An Impact of Open Source Softwares for Libraries in Higher Education: The Global Perspectives

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Abstract

The growth of open source software which has now become a culture of openness and other related trends is advancing from the edges of society to the core of academic culture. In this article we provide an overview of how the expansion of open source software in culture at large has affected the world of education, describe how the greater use of open source software in education has unfolded hand-in-hand with the development of open course content and open access research. We also argue that this more comprehensive shift towards "openness" in academic practice is not only a positive trend, but a necessary one in order to ensure transparency, collaboration, and continued innovation in the academy.

Introduction

There was once a time when open source software was the sole province of the geek and existed behind barricades impassable by ordinary computer users. The first major barrier was inscrutable jargon; users who did not understand the meaning of commands such as "configure; make; sudo make install" were often simply left out. A second obstacle was that most open source programs, such as Web servers and mail servers, were limited primarily to applications and utilities that were useful to servers and network administrators. Such resources went beyond the needs of the average desktop computer user. Even those applications that might have broader appeal, such as text editors, were often so complex that running them seemed to require a specialized degree. A further limitation was that most open source software was written exclusively for free. Finally, these tendencies, in turn, contributed to another major barrier—namely, the common perception among average computer users that free applications must surely lack the intuitive features and accompanying technical support of commercial applications.

In short, the world of open source was closed off to normal people. Recent developments, however, are bringing open source into the lives of average desktop computer users. In addition to their availability for open source operating systems like Linux, many open source applications are also available for proprietary operating systems like Windows and Mac OS X. Installing these applications generally works like installing commercial software—users. All one need to do is just double-click to begin the install process. In many ways, recent trends in the open source world can be seen as a distributed effort to replace popular proprietary software with easy-to-install-and-use open source software. In the light of this, this paper presents an overview of the general open source software used in higher education the world over.

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Open source softwares

Open source is a software development model as well as a software distribution Model. In this model the source code of programs is made freely available with the software itself so that anyone can see, change, and distribute it provided they abide by the accompanying license. In this sense, Open Source is similar to peer review, which is used to strengthen the progress of scholarly communication. The open source software differs from the closed source or proprietary software which may only be obtained by some form of payment, either by purchase or by leasing. The primary difference between the two is the freedom to modify the software. An open system is a design philosophy antithetical to solutions designed to be proprietary. The idea behind it is that institutions, such as libraries can build a combination of components and deliver services that include several vendors' offerings. Thus, for instance, a library might use an integrated library system from one of the major vendors in combination with an open source product developed by another library or by itself in order to better meet its internal or users' requirements.

Definition

According to Open Source Initiative (http://www.opensource.org/): "Open source promotes software reliability and quality by supporting independent peer review and rapid evolution of source code. To be certified as open source, the license of a program must guarantee the right to read, redistribute, modify, and use it freely. Open source software is typically created and maintained by developers crossing institutional and national boundaries, collaborating by using internet-based communications and development tools;
· Products are typically a certain kind of "free", often through a license that specifies that applications and source code.

Open source software are written to create applications, free to use, modify, and redistribute as long as all uses, modifications, and redistributions are similarly licensed; · Successful applications tend to be developed more quickly and with better responsiveness to the needs of users who can readily use and evaluate open source applications because they are free. Quality, not profit, drives open source developers who take personal pride in seeing their working solutions adopted. Intellectual property rights to open source software belong to everyone who helps build it or simply uses it, not just the vendor or institution that created or sold the software.

Comparative study of D-Space and GSDL

Gowtam Biswas & Dibyeadu Paul (2010) have conducted web survey among 72 Institutions have installed the repository

Table 1: Comparative study of GSDL and D-space

Component	*D-Space*	*GSDL*
Creator	MIT Libraries and Hewlett-Packard	University of waikato
Open Source/Free	Yes	Yes
Operating System	Unices,Linux, Windows	Unices, Linux, Windows
Language	J2SDK v.14	PERL
Databases	Postures 7.3	Its own
Resource identifier	CNRI Handles	No
Dublin Core	Qualified Dublin core	Dublin core
MITS	Version 1.2	No
OAI-PMH V20	Yes	No
Subscription	No	No
Supported file format	MS word, PDF, PPTs, JPEG, GIF	MS word, PDF, PPTs, JPEG, GIF

Table 2: Country wise distribution of software packages

Country	D-space	GSDL
India	13	4
USA	4	2
UK	1	-
Germany	1	-
Argentina	-	1
Netherlands	1	-
Bangladesh	2	-
Azerbaijan	1	-
China	2	-
Australia	1	-
Jamaica	1	-
Costa Rica	1	-
Belgium	1	-
Estonia	1	-
Finland	1	-
Canada	4	-
Mexico	1	-
Brazil	1	-
Columbia	1	-
Ecualor	3	-
Venezula	1	-
Total	**42**	**7**

softwares various part of the world. It has also found that 7 Installation of GSDL. We have taken only those Institutes which has found on-line. Dspace with 42 installations seems to be the most popular choice among the digital library software packages and Greenstone has seven installations. The other software package it include software like E-Print. Here we have mainly highlighted popular open source repository building software D-Space and GSDL (Tables 2 – 3) and It has found 35 educational institutions have installed Dspace software and 5 GSDL. On the other hand 13 other software like E-print, fedora etc. In the study it found that Dspace and GSDL are equal installation.

Table 1 shown, the comparative study was made between GSDL and D-Space, It is stated that both softwares are free of cost. In d-space supported qualified Dublin core but GSDL supported only Dublin core. D-Space and GSDL supported MS-word, PDF, HTML, Post script, JPEG, GIF etc.

Table 3: Open Source repository with URL

Software	Institute	URL
1.D-space	BRAC University Institutional repository	http://dspace.brace.ac.bd/
2. D-space	International centre for diarrhea disease digital repository, Bangladesh (ICDDRB)	http://dspace.icddrb.org/
3. D-space	Xiamen University institutional repository china	http://dspace xmu.edu.on
4. D-space	DSTO Scientific publication online repository	http://dspace.dsto.defence.gov.au/dspace
5. D-space	University of West Indies at Mona Jamaica	http://dspace.mona.uni.edu/
6. D-space	Instituto technologo de Costa. Rica	http://www.tec.cr
7. D-space	Bolivariam, Venezuela	http://dspace..bolivarium.vsb.ve/dspace

There are identified twenty one countries have installed open source Library software are D-Space and GSDL, 13 institutions have installed D-space and 4 intuitions installed GSDL in India. Among the 21 countries, 42 institutions have been installed D-space and only 7 institutions having been installed GSDL is given in Table 2.

Open Source Integrated Library Systems

Integrated Library Systems (ILS) is the current wave in the field of library automation. An ILS combines several activities of the library into one integrated system, allowing the library staff to perform all their functions online. These activities include simple housekeeping activities like acquisition, cataloguing to user services, and inter-library loan activities. In the last few years we have seen the development of a number of ILS products in the open source world. One important trend in these kinds of products is the use of web-based client/server architecture.

Different OSS Integrated Library System Products

Some open source library software with URL have been listed below,

Koha

The First Open Source Integrated Library System. Koha is the first open source fully featured integrated library system (ILS) used by a considerable number of libraries in USA, New Zealand, and Europe. The Koha ILS includes catalogue, OPAC, circulation, member management, and acquisitions package. Koha is used by public libraries, private collectors, not-profit organizations, churches, schools, and corporate.

URL: http://sourceforge.net/projects/koha, http://www.koha.org/download/

Further Information

Php My Library

PhpMyLibrary is a web-based library automation application meant for smaller libraries. The system consists of cataloguing, circulation, and the OPAC module. The system also has an import export feature. It strictly follows the USMARC standard for adding materials.

URL: http://sourceforge.net/projects/phpmylibrary/

Further Information: Project Homepage: http://phpmylibrary.sourceforge.net/

Open Biblio

Open Biblio is an easy to use, open source, automated library system written in PHP containing OPAC, circulation, cataloging, and staff administration functionality. The purpose of this project is to provide a cost effective library automation solution for private collections, clubs, churches, schools, or public libraries.

URL: http://sourceforge.net/project/showfiles.php?group_id=50071

Further Information: Project Home Page: http://obiblio.sourceforge.net/

GNU Library Management System (GLIBMS)

GLIBMS is Library management software developed using PHP and PostgreSQL to automate the different activities carried out in the library. The project is currently inactive at Source forge. It is renamed as Karuna and hosted at sarovar.org.

URL: http://sourceforge.net/projects/glibs/

Further Information: Project Home Page: http://sourceforge.net/projects/glibs/

Avanti: An Open Source Library Computing System

Avanti MicroLCS is an open source general purpose library computing system that is small, simple, and easy to install and use. Written in Software Tools for Automation Java, it is platform independent and can run on any system that supports a Java runtime environment. Although it targets small libraries, it has a powerful and very flexible architecture that allows it to be adapted for use in libraries of any type.

URL: http://home.earthlink.net/ ~schlumpf/avanti/downloads.html

http://home.earthlink.net/~schlumpf/ avanti/index.html

Conclusion

There are number of Library management software customizing at Higher education institutions, though Open source library software recently come in to existence for plasticizing in the library and Information centers . We have observed that D-space only predominant software among open source library softwares have been installed at global level. It is also highly compatibles and user friendly ness in access and preservation of all resources in academic and Higher education Libraries. OSS needs to develop a participatory organizational model that allows many to contribute perhaps in different ways to OSS development. OSS is not always easy to use. It is therefore largely inaccessible to the many libraries and library system departments that require plug-and-play software that is well documented and supported and can be easily installed (and uninstalled). OSS initiatives do not always do enough to get non-systems librarians and library patrons involved in design and testing of OSS. As such, they are seen as being something that exclusively offers benefits to and holds interest for library systems staff and not for the wider library community. Another factor that often comes up is the usability of open source software.

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