

IS OPEN SOURCE SOFTWARE AN IMPENDING THREAT TO CUSTOMIZE SOFTWARE IN THE FIELD OF LIBRARY AUTOMATION?

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Abstract

Emergence of Open Source Software is a new ray of hope in the field of library automation. It can be a gift to those libraries that have financial constraints to procure customized software to automate their libraries as per the changing demand of users and library environment. This paper discusses the concept of OSS, how it differs from commercial software which is widely available. Also discusses why and how OSS can be a threat for customized software, particularly in the area of library automation.

Keywords

OSS, NPL, PHP, GNU-GPL

Introduction

The popularity of open source software has captured the imagination of developers, library information professionals and computing enthusiasts across the globe. Open source software are available free of cost and the users have freedom to use, contribute the software without any restriction. Open source software is beginning to have a long term effect on libraries. Smaller and medium size libraries, which can not afford to buy commercial software due to high price for library automation, now have the option to explore open source library management software. The Linux operating system, Apache web server, My SQL database management system

and PHP scripting language are leading examples of freely available software that are used by LIS professionals to explore open source library management software in the field of library automation. Recently dozen of active OSS projects are engaged in development of library management systems around the world.

Open Source Software: Concept

The free software definition was published in 1986 by Richard Stallman, the then president of the free Software Foundation (FSF). The definition codifies four essential freedoms that computer software user should be entitled to:

- ✱ The freedom to run the program for any purpose
- ✱ The freedom to study how the program was and adapt it to your needs
- ✱ The freedom to redistribute copies , so you can help your neighbor
- ✱ The freedom to improve the program and review your improvements to the public, so that the whole community benefits

The Open Source Initiative in 1998 gave the definition of Open Source Software, describing the following 10 criteria to be considered as open source Free redistribution- The license must allow end users to redistribute the software, even as part of larger software package and may not charge royalties for this right.

- ✱ Source Code- The distributor must make the source code freely available to developers.
- ✱ Derived Works- The license must permit modifications to be made to the software for re distribution under the same license.
- ✱ Integrity of the Author's source code- The license may require that modified distribution be renamed, or that modifications be made via patch files rather than modifying the source code.
- ✱ No discrimination against persons or groups.

- ✱ No discrimination against fields of endeavor- This includes commercial or controversial endeavors.
- ✱ Distribution of License- The same license must be passed on to others when the program is redistributed.
- ✱ License must not be specific to a product- A program may be extracted from a larger distribution and used under the same license.
- ✱ License must not restrict other software- The license can not prescribe the terms of other software with which it is distributed.
- ✱ License must be technology – neutral- The license can not restrict the use of the program to any individual interface or platform.

Though its source code is open to everybody, distributed without royalty and license fee there is possibility of a library or any organizations to avoid buying of a commercial software package.

Why Open Source Software

Open source software is freely distributed with the right to modify the code and on the condition that redistribution is not restricted. The emphasis on a collaborative and open effort is the key and more important than the fact that the software itself may be free. Severe budget cuts, increased demand for services, lack of adequate staffing are the day to day problems and challenges in every library systems. On the other hand it is no doubt adoption of software may lessen the time and manpower employed in library operation, so the alternative is open source software. Open source has been a buzzword in the library community for several years now. We have heard that open-source software is free, more reliable, more secure, boasts faster development cycles, and is just plain cooler than proprietary software. Here are just a few of the reasons why open source is an especially attractive solution for libraries.

Reduce Costs

Open-source software is free. You pay only for the product support and training (if any) that you need. When an open-source user sponsors development of new functionality, the whole community of users benefits. Open-source software extremely *cost-effective*. Libraries using open-source software benefit from many advanced technology solutions that they otherwise could not afford to develop themselves yet they still have the option to steer development if they. Moreover, since open-source software developers like LibLime use a business model that relies on providing support and training for software rather than selling the right to use the software, the per-library support costs go down. Just think how you can reallocate monies currently tied up in high annual licensing fees.

Innovate and collaborate

Open source empowers libraries to innovate and collaborate. Not only you can download and use open-source software for free, you're free to alter it in any way you see fit, and distribute the result for free. This isn't just a theoretical model: as you read this, libraries worldwide are actively involved in improving open-source software. In early 2002 NPL determined that in order to switch to Koha, an open-source ILS, they would need to sponsor development of two lacking features: MARC support and a Z39.50 server. At the time, NPL didn't have the resources to develop the MARC support in-house, so they hired a professional software developer, Paul Poulain (who was also the release manager for Koha 2.0). On the other hand, NPL did have the means to develop the Z39.50 server for Koha. Since NPL's contributions, many libraries have benefited from the MARC support as well as the Z39.50 server for Koha. In turn, NPL would never have been able to sponsor those improvements had the stable code-base not been available. If libraries like NPL are collaborating together to develop software that suits them. Why not we.

Choose your support

In a proprietary software development model, you pay high license fees to use the software. If the vendor isn't providing you with adequate support or isn't allowing you the freedom to customize and improve the software to meet your needs, switching vendors means switching software. And then there's the matter of migrating your data from one vendor to the next: with open-source software, since all you're paying for is support, switching to another service provider or migrating to an in-house solution is simple. In fact, at LibLime, if managing your library software in-house is an eventual goal we can help you achieve that goal. Further, an open-source software development model means that your data is YOUR data. Our customers have unregulated access to all of their data all of the time in standard formats at no additional charge.

The future is 'open'

Open source in libraries has its challenges as well. Till now, library software vendors have built their businesses around a proprietary software development model, and, as a result, libraries have been slow to adopt open source. 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 technologies. They rely on software vendors to provide them with solutions. This is where LibLime comes in. We're informing libraries about the superiority of the open-source development model so they can provide their patrons with better technology services, faster and cheaper. And we make it possible for vendor-reliant libraries to use open-source software by providing them with outstanding support and training options.

Difference between Open Source Software and Customized Software

A Customized Software refers to any software that is designed for sale to serve a commercial need. It is usually a proprietary software. Commercial software programs typically come in a physical box, which is what you see displayed in retail stores. While it's true

that the software boxes are not as big as they used to be, they still contain the software CD or DVD and usually a “getting started” manual along with a registration key used for registering the product. Most commercial software programs ask that the user register the program so the company can keep track of its authorized users. Some commercial software programs, such as newer versions of Microsoft and Adobe programs require the user to register the programs in order to continue using them after 30 days. While most commercial software programs are sold in the physical box, many software titles are now available as downloads. These downloads are typically made available from the company’s website. The user pays for the program directly on the website and instead of receiving the software in the mail; the user downloads it to his computer. Another popular way of purchasing commercial software online is simply paying for a registration key, which unlocks the features of a shareware program. This upgrades the shareware program to the commercial version. But Open Source Software is quite different from this. We can adopt it to overcome the limitations like severe budget cuts and increased demand of services.

Lacuna Inherent In Open Source Software

Most open source software applications are not reliable

Although big multinational companies like IBM and Sun Microsystems are backing the open source software movement there are no great financial stakes involved and the motivation mostly originates from a prevalent anti-Microsoft feeling. So there is no clear-cut discipline in this field and everything is emotion driven. Most of the developers and promoters of free source software believe in an obscure, idealistic world where intellectual property rights do not exist and software companies do not sell commercial software. Hence most of the applications are not reliable and we cannot run critical business operations on them.

No support exists for open source software

Once you decided to use open source software you try your own to install and run it. You may get lots of help available on the internet and there are many self-motivated forums that can help you .But

there is no physical qualified support available for you. You have to figure out on your own how to install and use applications without sabotaging your data and hardware. There is doubt you may lose the years of data trying to make the shift from Windows to Linux. Also no help documents and manuals are made available since the software is being changed every second week.

Higher installation costs

It is a total misconception that you save money by switching over to open source software. More than 99% of PCs and laptops come with Windows operating system preinstalled and very few open source software applications adjust well with Windows. I don't mean to say that once we are stuck with Windows we shouldn't try another operating system; the incompatibilities are there just because nobody cares for the quality of the software. After the installation — if at all you can install it without destroying your digital resources — you have to put lots of effort into integrating the applications and make them give some decent output. Further, many open source software applications depend on the whims and fancies of the developers and they are not specifically developed by keeping the end user in mind; so once you decide to use it you have to really figure out how to access various things. Sometimes even the menu conventions are not followed.

Another great problem is that most of the open source applications are incompatible with the present day gadgets. For instance if you use some open source operating system you can forget about the cool plug and play hardware that you have been using for so many years. Sometimes people can't even get their modems working with open source operating systems.

Technical support too is costlier compared to commercial software because people who provide support for free source and open source software expect to earn lots of money providing support and in fact this is the only revenue model perceived in favor of the open source software movement.

No guarantee of updates

Since you are not paying for the open source software nobody is bound to give you regular updates. You can get stuck with the same old version for years without ever getting an update, on the other hand logic says some buggy software is better than no software. For instance, OpenOffice.org with all its quirks is far better than Microsoft Office for those who cannot afford Microsoft Office and hence wouldn't have such a product if it were not for the OpenOffice.org providers.

Project taken by Indian libraries

In India Koha is gaining momentum. Kerala state is forefront in using Koha for govt. libraries. Delhi public library has also adopted Koha. A very important factor in the adoption of Open Source LMS products by libraries involves the role of commercial companies. IIM Ahmadabad is working closely with private partner to implement Koha, which is a very significant development. It is a bold decision, but once IIM Ahmadabad successfully implemented the Koha, others will follow in replacing the commercial software and it will definitely percolate to other major libraries in the country. In order to do so professional in the country expect IIM A to share the customized version of Koha which should be free to download to the entire library community.

Similarly the demo version of the SOUL software with restriction to create limited number of records is free. The new catalogue version of SOUL 2.0 is freely downloadable from INFLIBNET website. So Indian libraries are taking the benefit of open source software in the field of library automation. But before we going to install in our library system we must have competency to install other required software (LAMP) LINUX, Apache and My SQL PHP. Also various companies are providing support to install open source software <http://www.osslabs.biz/>

OSS packages Available

These followings are the list of some freely available packages along with website

1. Koha Open Source Library Systems (www.koha.org)

Claimed as world's first free Open Source Library System made in New Zealand by the Horowhenua Library Trust and Katipo Communications Ltd. The Koha system is a full fledged system having OPAC, circulation and acquisitions system.

To successfully use Koha one may need some additional software:

A web server (It was built to work with Apache, but there is no reason it shouldn't work with any other web server) Perl, MySQL (You could instead use Postgres, or another SQL based database) Perl Modules::Date::ManipDBIDBD::Mysql (or whatever database system you use) Authen-DBI (if you want to use Database based authentication)CDK (for the Telnet interface)Which in turn depends on the CDK libraries, <http://www.vexus.ca/products/CDK>

2. NewGenLib (www.verussolutions.biz/web)

The most widely used free software license, GNU General Public License (GNU GPL) v3. The software NewGenLib, an Integrated Library Management System, is freely available as open source which was developed over a 4 year joint effort between a professional charitable trust, Kesavan Institute of Information and Knowledge Management (KIIKM) and a fledgling software development company, Verus Solutions Pvt. Limited (VSPL), both in Hyderabad, India. Before becoming an open source product at the end of 2007, it was already in use in 122 libraries, mainly in India but also including installations in Syria, Sudan and Cambodia. However, after licensing the software commercially since 2003, KIIKM and VSPL decided that the software should be made open source.

3. Evergreen ([http://en.wikipedia.org/wiki/Evergreen_\(software\)](http://en.wikipedia.org/wiki/Evergreen_(software))) or (www.open-ils.org)

Evergreen, the highly scalable software for libraries that helps library patrons to find library materials and helps libraries to manage catalog and circulate those materials. It was first launched in September, 2006 in Georgia's PINES Consortium, now powers over 300 libraries of every type public, academic, special, school, and even tribal and home libraries in over a dozen countries worldwide. Evergreen has been freely licensed under the GNU GPL.

4. PMB (<http://en.wikipedia.org/wiki/PMB>)

PMB is an open-source integrated library system available in several languages (French, English etc.). It makes use of Apache, MySQL and PHP. It can be hosted on Windows, Mac OSX or Linux computer. Users only need a web client. PMB v2 provides the following modules: catalogue, circulation (loan), authorities, D.S.I., OPAC web). PMB is UNIMARC compliant. Falcon provides complete support & Services for PMB library Information System.

5. Athenaeum Light (www.sumware.co.nz/athenaeum/athlight.htm)

Athenaeum Light can handle large catalogues and manage borrower lists easily. As per its developer it is meant for school libraries. As of now its limit of records is 50000. It is available for both Windows and Macintosh. It can even be used in the multi-user environment.

6. Avanthi Circulation Systems (www.nslsilus.org/~schlumpf/avanti)

The Avanti circulation system is a simple, scalable, net workable, client/server circulation system that can be deployed in small to medium scale libraries. The end product will be modular: consisting of a system core, circulation module, minimal OPAC, and network and user interfaces. The entire system is written in Java. Avanti 0.3.1 was developed using the Blackdown JDK v1.1.7 on a Linux system with the Servlet classes being developed using the Apache Jserv Servlet engine.

7. Emilda (www.emilda.org)

Emilda is a complete Integrated Library System that features amongst others an OPAC, circulation and administration functions, Z39.50 capabilities and 100% MARC compatibility. is achieved using Zebra in conjunction with MySQL.

8. FireFly (<http://savannah.nongnu.org/projects/firefly/>)

FireFly is a Complete Public Library System. It is being written in Python, Perl, with all data being stored in XML. The driving force

behind this project is to give public libraries a Free-Software set to run and maintain library systems.

9. Java Book Cataloguing System (www.sourceforge.net/projects/jbiblioteca)

This software is primarily to create a Book Catalog using barcode data from the freely available cuecat(tm) bar code reader. It will use a RDBMS backend database, and allow synchronization between different library branches.

10. ITIL Library Management System (www.groupware.itil.com/lib-mgmt.htm)

Library Management System is a workflow application which aims at automating various library functions encompassing Member Registration, Requisitions for New Items & their Approval, Accession & Cataloging of library items, Reservation/ Issue / Return of library items, Order Generation and maintenance of details pertaining to Inter-Library Loans, Bills, Orders and Vendors. It requires Lotus Notes Domino server.

11. My librarian (www.sourceforge.net/projects/mylibrarian)

This is a integrated suite of school library books management software targeted at secondary schools. The language used is totally Microsoft Visual BASIC 6.0 and Microsoft SQL 2000 server.

12. My library (www.dewey.library.nd.edu/mylibrary)

My Library is a user-driven, customizable interface to collections of Internet resources-a portal. Primarily designed for libraries, the system's purpose is to reduce information overload by allowing patrons to select as little or as much information as desired for their personal pages.

13. OpenBiblio (www.obiblio.sourceforge.net)

Open Biblio is a open source library software written in PHP containing OPAC, Circulation, Cataloguing and Staff administration.

It is good for small school and public libraries. It requires MySQL, PHP and works on both Linux and Windows platforms.

14. Open Book Open Source Library System (www.trfoundation.org/projects/openbook.htm)

Open Book is full feature open source library system developed for use of small school and public libraries. It has been developed based the original Koha open source library system of New Zealand. At present it consists of three modules viz. OPAC, Cataloguing and Circulation. In future includes Acquisition module too. All the modules are web-interface based. It works on Linux O/S with Apache, Perl and MySQL.

15. Open-ILS (www.open-ils.org)

It is website of an open source Integrated Library System (ILS), named Evergreen. This software is being developed and maintained by the Georgia Public Library Service for use by the Georgia Library PINES Program, a consortium of 249 public libraries. This software can be downloaded for free, and anyone can contribute to development efforts.

16. PhpMyLibrary (www.phpmylibrary.sourceforge.net)

Php My Library is a open source web-based library software having cataloguing, circulation, webopac, file management modules, etc. It also supports import of data from ISIS databases. It requires PHP and MYSQL.

17. Sean soft Library Loan Management System 1.17B (www.seansoft.co.uk)

Useful software for something like a school library. Each student can have a login, from which they loan books. Keeps track of weeks loaned and will alert a supervisor of overdue books. Has a mail merge facility to produce letters to individuals or a list for a notice board. Also features backup and basic repair facilities for the database. It requires VB5 Runtimes, DAO.

Conclusion

Though Open Source concept is one or two decade's origin it has taken a special place in the field of library automation. Most of the small and financially weak libraries are taking front step to accommodate this software. Like customized software it is most user friendly and flexible. All or part of whole operations of a library can be automated using it. More over 10 countries around the globe has taken initiative to develop the software and run it at their own way. Though it is not compatible in any environment librarian or the organization has to take some pain and financial requirement to setup this. Over all it can be a threat or challenge to customized software in near future.

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