has change towards a revolution in the field of library and information resources management, and has become popular

choice for most library and information professionals because of their numerous benefits and valuable gimmicks.

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