The open sources software and Its Impact for libraries in digital environmental

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Abstract

Information and communications technology (ICT) has played a major role in libraries. Libraries have now been completely dependent on providing new services to its users based on ICT. Present days the open source major role and impact in a academic libraries. To manage vast amount of digital information, libraries need some computer applications which takes care of their requirements. These applications are generally developed by commercial vendors or are available under open source license terms and conditions. In the present paper, an overview of range of open source initiative library services. Library professionals can effectively use these open sources initiative to provide innovative services to their users and without involvement of any of large budgets

Keywords: Open source software, digital environment

1. INTRODUCTION

Open source software is software that provides access to the source code, meaning that users are free to see how the product is made. Additionally, users have the right to modify the product (change the code) to their liking, experiment with different versions, and give away or resell the new product with the guarantee that they must also provide their source code, and so on. Modifying the product and redistribution are the two main components of open source software.

Free/Open Source software is , software that users have the ability to <u>run</u>, <u>distribute</u>, <u>study</u>, and <u>modify</u> the program for any purpose.

2. BENEFITS AND DRAWBACKS

Following are some of the benefits of using OSS
• Software does not depend on any specific hardware or operating system platform to function.
• With OSS, people can have any number of copies of programs on their machines, at home or at work.
• Since source code is available one can customize the software as per the requirements.
• It is possible to incorporate the software into the
another program to perform new functions.
• If the user base of open source is large, it can sustain in the market for long time.
• Since developers working for open source are spread across the world its development does not depend on any single person/community.

Hence, new release versions can frequently be made available to the community.

• There is large community of people who work on
popular open source hence regularly new versions of the OSS are available to the community.
• There is a group of community who can provide support through mailing lists, internet relay chat centers to get quick answer to any of problem/query.
• Since it is open source, there is no data loss as wells with open standards/formats, hence it is easy to retrieve data for future.

Following are some of the drawbacks of using OSS
• Lack of formal support and training that a commercial software package offer.
• Often software support is provided only through mailing lists and discussion forums.
• Installing and maintaining OSS generally requires a Technical knowledge than that required for commercial software.
• OSS are also not known for ease of use as the focus is usually on functionality.

3. NEED OF OPEN SOURCE SOFTWARE IN LIBRARIES

Following benefits from open source software made it ideal to use in the libraries:
(i) Code of software is open to modify, improve, and redistribute
(ii) Mature software

(iii) Libraries outlive the any software producer or vendor

(iv) No dependence on vendor or producer

(v) It is more reliable

(vi) Perform better

(vii) More secured

(viii) Use without restriction

(ix) Reduced cost

Thus the philosophy, flexibility, freedom, cost and Continuity of OSS makes this software as an ideal choice for libraries.

4. TYPES OF SOFTWARE

Although in the cyber age freeware, open source, and share ware are commonly used as synonyms. Actually there is difference between these terminologies and their use. Their definitions and differences between them are stated as follows:

4.1 Proprietary (Commercial) Software

User has to purchase proprietary software for its use and in course of time he becomes totally dependent on the commercial developer and has to pay high cost for its purchase, maintenance, and improvement. User is unable to modify software for his own needs, makes him feel helpless at the mercy of external software.

4.2 Shareware Software

Shareware can be downloaded free of cost to try as as ample, but for the ultimate use, user is supposed to pay for it. It is developed and released by someone who keeps full control of the intellectual property. The user does not have access to the source code and cannot modify it. There is also no collaboration or community around shareware.

4.3 Freeware Software

Freeware is the software which can be downloaded, used and copied without restrictions. No access to the source code, no community, no development, and no improvement can be possible.

4.4 Free/Open Source Software (FOSS)1

The FOSS or free/libre/open-source software (FLOSS) is software that is both free software and open source. It is liberally licensed to grant users the right to use, copy, study, change, and improve its design through the availability of its source code rather than its cost. This approach has gained both momentum and acceptance as the potential benefits have been increasingly recognized by both individuals and corporations as free software.

This terminology came from the ideological movement against proprietary from FSF (Free Software Foundation) in 1985 and open source from OSI (Open Source Initiative) in 1998.

The FSF defines free software as software that respects the following four freedoms to

 (i) Run the program, for any purpose.

(ii) Study how the program works, and change it so it does your computing as you wish. Access to the source code is a precondition for this.

(iii) Redistribute copies so you can help your neighbor.

(iv) The freedom to distribute copies of your modified versions to others. Access to the source code is a precondition for this.

5. STATE OF OSS IN LIBRARIES

Daniel Chudnov has done a lot to raise the awareness of OSS in libraries4. The OSS4libsite (http://www.oss4.lib.org) now available as OSS in libraries (http://foss4lib.org/) provides categorization and listing of library-related OSS applications including applications for document delivery, Z39.50 clients and servers, systems to manage collections, MARC record readers and writers, integrated library system applications, digital library software, digital archiving software, next generation OPAC software, electronic journal archiving, etc.

The open source movement and libraries have a common factor such as free and equal access toinformation5. Libraries have highly specialized software needs because the library community have developed its own complex standards to share information. Until recently libraries relied on the commercial solutions for all their requirements due to unavailability of skilled IT staffs well as unavailability of user friendly open source solutions. Hence, open source solutions were not considered in libraries as a scalable or feature-rich solutions to handle most of the library requirements.

Today several companies/organizations all over the world are committed to support and develop solutions based on OSS for libraries as well as in other areas. They offer services including

hosting, installation to support, and development services6. With these new options, libraries don't need an IT staff to deploy software or advice on development of new features. The OSS provides inopportunity for libraries to take control of library services and collections relying on available hardware with libraries. The time, effort, and money spent on buying commercial solution can be diverted to provide training existing staff on teaching OSS application as well aspiring additional customers to customize OSS as per specific requirements.

The OSS generally provide more functions quickly than commercial solutions as they are developed by teasers of the software who are spread across world and keep developing small pieces of the software regularly. In commercial software development, vendors priority is in profit generation that may not be in line with the needs ofusers**7.** Even with commercial vendors, number of developers who work for developing a particular software is a small group which is not the case with open source. Many OSS tools are now available for use in libraries. The development of digital library initiative is mainly driven

6. IMPACT OF OPEN SOURCE SOFTWARE IN LIBRARIES

This paper is focusing on the software coming under FOSS license and available free to the libraries for its use, modification and distribution. The researcher has taken following category of library software under study:

(a) Integrated Library Management Software
(b) Content Management System
(c) Institutional Repository (Digital Library) Software

6.1 Integrated Library Management Software

An integrated library system (ILS) , also known as a library management system (LMS) is an enterprise resource planning system for a library, used to track items owned, orders made, bills paid, and patrons who have borrowed usually comprises relational database with common modules like acquisition, cataloguing, circulation, serials OPAC, etc. The study discusses in chart-form some of the widely used open source library management software in terms of their features and capabilities. directly from the software websites and related weblinks.

6.1.1Special Features of Selected Integrated Library Management Software

Koha software is the first open source library management software widely used all over the world which provides additional facilities like tagging and RSS feeds. Its adaptable interface is translated in many languages. Evergreen software uses SIP2 support for Interaction. NewGenLib system and PhpMyBibli software comply with OA institutional repositories to build digital library. Besides, NewGenLib is Unicode 3.0 compliant and RFID ready.

6.2 Content Management System

Content management system (CMS) is a collection of procedures used to manage work flow in a collaborative environment. A content management system is used to manage the content of a website is the fastest way to keep one's website content updated. Having a content management system saves money as a user won't need to pay a web developer every time he wants to modify the content of its website. Some of the popular CMS software packages are featured in comparison.

6.2.1 Special Features of Popular CMS

Joomla software includes features such as page caching, RSS feeds, printable versions of pages, news flashes, blogs, polls, search, and support for language internationalisation. Drupal offers a sophisticated programming interface for developers. Mambo includes advanced features such as page caching to improve performance on busy sites. WordPress software is also used for blogging. WordPress also supports the Trackback and Pingback standards for displaying links to other sites. TYPO3 is almost completely pluggable, extensible having complex framework and highly flexible.

6.3 Institutional Repository Software

An institutional repository (IR)[26] is an online locus for collecting, preserving, and disseminating - in digital form - the intellectual output of an institution, particularly a research institution. It preserves digital asset of an

institution by self -archiving research output and gives open access and global visibility from a single location. their URL, licences, etc., are shown in Table 5. Table 6 shows the languages, operating system requirements, object formats, etc., of IR software.

6.3.1 Special Features of Selected Institutional Repository Software

Fedora and DSpace are most popular IR software in the world community. VuDL includes a built-in METS metadata editor, service image generation tools, an XML The number of digital repositories currently in existence shows that there is both a high demand for digital library software as well as a need for a new software package to meet these demands. Most of the digital library software are based on OAI-PMH model for sharing of metadata between digital libraries by means of metadata harvesting. Some of the popular IR software along with

database repository, and an OAI server and easy to use. XTF offers robust optimisation for large documents and RSS feeds. Both, Fedora and DSpace are able to export digital objects as METS XML files

7. CONCLUSIONS

Open source software has placed the right to make changes to the software in the hands of the academic libraries. Its immediate effect is the shift from proprietary software to open source which has resulted in cost saving of libraries. Not only developing but also well-developed countries are supporting open sources electronic access, digital libraries, and resource sharing, thereby, making a valuable contribution to the greater good.

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