OPEN SOURCE SOFTWARE FOR LIBRARIES

Dr. Madhav D. Warade * Dr. Hitendra Patil**

*** Librarian,**
Arts Commerce and Science College,
Bodwad Dist- Jalgaon, Maharashtra, India.

**** Librarian,**
SVKM's Institute of Pharmacy,
Dhule, Maharashtra, India.

QR Code

Abstract: - *Open source software is software that provides access to the basis code, meaning that users are free to see how the product is made. Open source library software's does not need the any cost of commercial software and enables libraries to have greater control over their working environment. Library professionals should be responsive of the advantages of open source software and should attract their development. They should have simple knowledge about the selection, installation and maintenance. Open source software requires a greater degree of computing responsibility than commercial software. They do not have the expertise to support open source software. Paper highlights major open source library software & its usage in Library also it is important for Libraries, also it discusses background of open source software, Free software foundation, Advantages & use of Open source software & some digital library softwares, Selection criteria of open source software etc..*

Introduction:

Open source software is a software whose source code is available under a permit. that permits users to study, change, and improve the software, and to reallocate it in modified or unmodified firm. It is frequently developed in a public, collaborative manner. It is the most important example of open source development and often compared to user generated substance. For many libraries, organizing their books and other media can be intimidating task, especially as the library grows with more material. Years ago we had crude card catalogue systems (remember the Dewey Decimal System) that kept things organized, but were difficult to maintain. Vanished is the card catalogue and in some libraries, it's much easier to locate a book through and internet connection and picking it up upon your arrival, rather than wasting the time scouring the aisles looking for your next read. Now just because the world has been sacred with wonderful software solutions that make everything easier to do, doesn't mean that every library in the universe

is using these solutions. Many Libraries do not have vast amounts of money to burn, and any that they do get usually goes to purchasing additional resources.

1. Background on Open Source Software:

In the early days of computing, programmers and developers shared software in order to learn from each other and evolve the field of computing. Ultimately, this goes-without-saying open source notion moved to the wayside as commercialization of software set it in the 1970s and 1980s.

Richard Stallman, a proponent of free software, worked as a software developer for MIT's Artificial Intelligence Lab in the 1970s-1980s. When their computers systems were upgraded to use a commercialized software, Richard Stallman was forced to choose between his job and his beliefs and eventually left MIT's AI Lab in order to form the Free Software Foundation.

The Free Software Foundation Sponsors the Four Essential Freedoms of using free software. The freedom to run the program, for any purpose (freedom 0).

i. The freedom to study how the program works, and change it to make it do what you wish.
ii. The freedom to redistribute copies so you can help your neighbour
iii. The freedom to distribute copies of your modified versions to others. By doing this you can give the entire community a chance to benefit from your changes.

Four Freedoms taken from the GNU Operating System.

In 1998, Netscape announced it was releasing the source code for its web browser, which sparked a conference held in Palo Alto, California to discuss the strategic process for this extraordinary event. The GNU General Public License (GPL), created by Richard Stallman, is one example of a free software license, cleverly nicknamed a copy left license. Effectively, copy left licenses use copyright law to require the derived works to be available for modifying and distributing under the general philosophies of free and open source software. Attaining a GPL, or another form of copy left, assures that these open source rights are legally enforced.

2. Advantages of Open Source Software

- Lower software costs:

  Open source solutions generally oblige no licensing fees. The logical extension is no maintenance charges. The only costs are for media, documentation, and support, if required.

- Simplified license management:

  Acquire the software once and install it as many times and in as many locations as you need. There's no need to count or monitor for license compliance.

- Lower hardware costs:
  The open source resolutions are elegantly squashed and moveable, 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 costly or older hardware.

- Support:
  Provision is available for open source—often superior to proprietary solutions. First, open source backing is freely available and accessible through the online community via the Internet. And second, various tech companies are now supporting open source with free online and multiple levels of paid support. For example Liblime.

- Escape vendor lock-in:
  Obstruction with vendor lock-in is a reality for all IT managers. In addition to continuing license fees, there is lack of portability and the inability to customize software to meet specific needs. Open source survives as a declaration of freedom of choice.

- Unified management:
  Exact 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.

- Quality software:
  Data and research indicates that open source software is good matter. The peer review process and public morals, plus the fact that source code is out there for the world to see, tend to drive excellence in design and efficiency in coding.

3. Open Source Software for Libraries:

3.1 Koha: Integrated Library System

Koha is a capable & full featured open source ILS (integrated library system) currently being used by libraries all over the world. For those of you out there unaware of what an ILS is, well, it is a system of keeping track of the operations of a library - payroll, expenses, procurements, and most importantly, keeping track of the various media being checked out by the patrons. Many small libraries cannot afford to purchase, install, and maintain an ILS, and Koha is a perfect alternative. Koha is built using library ILS standards and customize the OPAC (open public access catalog) interface. In addition, Koha has no vendor-lock in, so libraries can receive tech support from any party they choose.

3.2 NewGenLib

NewGenLib (New Generation Library) is an Integrated Library Automation and Networking Solution Developed by Verus Solutions Pvt Ltd and The Kesavan Institute of Information and Knowledge Management, India. In March 2005, New GenLib version 1.0 was unrestricted and versions 2.0 and 2.1 have come up later. On 9th January 2008, New GenLib has been declared Open Source Software under GNU GPL License by the Verus Solutions Pvt Ltd, Hyderabad, India.

3.3 Evergreen

Evergreen ILS is another selection when researching open source ILS options. Developed by Equinox Software, Evergreen is a robust, enterprise level ILS solution developed to be capable of supporting the workload of large libraries in a fault-tolerant system. It too is standards obedient and uses the OPAC interface, and offers many features including flexible administration, work-flow customization, adaptable programming interfaces, and because its open source, cannot be protected away and can benefit from any community contributions.

4. Digital Library Software:

4.1 Greenstone Digital Library Software

The Greenstone Digital library software is an open-source system for the structure and presentation of information collections. It forms collections with effective full-text searching and metadata-based browsing facilities that are attractive and easy to use. Moreover, they are easily maintained and can be augmented and rebuilt entirely automatically. It is extensible: software "plugins" adjustments different document and metadata types. The goal of the Greenstone software is to allow users, particularly in universities, libraries, and other public service institutions, to build their own digital libraries.

4.2 DSpace

Dspace is a crushed breaking digital institutional repository that captures, stores, indexes, preserves, and redistributes the intellectual output of a university's research faculty in digital formats. It manages and distributesdigital items, made up of digital files and allows for the creation, indexing, and searching of associated metadata to locate and retrieve the items. DSpace design and developed by Massachusetts Institute of Technology (MIT) Libraries and Hewlett-Packard (HP). DSpace was designed as an open source application that institutions and organizations could run with relatively few

resources. It is to sustenance the long-term preservation of the digital material stored in the repository. It is also designed to make submission easy.

4.3 EPrints

Eprints is an open source software suite for building open access sources that are compliant with the Open Archives Initiative Protocol for Metadata Harvesting. It shares many of the structures commonly seen in Document Management systems, but is primarily used for institutional repositories and scientific journals. EPrints has been established at the University of Southampton School of Electronics and Computer Science and released under a GPL license.

4.4 Fedora

Fedora open source software gives organizations a flexible service-oriented architecture for managing and delivering their digital content. At its core is a powerful digital article model that supports multiple views of each digital object and the relationships among digital objects. Digital objects can capture locally-managed content or make reference to remote content. Dynamic views are possible by associating web services with objects. Digital objects exist within a repository architecture that supports a variety of management functions. All functions of Fedora, both at the object and repository level, are exposed as web services. These functions can be protected with fine-grained access control policies. This unique mixture of features makes Fedora an attractive solution in a variety of domains.

5. Selection criteria of open source software

Evaluation of open source software is different from branded programs. The difference for evaluation is that the information available for open source programs is usually different than for proprietary programs; source code, analysis by others of the program design, discussion between users and designers on how well it is working, and so on. Often brand-named programs always hide all information from users and only allow running the software. Below mentioned criteria's can be adopted for open source software selection:

5.1 Open Source Softwares on the WWW

Most convenient option to identify particular software for your library need is to ask professional friends who have experience in using open source softwares.

You can directly contact other libraries in your locality or post a message in any popular email discussion forum of librarians. Assured open source softwares are highly popular among librarians community, for example Greenstone digital library software is a favorite candidate for the libraries who make use it for the collection and organization of digital materials. Librarians can select the software without much effort, if more popular software's are available for various library purposes.

5.2 Open source licenses

Open source licenses are declaring users freedom to use, copy, improve and distribution of software. GPL is the most common license for free and open source software and provides feasible terms of use. Using GPL authorization, a user can modify the software without the permission of its creator. At the same time BSD license impose certain restrictions on modification of software without the permission of its developer. If you have decided to choose the software with non-General Public License, check the license if it contains any un-acceptable clauses.

5.3 Functional modules

Certain features or modules essential for day to day work may not be available with the initial development stages of open source softwares. In such cases, libraries have to purchase additional modules from open source service providers or make use the in-house expertise to build the required features. Functional modules essential for library management systems (ILS) are cataloguing, circulation, OPAC, serial control and acquisition. It is important to read release notes of latest version and software roadmap to know which features are already available and are expected in future. Confirm the availability of standards like MARC, Z39.50, and Dublin Core which are essential for exchange of bibliographic information in library softwares.

5.4 Stable releases

Constant release of open source software shows its developer's ability to fix and correct bugs along with new features. Version history of open source software is often available from project websites or any other project repositories like Source Forge (www.sourceforge.net), Savannah (savannah.net) and Free Software Foundations software directory (www.fsf.org). These services help users to check the information regarding software origin, releasing history, version numbering scheme, developers details etc. Actively preserved open source projects mention even the releasing dates of forthcoming versions

5.5 Developers and user community

The improvement and preservation of open source software is a social collaborative activity. Open source software is actively developed on a 24-hour basis by a large number of programmers from all over the world. Depending on the success of a certain open source software project, this results in a development process that out paces that of many competitors. Another aspect of open source software is that, many different people and organisations look at the software from a different perspective. This leads to invaluable discussions on what direction the development should be taken. Many IT experts claim that, it is this multi-cultural and multi-organisational influence that, combined with the global spreading and fast development pace, makes open source software more innovative than closed software.

5.6 User interface

Most of the open source library softwares are available in web boundary. Software with web interface is easier to learn and use. Graphical outlines of open source softwares are possible to customize and users can add new design. Through reforming the templates and style sheets open source software can easily integrate with library/institutional websites. Separate administrative and user interface is essential for remote access and maintaining security.

5.7 Documentation

So patrons are primarily responsible for the deployment of open source software; detailed and up-to-date documentation is a prerequisite for successful installation and maintenance. Open source software certification is available through project websites, wikis, blogs and email lists. They give information of software installation in various operating systems, software architecture, database structure, history of bug fixes, changes in new release, road map (wish list) of future releases etc. Installation facts and information for users is available with installation package. Individual citations for developers, administrator and user is another advantage of open source software documentation. Software community incessantly updates the online documentation and it is better to make use the online wiki or email lists for error fixing and clearing doubts.

Conclusion:

Open source software in the library saves the money that otherwise would be spent on software solutions can be used for other important resources, such as purchasing additional media resources (books,

journals, etc.), or can be used to hire educated, technical support that provides patrons with the know how to better use already existing resources. In addition, this free software is constantly being updated, changed, and customized to meet the library's needs. While all of this is fine and dandy, and sounds like the win-win solution for your library, there are still pitfalls and hurdles we'll need to overcome. It shows the advantages & disadvantages of open source software & how it will reform our library services through open source software. This paper will helpful for the librarians to choose the correct open source software for their Libraries.

References

1. Altman, Micah (2001). Open Source Software for Libraries: from Greenstone to the Virtual Data Center and Beyond. IASSIST Quarterly, Winter 2001, pp. 5-11. Retrieved January 30, 2018, from Web site: http://iassistdata.org/publications/iq/iq25/iqvol254altman.pdf
2. Corrado, Edward M. (2005). The Importance of Open Access, Open Source, and Open Standards for Libraries. Issues in Science & Technology Librarianship. 42. Retrieved January 30, 2018, from Web site: http://www.istl.org/05-spring/article2.html
3. Free Software Foundations software directory. http://www.fsf.org/
4. Hebert, Eric. How Open Source Software Can Improve Our Library. Retrieved January 30, 2018, from Web site: http://www.degreetutor.com/library/managing-expenses/open-source-library
5. Kumar, Vimal (2007). Selection and Management of Open Source Software in Libraries. In Kumar, Manoj K., Eds. Proceedings CALIBER 2007: 5th International Convention on Automation of Libraries in Education and Research Institutions, 1-5.
6. Mackenzie, Adarian (2001). Open Source Software: When is a Tool? What is a Commodity?. Science as Culture, 10(4), 541-552.
7. Morgan, Eric Lease (2002). Possibilities for Open Source Software in Libraries. ITAL: Information Technology and Libraries. 21(1), 12-15. Retrieved February 5, 2018, from Web site: http://www.ala.org/ala/lita/litapublications/ital/2101morgan.cfm