Open Source Software for Library

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Abstract: - *Open source software is, software that users have the ability to run, copy, distribute, study, change, share and improve for any purpose. Open source library software's does not need the initial cost of commercial software and enables libraries to have greater control over their working environment. Library professionals should be aware of the advantages of open source software and should involve in their development. They should have basic knowledge about the selection, installation and maintenance. Open source software requires a greater degree of computing responsibility than commercial software. Library professionals do not think seriously about the advantages of open source software for automation and hence are reluctant to use it. They do not have the expertise to support open source software. This Paper highlights major open source library software.*

Keywords: Open source software, commercial software, Open source

Introduction;-

The term "open source" refers to something that people can share because it is made for public access. The term "software" is used in the context of computer programming. Today, "open source" designates a broader set of sources that we call as the open source way, open exchange source and community-oriented development.

The Proprietary software is source code software. This software is used by only those persons, team, or organization that has created it, can control it or can modify. This type of software is called as "proprietary" or "closed source" software. This type of software will not work without permission of software developers. Microsoft Office is an example of proprietary software.

Open source software is computer software whose source code is available under a license or its developers make its source code available to others who would like to view that code, copy it, learn from it, alter it, or share it, that permits users to study, change, and improve the software. Open source is reengineering our technology and our daily lives in many ways. Open source programmers continue to grow the definition of

Open source software and add to the value it brings to our society.

In the present era many libraries are going toward organizing their books, periodicals and other media as digitalized databases for providing best library services to the users. In order to manage such kinds of information and information resources libraries require integrated software. But, need of software, cost of software, installation costs and the lack of money prevents most the libraries from using software. Due to this reasons, many libraries are deprived of staying up to date with the latest technology. So as to deal with this issue, and for the benefit to libraries, different NGOs and individuals have developed and distributed free of cost software, which is freely available for downloaded and installed on internet.

Definitions:

Proprietary - the software costs money and the source code is restricted. You cannot modify, fix, add to, take away, or change the code in any form.

Open Source - The software is most likely free and the source code is completely open. You can modify, fix, add to, take away, and change the code any way you wish (Lochhaas & Moore, 2010).

Definition by Renée Lynn Midrack (Updated August 23, 2017) Open source software (OSS) is software for which the source code is viewable and changeable by the public, or otherwise "open". When the source code is not viewable and changeable by the public, it's considered "closed" or "proprietary". (https://www.lifewire.com/what-is-open-source-software-4147547).

According to open source initiative (http:/www.opensource.org) "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 program must guarantee the right to read, redistribute, modify and use it freely."

The Free Software Foundation promotes the Four Essential Freedoms of using free software:

- The freedom to run the program, for any purpose.
- The freedom to study how the program works, and change it to make it do what you wish. Access to the source code is a precondition for this.
- The freedom to redistribute copies so you can help your neighbor
- The freedom to distribute copies of your modified versions to others.

  By doing this you can give the whole community a chance to benefit from your changes. Access to the source code is a precondition for this.

Useful Open Source Software for Libraries:

On the basis of electronic library functions, their activities can be divided into three categories i.e.

Library Automation, Digital Library and Web Publishing. For those processes the following some open source software are used,

A) **Open source software for library Automation**

i) KOHA

KOHA was the first open source integrated library system, the first version of it was released in year 2000. Many smaller libraries cannot afford to purchase, install, and maintain library software; for them Koha is a perfect alternative. Koha is built using integrated library system standards and uses the OPAC. In addition, Koha has no vendor-lock in, so libraries can receive tech support from any party they choose. It is web-based open source software worked under the general public license. It also has the capacity to manage digital libraries and online and offline electronic resources.

Features

KOHA is a web-based Integrated Library Management System (ILS), with a SQL database (My SQL preferred) backend with cataloguing data stored in MARC and accessible via Z39.50. The user interface is very configurable and adaptable and has been translated into many languages. Koha has most of the features that would be expected in an ILS, including:

- Simple, clear interface for librarians and members (patrons)
- Various Web 2.0 facilities like tagging and RSS feeds
- Union catalog facility
- Customizable search
- Circulation and borrower management
- Simple acquisitions system for the smaller library
- Serials system for magazines or newspapers
- Reading lists for members
- Easy barcode printing etc.

ii) **LibLime Koha** http://www.koha.org/about

LibLime Koha is the most advanced open-source Integrated Library System. It is web based, so there is no software to install on desktop computers, and LibLime hosting services means that no servers are required in the libraries. LibLime's IT experts manage all upgrades, backups and general system maintenance, and the Library's local IT staff can focus on the Library's many other projects.

The development of LibLime Koha is steered by a growing number of libraries throughout the world. These libraries, either on their own, or collaborating in groups, sponsor the development of new features to support their workflows. Its impressive feature set continues to evolve and expand to meet the needs of its sponsoring libraries. In keeping with open source tradition, library-sponsored enhancements to LibLime Koha are available for others to use, modify, and re-distribute.

LibLime Koha offers Libraries:

- Easy-to-use circulation policies, strong patron management, intuitive navigation, and extensive permissions for staff accounts.
- Enhanced matching policy and allowing libraries to update older records with a newer version.
- Libraries to 'undo' entire import batches from the catalog in a single click, rather than having to delete on a one-by-one basis.
- It also works with EzProxy as a dual authentication source for remote database access.
- OPAC, staff, administrative features and self-checkout interfaces are all based on standards-compliant World Wide Web technologies for making a completely Web-based solution.

iii) **NewGenLib:-** (http://www.verussolutions.biz/web/content/bestFeatures

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, NewGenLib has been declared Open Source Software under GNU GPL License by the Virus Solutions Pvt Ltd, Hyderabad, India. NewGenLib user-interface is designed to be very self-explanatory. However efforts are underway to make them simpler. For example: In Technical Processing module the librarian need not be aware of MARC21 standard. At the same time if the librarian is aware of MARC21, they can create their own data-entry templates; customize the search fields and so on.

NewGenLib is free of cost software without any conditions. On the other hand NewGenLib uses all open source components. NewGenLib has all functional modules of Library management completely implemented. It has the following modules

Cataloging
Circulation
Acquisitions
Serials Management
MIS Reports
Web Online Public Access Catalog

Features

- Functional modules are completely web based. Uses Java Web Start technology
- Compatibility - Complies with international metadata and interoperability standards: MARC-21, MARC-XML, z39.50, SRU/W, OAI-PMH
- Uses chiefly open source components
- Scalable, manageable and efficient
- OS independent - Windows and Linux flavours available
- z39.50 Client for federated searching
- Internationalized application (I18N)
- Easily extensible to support other languages
- Data entry, storage, retrieval in any (Unicode 3.0) language

- RFID integration
- Supports multi-user and multiple security levels
- Allows digital attachments to metadata.

iv) Automation of Libraries and Centres of Documentation :-

This versatile open software not only provides the automation functions to traditional libraries but also other information providers such as documentation centers. It has been developed by BIREME (WHO, Brazil) in collaboration with the Flemish Interuniversity Council, Belgium, and using UNESCO's ISIS database techno-logy. The first version of ABCD (v1.0) was released on 5th December, 2009. It has been built up with technologies such as ISIS database, ISIS formatting language, CISIS, ISIS Script, ISIS NBP, Java Script, Groovy and Jetty, PHP, My SQL, Apache, and YAZ (Randhawa, 2017).

Features

- The software is fully web-based, so it can be used from any current web-browser
- The functions of the library management are integrated using the same interface and databases
- Bibliographic records can be imported from external library servers through Z39.50 facilities
- OPAC with simple Google-like search as well as advanced search with Boolean operators, truncation, and field-limitation.
- Access to both physical and electronic documents with the same interface

v) **Evergreen software***(https://evergreen-ils.org/frequently-anticipated-questions/)*

The Evergreen develops an open source integrated library system used by more than 2,000 libraries around the world. The Evergreen was initiated by the Georgia Public Library System in 2006 to serve their need for a scalable catalog shared by more than 275 public libraries in the state of Georgia. Evergreen is open source software, it is helps library to organized library's catalog and circulate and searching library materials. Evergreen is open source software, freely licensed under GNUGPLv2. Its project is a member of software freedom conservancy.

B) Open source software for Digital library

i) Greenstone Digital Library Software (GSDL)

The Greenstone is a well known Open Source Software system to create and develop digital library. It has been developed by the New Zealand Digital Library project research group at the University of Waikato and is sponsored by the UNESCO. It is *open-source,* multilingual software, issued under the terms of the GNU General Public License.

The main objective of this software is to motivate and empower the universities, libraries, and public service institutions to create and develop their own digital library.

There are two major versions of the software: Greenstone2 and Greenstone3 (Greenstone 3.08 version was release of Nov. 2016.). Greenstone3 is under active development, and is recommended for download. They also provide maintenance releases for its forerunner, Greenstone2, which is widely used around the world. Greenstone3 is backwards compatible with Greenstone2 collections. If you are new to Greenstone we recommend downloading version 3. If you already have a Greenstone2 installation, you may choose between upgrading to the latest Greenstone2 release, or migrating to Greenstone3. The Librarian Interface in Greenstone3 includes a conversion tool to assist migrating collections.

ii) Dspace

DSpace is a free and easy to install software for University, college or any academic institutes, non-profit, or commercial organizations. It provides the tools for management of digital assets, and is commonly used as the basis for an institutional repository. Dspace is a useful tool for digital institutional repository that stores, indexes, preserves, and distributes the intellectual output of a faculty's research in digital formats. DSpace preserves and enables easy and open access to all types of digital content including text, images, moving images, mpegs and data sets. And with an ever-growing community of developers, committed to continuously expanding and improving the software, each DSpace installation benefits from the next.

The Mission of the Dspace is "We will create superior open source software by harnessing the skills of an active developer community, the energy and insights of engaged and active users, and the financial support of project members and registered service providers".

iii) Fedora:-

The name "Fedora" stands for Flexible Extensible Digital Object Repository Architecture. It is the digital object repository management system for express data in very specific ways. Features that support digital preservation such as the ability to scale to millions of objects and a rebuilder utility for disaster recovery and data migration help to ensure that digital content is durable and accessible. Fedora software development began in 1997 as a DARPA and NSF funded research project at Cornell University. The University of Virginia and Cornell University2 jointly developed Fedora with funding provided by a grant from the Andrew W. Mellon Foundation. The Fedora Team is proud to announce the release of Fedora 4.7.3 on June 7, 2017. Full release notes are available on the wiki. The Fedora 4.7.3 release is a backwards compatible refinement of the previous release, which fixes a namespace-corrupting bug that has the effect of Fedora being unable to successfully start after having been shut down It is especially useful for digital libraries for access and preservation. Fedora has a worldwide installed user base that includes academic and cultural heritage organizations,

universities, research institutions, university libraries, national libraries, and government agencies. The Fedora community is supported by the administration of the DuraSpace organization.

iv) Eprints

Eprints is an open source software for building open access repositories for any information center such as library, archives but is primarily used for institutional. Eprints uses traditional technologies and runs on pure Open Source systems. It is freely distributable and subject to the GNU General Public License. This means that its source code is open and freely modifiable by any programmer who wishes to modify it. EPrints has been developed at the University of Southampton School of Electronics and Computer Science and released under a GPL license. EPrints series began in early 2000 and its 1.0 was released during November 2000 with OAI 0.2 support.

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