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# Applications of Open Source Software in Libraries

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**Abstract**

Open Source Software (OSS) play a vital role in Library automation. Now a day open source system empowering libraries with new tools & technologies for acquiring, organizing & disseminating information more efficiently & effectively. Libraries are taking up OSS as a way to reduce the cost of expensive commercial product and as a viable alternative to the often expensive proprietary library automation. After completion of this lesson, learners would be acquainted to the concept of open source software and popular open source software that are available for automating libraries.

**Keyword:** Open source software, Digital Library Software, Library Management Applications, Koha, NewGenLib., Evergreen, Greenstone, Open source license etc.,

## Introduction

The utilization of computer and internet technology has given rise to many innovation in the global community include education. Open source software (OSS) is one of them. Open Source Software (OSS) term was coined by Eric Raymond, it is the software for which the source code is freely and publicly available , though the specific licensing agreements vary as to what one is allowed to do with that code. The educational institutions/libraries are beginning to see the benefits of adopting open source software .Open source software (OSS) is software that users have the ability to run copy, distribute, study change, share & improve for any purpose. Open source software (OSS) for which the underlying programming code is available to the users may read it, make changes and modify the software without additional permission. It is available in source code. According to Microsoft Dictionary (2003) Source code are human readable programme statement written by a programmer or developer in a high level or assembly language that are not directly read by a computer. Its need to be compiled into object code before it can be executed by a computer. Open Source software is free for anyone to have more importantly not only is the software free, but it is also free for anyone to copy, hack modify etc.

## Open Source software for Libraries (Integrated Library Systems)

**Koha**: - Koha is open source integrated library system (ILS) currently used by the all over theworld .Many smaller libraries cannot afford to purchase install and maintain an ILS and Koha is a perfect alternative. Koha is very high degree of integration by adopting two MARC format (MARC & UNIMARC) and system available in 25 languages. More than 19 companies throughout the word can be identified offering software counselling, support training accommodation etc.

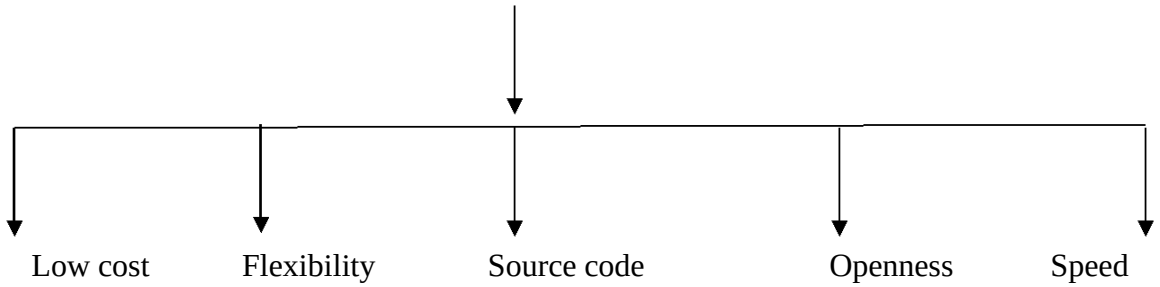
**NewGenLib:** - NewGenLib (New Generation Library) integrated library managementsystem developed by Verus Solutions Pvt Ltd. Domain expertise is provided by Kesavan Institute of Information and

Knowledge Management (KIIKM) in Hyderabad, India.NewGenlib version 1.0 was released in March 2005. On 9 January 2008, NewGenlib was declared Open Source Software under GNU General Public License (GPL) License by Versus Solutions. Currently NewGenlib 3.0.3 U2 is the latest version running. Presently about 2,500 libraries and information centres are using NewGenlib across the world.

**Evergreen: -** Evergreen ILS developed by Equinox Software, Evergreen is a robust, enterpriselevel ILS solution developed to be capable of supporting the workload of large libraries in a fault-tolerant system. It too is standards compliant 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 locked away and can benefit from any community contributions. Evergreen community shows great potential based on its vitality & sustainability:-

- Rapid growth of its community of developers and contributors.
- Highly level of user satisfaction as demonstrated by the annual user survey and journal publication.

**Reason for open source software**




**Open Biblio :-** is an open source Integrated Library System. The software is popular with small and rural libraries worldwide due to its simplicity, extensive language support, and good documentation. Though the system is still under active development, it has already become widely used in small libraries and archives worldwide.

**Digital Library Software:**

**1. Greenstone Digital Library Software**:-The Greenstone digital library software is an open-source system for the construction and presentation of information collections. Greenstone isproduced by the New Zealand Digital Library Project at the University of Waikato, and developed and distributed in cooperation with UNESCO and the Human Info NGO. It is open-source, multilingual software, issued under the terms of the GNU General Public License .The aim of the Greenstone software is to empower users, particularly in universities, libraries, and other public service institutions, to build their own digital libraries. It allows extremely varied digital collections to be published on the Internet or on CD-ROM.

**2. DSpace**: **-DSpace**is anopen sourcerepository software package typically used forcreating open access repositories for scholarly and/or published digital content. DSpace repository software serves a specific need as a digital archives system, focused on the long-term storage, access and preservation of digital content. Some most important features of DSpace are as follows:-

- Free open source software
- Completely customizable to fit user needs
- Manage and preserve all format of digital content (PDF, Word, JPEG, MPEG, TIFF files)
- UTF-8 Support

- Interface available in 22 language

**3. E-Prints:** is a free and open-source software package for building open access repositories that are compliant with the Open Archives Initiative Protocol for Metadata Harvesting. Prints has been developed at the University of Southampton School of Electronics and Computer Science and released under a GPLlicense.

**4. Fedora: (Flexible Extensible Digital Object Repository Architecture)** open source software gives organizations a flexible service-oriented architecture for managing and delivering their digital content. At its core is a powerful digital object model that supports multiple views of each digital object and the relationships among digital objects. Digital objects can encapsulate 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 combination of features makes Fedora an attractive solution in a variety of domains. Some examples of applications that are built upon Fedora include library collections management, multimedia authoring systems, archival repositories, institutional repositories, and digital libraries for education.

**Advantages of Open source software:-**

- Less software cost: - Open Source software generally requires no licensing fees.
- Reliability: - Open Source software is reliable because there are more eyes on it, the reliability of open source code tends to be superior as well with a worldwide community supporting rather than one team within one company.
- No restriction on use :- There is no contractual restriction on how the software is used
- Flexibility:-Open source software is all about flexibility users of open source software benefit from the freedom to modify the software in a way that suits the business/libraries and other organizations.
- Free Distribution
- Source code
- Distribution of licence
- No discrimination against a person or group

**Open source software in the field of library and information management**

Open source software in the field of library and information management, in comparison to other sectors, the emergence of ‘Open Source Software’ in the field of library and information management are more viable option as the cooperation and coordination are the key issues in library services. Library professionals have always focused on cooperation, resource sharing, consortia and on open access, standards, archive initiatives and so on in order to help each other in collection development and implementation of tools and technologies, among others. This attitude and the prevalent economic situations have facilitated the development of Open Source

Software (Seeran, 2011) in the field of library and information management. In the initial stage, due to lack of awareness on technical aspects, right of use, sustainability, and so on, there has been a lot of confusion among librarians about ‘Open Source Software’. For instance, several arguments have been put forward that free software, by its very nature, is not well supported, and can only be installed and made ready to use by computer experts. This misconception prevents non computer professional

librarian to utilize this type of software, who prefer the easy to use commercial software that have user-friendly interface.

**Some important popular Library Management Applications:-**

**A Tutor [http://atutor.ca/]** - ATutor's is a Open Source technology and cost effective tool for both small and large organizations, presenting their instructional materials on the Web, or delivering fully independent online courses. It is a Open Source Web-based Learning Content Management System (LCMS) designed with accessibility and adaptability in mind.

**Word Press:** - Word Press started out as a quick, free, open-source solution blogging solution just a few years ago today it is a perfect alternative to building a web site from scratch. One of the most popular blogging platforms and content management systems .In addition to being free to use (and easy to install), the WordPress community has exploded, with thousands of users and programmers creating custom themes and plug-ins to completely change the way the software looks and operates. The most important aspect of the software is its easy-to use interface and content management system. With its visual rich editor, anyone can publish text and photos to the web site. Other options include multiple authors (with separate log-ins), built in RSS (Real Simple Syndication) technology to keep subscribers updated, and comment system that allows readers to interact with the sites content. A fantastic way to communicate with patrons, staff, etc.

**Drupal:-** Drupal is another open source web publishing option that allows an individual or acommunity of users to easily publish, manage and organize a wide variety of content on a website. Tens of thousands of people and organizations have used Drupal to power scores of different web sites, including Community web portals, Discussion sites, corporate web sites, Intranet applications, Personal web sites or blogs, E-commerce applications, Resource directories.

**CORAL [https://erm.library.nd.edu/]** - CORAL is an open source Electronic Resources Management System developed at the University of Notre Dame licensed under a GPLv3 license. It is web-based and runs in an Apache, MySQL, PHP environment. It delivers modules to manage resources, licensing, organizations (publishers, vendors, societies, etc.), and statistics. These modules link resources to licenses and providers, but they can be implemented independently. It also allows integration with different link resolvers (currently only SFX).

**Joomla [www.joomla.org/]** - Joomla is a Content Management System (CMS), which enables to build Web sites and powerful online applications. The core Joomla framework enables developers to quickly and easily build Inventory control systems; Data reporting tools; Application bridges; Custom product catalogs; Integrated e-commerce systems; Complex business directories; Reservation systems and Communication tools.

**Open source license:**

Open source licenses are assure users freedom to use, copy, improve and distribution of software. GPL is the most popular license for free and open source software and provides feasible terms of use. Using GPL license, 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. Some of the most common licenses used for Open Source are:

1. GNU General Public License (GPL) /Affero General Public License

2. Creative Commons
3. GNU Lesser General Public License (LGPL)/ Artistic License
4. Berkley System Distribution License (BSD)/ Apache Software License/ MIT License/ NCSA License
5. OCLC Research Public License

**Application of using open source software in libraries:-**

1. OSS is an economical alternative to libraries reliance upon commercially supped software.
2. OSS is essential if libraries are to develop software and systems that meet their patrons needs.
3. OSS ensures that library systems and online services will be more functional for patrons.
4. OSS democratizes the use of software applications in libraries irrespective of the **type** or size of the library
5. Empowering Indian libraries in the cutting edge of library budget due to its low start up cost. Libraries of all kind & size can use open source software like KOHA /NEWGEN/library Manager.
6. OSS tools are helping libraries to overcome problems of high budget allocation for buying commercial solution.
7. Now a day DSpace is predominant Open source library software have been installed at global level. It is also highly compatibles and user friendly in access & preservation of all.

**Summery**

The OSS has been found very useful in various library operations. The OSS is a solution to reduce the cost. Library can make use of open source software for managing digital contents effectively. These softwares and applications are more stable, secure, auditable and extensible than the commercial alternatives. Moreover using OSS guarantees that the standards and protocols used in the library will be open to examination and helps the library community to build upon previous success. Alternatives. By using open source software in the library, 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.

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