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NEED AND IMPORTANCE OF OPEN SOURCE SOFTWARE IN LIBRARIES

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Abstract *Open Source Software provides a new way for the construction and presentation of information collections of libraries in the age of ICT. Open Source Software are free and offer effective full-text searching and metadata-based browsing facilities that are attractive and easy to use. This paper has made an attempt to highlight the main issues of Open Source Software. It also describes some of the important Open Source Software, being presently used all over the world in libraries and information centers and also explores the important characteristics and features of the software.*

Keywords: *Open Source Software, Digital Library Software, Library Automation, ICT, Need and Importance*

INTRODUCTION

Due to the advancement of ICT and explosion of literature, the concept of a library has fully changed from printed to digital. In the present era, every library is trying to automate its different services and change its collection into digital and electronic collection by using different types of library software. For this purpose the concept of open source software has become very popular. Open Source Software is freely available software and the source code of that software can be changed according to the needs of the users or organizations. Open Source Software are becoming very important for libraries due to their special features and advantages. Dspace, Eprints, Greenstone, Fedora and Koha are among the most popular Open Source Software which are widely all over the world due to the features of flexible searching, browsing, phrases and negligible maintenance.

Definitions

- *According to OSI (Open Source Initiative) "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".*
- *According to Wikipedia (Open Source Software) is computer software that is available in source code form the source code and certain other rights normally reserved for copyright holders are provided under a free software license that permits users to study, change, improve and at times also to distribute the software.*

OPEN SOURCE INITIATIVE (OSI)

Open Source Software are gaining popularly in present era to manage a library and a information Centre. Due to use of Open Source Software, Libraries of the developing countries are able to support electronic access, digital libraries, and resource sharing. Open Source Software has much potential for libraries and information centers to manage different kinds of information needs of users. Open Source Software is freely available software and the source code of that software can be changed (customization) according to the needs of the users or organizations.

IMPORTANCE

The concept of Open Source Software has become very important for libraries to manage their daily activities as well as digitization work.

According to the Draft Report of Digital Library Federation (USA), there are three main reasons to adopt Open Source Software in Libraries:

- OSS is an economical alternative to libraries reliance upon commercially supplied software. That is, despite the real costs involved in the development, maintenance, and use of OSS but these are lower than those associated with library reliance upon commercial software.
- OSS is essential if libraries are to develop software and systems that meet their patrons' needs. With OSS the IT infrastructure that is essential to library operations and services can be:

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  - Open (that is, built according to open standards and as such potentially interoperable with other essential software and systems):
  - Ubiquitously available to libraries;
  - Capable of being tailored to suit the needs and circumstances of individual libraries;
  - Documented (and documentation must be available).
- OSS ensures that library systems and online services will be more functional for libraries and their patrons and as such be good for library patrons. This hypothesis is posited because, through OSS developments, libraries:
  - Are reinserted into the research and development process that results in systems and software;
  - Are able more easily to collaborate with other information science communities involved in common research and developments area.

By using Open Source Software to manage libraries, we can get many advantages. Some of them are given following:

- Low initial and ongoing costs.
- Eliminate vendor lock-in.
- Security stability and reliability.
- Without and restrictions for using.
- Greater flexibility.

CHALLENGES OPEN SOURCE SOFTWARE

There are so many advantages to use Open Source Software in libraries but there are some challenges also:

- Ownership issues.
- Risks of no warranty or liability.
- Lack of support for new developers.
- Lack of coordination and communication between developers.
- Requires coordination with other code developers.
- Lack of awareness.
- Libraries have been slow to adopt open source.
- Need to provide the staff with additional development and training to enable them to work with open source software.

HOW TO SELECT OPEN SOURCE SOFTWARE

Security, performance and reliability are very important criteria for selecting software but to evaluate an Open Source Software, following are some important points which should be taken into consideration:

- Interoperability with other software.
- Software should implement open standards.
- Reputation of the software.
- Monitor ongoing efforts and usability.
- Documentation should be available for the software.
- Software should have an active support community.
- Third party commercial support should be available.
- Updating of versions of the software must be available.
- Availability and conditions of the license.
- Security and reliability issues must be very efficient.

OPEN SOURCE SOFTWARE FOR LIBRARIES

Library Automation

Koha: Integrated Library System

Koha is the first open source ILS (released in 2000 as open source) and possibly it is now the most feature rich open source ILS. Koha changed the rule of game in the ILS market and set trends in many ongoing changes in the area of library automation. The Koha ILS community is very active and in every month the developer community provides a bugfix release. Koha versions with new features are released in every six months (for example the next stable version 3.16 is expected to be released in June 2014). Koha is an integrated library management system that was originally developed by Katipo Communications Limited. Koha is Full-Featured truly enterprise-class platform-independent, Award Winning, Open Source Integrated Library Management System (ILMS). A complete modern Web-based, Multilingual OPAC system.

- Cataloguing (MARC21 and Unimarc)
- Web Based OPAC
- Circulation and Management
- Acquisition
- Email Notifications
- Reports
- Patron Management

Koha user/patron management, statistical report generation, RFID support ability has been reported by some pay for-

support company site, support multiple languages and providing an overdue notice/status trigger mechanism.

- System administration (global parameters settings for each module, basic parameters settings for library, enhanced contents for integrating cataloguing data with global resources through information mashup, comprehensive, report generation, granular access control, independent branch management option, log records supervision setting etc.);
- Acquisition (basic parameters for acquisition, budget head and fund allocation, real time fund accounting, vendor management, different types of order handling, exclusive data entry framework in acquisition module etc.);
- Cataloguing (comprehensive MARC editor, inclusion and integration of MARC 21 bibliographic and authority framework, integration of thesaurus and authority lists, multingual data entry, sub module for authority data management, integration of catalogue data with global related resources through title-ISBN matching rule, help to manage leader etc.);
- Circulation (all required activities support, off-line circulation, granular circulation rules, fine calculation through cron job, RFID integration facility, member photo management, fast cataloguing in circulation module, renew, holds management, user-driven reservation etc.);
- Serials control (predictive mode of serials control, easy management of kardex of loose issues of journals, holdings manangement, separate display for back volumes and current issues, provision for routing, easy renewals, creation of frequency master and numbering patterns, links with cataloguing module and budget head under acquisition module etc.);
- Report generation (predefined reports, custom report format, provision for pick and choose fields, auto scheduling of reposts, sorting and filtering provision, statistical reports, top lists, format exchange provision); and
- OPAC (searching and browsing, simple and advanced search interfaces, OPAC language change option, user login for personal information environment, authority searching, tag cloud, subject cloud, purchase suggestion, filter by language, item types and library, different sorting options (title, author, relevance, dates, popularity, call number, cart for listing favourite documents, private and public lists, filtering by subtype —by, by content type, by format, by availability, purchase suggestion etc.).

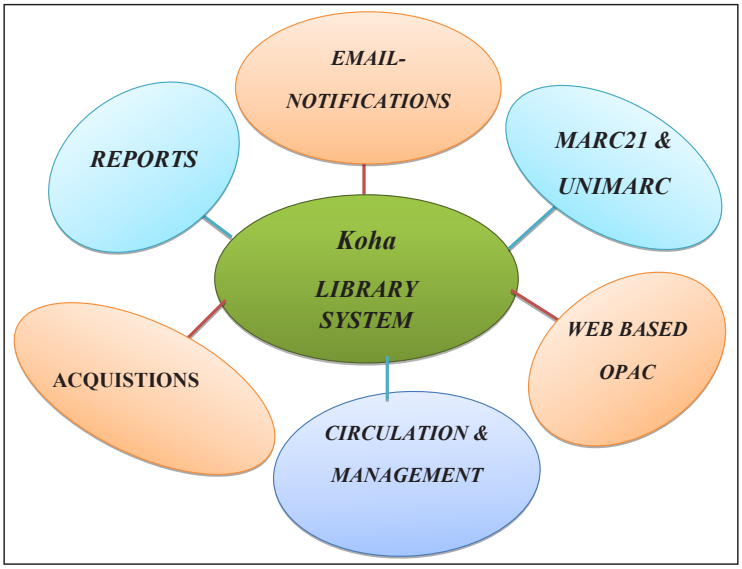


Fig. 1: Koha Open Source Library Management Software

Evergreen

EVERGREEN

Evergreen is originated from Public library domain in 2006 like Koha (released in 2000 as open source ILS). It has modules for circulation, cataloguing, web catalog and statistical reporting, acquisition and serials control.

Major Features

Evergreen supports user/patron management, an ability the general features of evergreen ensure stability, capability, flexibility, security and interactivity. Apart from these features, it supports all sorts of core activities like:

- System administration (privilege control, user and group management, cataloguing editor control, log records management, system parameters settings, report generation, backup and restoration etc.);
- Acquisitions (acquisitions settings, cancel/suspend reasons, currency types, distribution formulas, funds management, invoice menus, holdings information, invoices and other information etc.);
- Cataloguing (comprehensive MARC editor, authority data control, model data entry worksheet, authority lists support, integration of external resources, creation of browsing categories, record display control, link checker etc.);
- Circulation (Member management, member data migration, RFID integration, in-built support for bar-coded circulation, auto calculation of fines and overdue, SMS alert for overdue materials, member card generation, off-line circulation etc.);
- OPAC (searching and browsing, availability of sophisticated search operators, separate OPAC for kids, search results in many formats, facility to store favourite books in "My lists:, third party content support such as reader reviews) in kids OPAC, user-driven holds/reservation etc.)
- Serial control (MARC Format for Holdings Display (MFHD) display in the OPAC, two views of serials control-small number of issues and large number of issues (both views help to create subscriptions, add distributions, define captions, predict future issues, and receive items), loose issue management etc.);

NewGenLib

NewGenLib or NGL started as commercial ILS in 2005 and made available as open source ILS under Gnu GPL in 2008. NGL has five fundamental modules-technical Processing (Cataloguing), circulation, acquisitions, serials management and web OPAC including administration for parameters settings and report generation. The features of the ILS are:

Major Features

- NewGenLib can be extended to support other languages easily. It also provides RFID integration and supports multiuser and multiple security levels.
- Acquisition (Online requests by users, Firmorders, On-approval purchases, Standing orders, Exchange-triggered acquisitions etc.);
- Cataloguing (supports data-entry using MARC tags, fields, sub-fields, etc., or simple, label and form based data-entry, Import of MARC records from sources such as OCLC or from free MARC download sites on the web, Access to authority files during data entry and catalogue database searching, Catalogue record attachments enabling access to related data etc.);
- Circulation (apart from traditional functions supports-Setting of a wide range of circulation options, fines, user privileges, etc.); needed in different library environments, renewal and reservation operations, Interlibrary transactions, Binding management, Management Information Reporting for better management of collection and Assistance in stock verification);
- OPAC (supports-Browser-based access to the library's catalogue database, retrieval, display, print, download and formatting options for patrons (Customised), text format (brief), Text format (Full) interact with library staff via instant messages/email).

OPEN SOURCE SOFTWARE FOR DIGITAL LIBRARIES

According to Wikipedia *"A digital library is a library in which collections are stored in digital formats (as opposed to print, microform, or other media) and accessible by computers. The digital content may be stored locally, or accessed remotely via computer network."*

GREENSTONE DIGITAL LIBRARY SOFTWARE

Greenstone is a suite of software for building and distributing digital library collections. It provides a new way of organizing information and publishing it on the internet or on CD-ROM. Greenstone is produced 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. Greenstone provides documentation in several languages such as Arabic, Spanish, French, Russian and English. It supports multimedia and multilingual documents. It is focusing on managing digital repository supported variety of digital documents such as articles, books, theses, multimedia files and bibliography. It also supports multimedia and multilingual documents.

Fedora

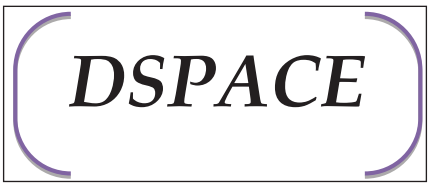
The Fedora digital object repository Management system is based on the Flexible Extensible Digital Object and Repository Architecture (Fedora).The system is designed to BNVMHB BHNHHYJRY be a foundation upon full-featured institutional repositories and other interoperable web-based digital libraries can be built. Fedora supports repositories that range in complexity from simple implementations that use the service's "out-of-the-box" defaults to highly customized and full featured distributed digital repositories.

EPrints

EPrints is an open source software packages for building open access repositories that are complaint with the Open archives Initiative Protocol for Metadata Harvesting. It shares many of the features commonly seen in Document Management Systems, but is primarily used for institutional repositories and scientific journals. EPrints has been developed at the University of Southampton School of Electronics and Computer Science and released under a GPL license.

DSpace

DSpace is a ground breaking digital institutional that captures, stores, indexes, preserves and redistributes the intellectual output of a university's research faculty in digital formats. It manages and distributes digital 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 Hewiett-Packard (HP). DSpace was designed as an open source application that institutions and organizations could run with relatively few resources. DSpace supports submission, management and access of digital content.



CONCLUSION

Open Source Software plays a very important role in library management in the present age of ICT. Open source empowers libraries to be innovate and collaborate due to having much potential for libraries and information centers to manage different kinds of information needs and different kinds of users. With many open source software applications now available for library and information centers, they have a new option for acquiring and implementing new systems to the benefit of users and libraries. The concepts of open source software, their benefits and importance to libraries should be examined, explored and should be implemented by librarians and information professionals

REFERENCES

Chawner, B. (2003). *Free/open source software new opportunities, new challenges* [Online]. Retrieved January 25, 2012, from https://www.vala.org.au/vala2004/2004pdfs/33Chawn PDF

Dhiman, A. K. (2011). Open source library software: Some issues and challenges. Monawwer. I. (Ed.), *Information Professionals Issues and Challenges in Digital Age* (pp. 43-48). New Delhi: Pragun Publication.

Retrieved January 25, 2012, from http://en.wikipedia.org/wiki/Special:Search/Open-source software

Retrieved January 25, 2012, fromhttp://software.eprints.org

Retrieved January 25, 2012, from http://www.dspace.org/resource/start.html

Retrieved January 25, 2012, from http://www.fedora.info/release/1.2.1/

Retrieved January 25, 2012, from http://www.greenstone.org/

Retrieved January 25, 2012, from http://www.koha.org/

Retrieved January 25, 2012, from http://www.opensource.org