

Open source Integrated Library Management Systems.

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Introduction

Open source software has become a trend setter in the arena of software development and distribution. The development of open source software was a reaction to the existing legal instrument on software copyright from the software developer's community¹. Open source softwares are available free of cost and users have the freedom to run and distribute the software without any restriction. Normally small and medium size libraries feel automation of house keeping operations as a financial burden due to the high price of Library Management Systems (ILS). Development of open source library management systems gives effective way to automate their library operations without much financial investment.

Open source software movement

The history of open source software began with the early stages of computer and software development. At the time programmers and developers frequently shared their software freely. Advent of companies in software development with the aim of profit making restricted the culture of sharing source code of software. Milestones in the history of open source software are:

1983 - Richard Stallman formed GNU project.

1985 – Creation of Free Software Foundation.

1991 – Development of Linux kernel by Linus Torvalds.

1998 – Open Source Initiative (OSI) formed by Eric Raymond.

The two terms, “free” and “open source” are used synonymous for free distribution of softwares. Popular licenses used for this purpose are the GNU General Public License (GPL), BSD license, GNU Lesser General Public License, MIT License, Mozilla Public License and Apache License. All these licenses have some differences in their terms and conditions; they ensure users freedom to use, copying, distribution and improvement of software. Fundamentals of these licenses are similar to the philosophy of Free Software Foundation. “Free software is a matter of

the users' freedom to run, copy, distribute, study, change and improve the software"². According to Free Software Foundation users can enjoy the following freedom with free softwares:

- The freedom to run the program for any purpose.
- The freedom to study and modify the program
- The freedom to copy the program.
- The freedom to improve the program.

The development of open source software process is a social collaborative activity. Eric Lease Morgan likes to compare this process against scholarly academic communication, because it goes through a sort of peer review process. The process begins with a problem to solve and writing a computer program. "The initial communication process starts with sharing this program with sets of peers. Soon a community develops and begins to use the software. Someone, whose problems are similar but different from the initial problem, decides to enhance the original problem. This enhancement given back to the original programmer, if the enhancement is not detrimental to the original concept of the program. Then the enhancement is often incorporated in to the program, the new piece of software is redistributed, and the process begins anew"³.

Need for Library Management System (ILS)

An integrated library system, or ILS, is an enterprise resource planning system for a library. An ILS is designed to coordinate and automate such library functions as the online catalog, the circulation system, and the acquisitions system⁴. Often; ILS fulfills the requirements of cataloguing, serial control, circulation, OPAC and other information management services. Library professionals welcome the use of ILS; it improves the efficiency of house keeping operations. Use of ILS requires only the one time entry of the data (bibliographic and user) and the same can be made use for all other purposes.

Open source Library Management System

Price of proprietary library management softwares are very high and financially weak libraries cannot invest large amount for library automation. Extra payment is required for software updating and maintenance in future. Library community is largely made of not-for-profit, publicly funded agencies. The principles and practices of open source software are very similar to the

principles of and practices of modern librarianship. Both value free and equal access to data, information, and knowledge⁵. Open source ILS consist all the essential functional modules (cataloguing, circulation, OPAC) and at the same time they provide some features that are only available with costly software's. Noted features of open source ILS are:

1. Open license (General public License (GPL)).
2. Open source ILS are operating system independent. They are compatible with Linux, Windows and MacOS.
3. Web interface.
4. MARC support.
5. Z39.50 standard
6. Barcode input and generator.
7. Entire software is customizable.
8. Active development status and world wide user community.
9. Multi language support.

Following is a brief description of popular open source ILS:

KOHA

Koha is the first open source ILS with large user community. Developed initially in New Zealand by Katipo Communications Ltd and first deployed in January of 2000 for Horowhenua Library Trust, it is currently maintained by a team of software providers and library technology staff from around the globe⁶. Koha is written in PERL language and requires MySQL database, Apache web server and can work with Linux or Windows.

Acquisition, cataloguing, serial control, OPAC, and circulation are the functional module available with Koha. Other features are MARC, Z39.50, barcode, RSS feeds, web interface and multi branch library support. Active users and developers community makes the Koha project hectic and it result in quick bug fixing, implementation of new features and scheduled launching of new versions. In 2006 alone, Koha updated three times with major changes.

User support for Koha is available through documentation website (www.kohadocs.org), Wiki, mailing lists and open source vendors. Koha now have more than one hundred registered users.

Home page: www.koha.org

PMB

PMB project originated from France in 2002 by François Lemarchand. Majority of documentation, software interface and web site are in French language. Translation from French to other languages is in progress. PMB has modules of circulation, OPAC, cataloguing with UNIMARC support, serial control and an SDI (Selective dissemination of Information) system. Installation and maintenance of PMB is easy in Windows and Linux compared to the installation of other open source ILS. An easy to use graphical interface for database back up, maintenance, import and export of bibliographic records is available with PMB. Using these, librarians can maintain the daily database back up without the help of computer administrator. Other key features are user friendly web interfaces for librarian and users, UNIMARC, Z39.50, in built barcode generator, Multi language support (French, English, Spanish, Italian and Portuguese), import and export of bibliographic records in different formats, detailed documentation for users and administrator.

Home page: www.sigb.net

PhpMyLibrary

PhpMyLibrary is a PHP MySQL Library automation application developed in Philippines by Polario Babao. The program consists of cataloging, circulation, and the OPAC module. The program also has an import export feature. The program strictly follows the USMARC standard for adding materials ⁷.

Home page: www.phpmylibrary.org

OpenBiblio

OpenBiblio is an easy to use, automated library system written in PHP. It has essential functional modules like OPAC, circulation, cataloging, and staff administration only, therefore suitable for the automation of small libraries in schools, churches and clubs. Development of OpenBiblio is still in child hood stage, more contribution from users and developers are essential to survive the project.

Home page: <http://obiblio.sourceforge.net/>

Emilda

Emilda is another well designed open source ILS which suits libraries of all sizes and is developed by Realnode Ltd, Finland. Features of Emilda are OPAC, MARC support, extensive configuration and full customization. Development of Emilda seems to have been stopped, no updates or new versions has not published since mid 2005.

GNUTECA

GNUTECA is an Open Source Software for library automation, highly popular among public academic and governmental special libraries in Brazil. It has modules of cataloguing, Loan, Circulation serial control interlibrary library loans and OPAC. This project was the first started by three Brazilian programmers in 2001. GNUTECA supports MARC21 and CDs/ISIS conversion. One of its liabilities is that the software and the documentation use Brazilian Portuguese.

GNUTECA only runs under Linux, Apache, PHP and PostgreSQL.

The Evergreen ILS

The Evergreen ILS developed and maintained by the Georgia Public Library Service for use by the Georgia Library PINES Program, a consortium of 252 public libraries. Evergreen is the first open-source library automation system designed from scratch for large-scale deployment in very large public library and state-wide consortium environments. The Evergreen ILS use Linux, MYSQL Mozilla and Jabber.

Learning Access ILS

The learning Access ILS is a full feature open source library automation system developed for use by public and school libraries throughout the world. The system fully supports MARC 21, Z39.50 and Unicode. Learning Access ILS fully implemented OPAC, catalogues, Circulation and Z39.50 client server.

The project has yet to officially release its source code base to the general public, because the Learning Access Institute is waiting until they reach stable development status.

System requirements are Linux or windows, Apache, PHP, YAZ and MySQL.

Most of the open source library management systems are either in developing stage or not have full functional modules. Of them, Koha, PMB, OpenBiblio and PhPMyLibrary satisfy key functional requirements of a library management system. They supported essential modules like cataloguing, Circulation, and Public Access Catalogue. Following table describes the detailed features of Koha, PMB, OpenBiblio and PhPMyLibrary.

Availability of Functional Features of Koha, PhpMyLibrary and OpenBiblio.

FUNCTIONS/SUB- FUNCTIONS				
	Koha	PMB	PhpMy Library	Open Biblio
1. ACQUISITION				
Duplicate checking	✓	✓	x	x
Selection of Vendors	✓	✓	x	x
Ordering	✓	✓	x	x
Receipting	✓	✓	x	x
Fund control	✓	✓	x	x
2. CATALOGUING				
Record Creation	✓	✓	✓	✓
Duplicate checking	✓	✓	✓	✓
Record editing	✓	✓	✓	✓
Authority control	✓	✓	✓	✓
Cataloguing copies	✓	✓	✓	✓

Key word/ thesaurus generation	✓	✓	✓	✓
Import & export of data	✓	✓	✓	✓
3.PUBLIC ACCESS CATALOGUE				
Normal search	✓	✓	✓	✓
Advanced search	✓	✓	x	x
Status enquiry	✓	✓	✓	✓
Prompts & Help messages	✓	✓	✓	✓
Internet access	✓	✓	✓	✓
4.CIRCULATION				
Patron & Items files	✓	✓	✓	✓
Setting parameters (Issue, return, renewal fees, fine etc)	✓	✓	✓	✓
Fines & overdue notice	✓	✓	✓	✓
Holds & recalls	✓	✓	✓	✓
Reservations	✓	✓	✓	✓
Renewal	✓	✓	✓	✓
Short term loans	✓	✓	✓	✓
5 SERIAL CONTROL				
Ordering	✓	✓	x	x
Receipting	✓	✓	x	x
Claiming	✓	✓	x	x

7.System maintenance				
User assistance (Manual/ literature)	✓	✓	✓	✓
Security of records and files	✓	✓	✓	✓
Up- gradation	✓	✓	✓	✓
Customization	✓	✓	✓	✓

Changing scenes in ILS market

Development of open source project is a community based activity; anybody can join and contribute to the social group. Open source software's introduces new business models for revenue making; they do not make money directly from its software products. Companies and individuals in open source business earn money in return of provide services like systems integration, support, tutorials and documentation while being the free availability of the software product. LibLime is a US based open source service provider company promotes integrated library management systems Koha and Evergreen. They concentrate in the migration assistance, staff training, and software maintenance, support, and development of open source software solutions in libraries. Open source software's are copyright protected against proprietary use, and allow anybody to make profit by selling software services.

Another highlight in integrated library system scenario is the formation of consortiums for the development of open source library management systems. 'Georgia Library PINES Program' is a consortium of 252 public libraries maintained by Georgia Public Library Service. They developed Evergreen library management system for the automation purpose of consortium libraries. The Evergreen library management system can download free and anyone can contribute to the development efforts.

Open source library management systems projects are highly rely with library professionals and users to its error fixing, suggestions for new features, documentation and translation. They already succeeded in the build of basic functional modules and features essential for a

library management system. In the current state, the open source automation systems offer only promise and potential and are not yet a viable option for a run-of-the-mill library. Small libraries are the main users of open source library management systems. The capabilities of the open source systems could soon surpass (or may have already) the features of some of the commercial systems that target small libraries⁹. Library professionals organizations and library science schools in India still follows head in sand approach towards give awareness and training in open source library management systems.

Conclusion

Library professionals are recognizing the impact of open source softwares and began to adapt in library automation purposes. Many libraries simply do not have the in-house expertise to support open source software development, and also don't have the ability to train staff on the use of the new technologies¹⁰. In such situations libraries can hire the services of open source software support vendors. Software service agencies and professional are needed to come forward for the implementation and ongoing support of open source software solutions in libraries. Many open source integrated library systems are secure and reliable than their proprietary software rivals. Koha and PMB satisfy all the functional requirements of a library management system. Other two (PhpMyLibrary and OpenBiblio) are not up to the level of a comprehensive system and suitable for small library collection. Most wanted functional modules; acquisition and serial control are currently not available in PhpMyLibrary and OpenBiblio. At the same time, they provide some features that are only available with costly ILS; web OPAC, document status enquiry, reservation and holds of documents through OPAC, customization of user and graphical interface, import and export of MARC data. PhpMyLibrary and OpenBiblio provide essential functional modules (Cataloguing, OPAC, circulation) satisfactorily. It is necessary to make awareness among library professionals about the advantages of open source softwares. Then only libraries can attain tremendous savings on library automation and get increased product performance at the same time.

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