IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Open Source Software For Libraries

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Abstract

Open source software is not something to be afraid of! Its software that you can modify, fix, add to, and distribute to others. Benefits are numerous, including having the ability to create good software that works for you and your library, all while paying a fraction of the cost that you might spend on proprietary software. The website introduces librarians to using open source software and provides tips for implementing and evaluating your transition, ideas for funding, and suggestions for open source software to use in your library.

Keywords: Open source software, OSS, libraries, librarians, Library technology.

Introduction

Open source software is computer software whose source code is available under a license (or arrangement such as the public domain) that permits users to study, change, and improve the software, and to redistribute it in modified or unmodified firm. It is often developed in a public, collaborative manner. It is the most prominent example of open source development and often compared to user generated content.

For many libraries, organizing their books and other media can be daunting task, especially as the library grows with more material. Years age we had crude card catalogue systems (remember the Dewey Decimal System) that kept things organized, but were difficult to maintain. With today's computing technology, organizing our libraries has never been easier or more efficient. Gone is the card catalogue and in some libraries, it's much easier to locate a book through and internet connection and picking it up upon your arrival, rather than wasting the time scouring the aisles looking for your next read. Now just because the world

has been blessed with wonderful software solutions that make everything easier to do, doesn't mean that every library in the universe is using these solutions. Many Libraries do not have huge amounts of money to burn, and any that they do get usually goes to purchasing additional resources.

Because of this need for software (and the installation and training costs associated with any), and the lack of money available to spend on it, many libraries are left to fend for themselves when it comes to staying up to date with the latest technology. Unless, of course, they embrace the open source movement and use some of the countless software solutions available to help out. Most software that we all use every day is known as "proprietary", which in a nutshell means that it costs money and that the actual code of the software is restricted, in that the code of the software cannot be modified, copied, or changed from its original construction. The code is "unreadable" and pretty much is what it is. Open source software, on the other hand, is quite the opposite. The open source mentality revolves around Sharing and collaboration, and these two important elements describe open source software perfectly. First and foremost, open source software is free for anyone to have; more importantly, not only is thesoftware free, but it is also free for anyone to copy, hack, modify, etc. This increases the possibilities of a software program's potential because of this free-thinking model. Many large groups of programmers have customized basic open source programs into whatever they deemed necessary, and have in turn given these modifications back to the open source community for free where others can continue to build on their work. There are many different kinds of open source software solutions out there today that could be embraced by the library. There's basic operating system, document processing programs, Library Management Software (LMS) and Digital Library software.

Open Source Software

Open source software is software that provides access to thesource code, meaning that users are free to see how theproduct is made. Additionally, users have the right to modify the product (change the code) to their liking, experimentwith different versions, and give away or resell the newproduct with the guarantee that they must also provide theirsource code, and so on. Modifying the product andredistribution are the two main components of open sourcesoftware.

Reasons to Use Open Source Software

- It promotes creative development
- Those who can't afford proprietary software candownload open source programs for free
  Money saved can be used to purchase other needed materials
- Can easily modify your software to suit patron's needsand your needs

- Little to no upgrade costs
- No more grueling over software that doesn't meet yourstandards -- create it yourself based off of a close pre-existing piece of software
- The price (free) makes it easier to change your mindwhen the software doesn't live up to its expectations

Advantages of Open Source Software:

Lower software costs: Open source solutions generally require no licensing fees. The logical extension is no maintenance fees. The only expenditures are for media, documentation, and support, if required.

Simplified license management: Obtain the software once and install it as many times and in as many locations as you need. There's no need to count, track, or monitor for license compliance.

Lower hardware costs: In general, Linux and open source solutions are elegantly compact and portable, and as a result require less hardware power to accomplish the same tasks as on conventional servers (Windows, Solaris) or workstations. The result is you can get by with less expensive or older hardware.

Scaling/consolidation potential: Again, Linux and open source applications and services can often scale considerably. Multiple options for load balancing, clustering, and open source applications, such as database and email, give organizations the ability to scale up for new growth or consolidate to do more with less.

Support: Support is available for open source—often superior to proprietary solutions. First, open source support is freely available and accessible through the online community via the Internet. And second, many tech companies are now supporting open source with free online and multiple levels of paid support. For example Liblime.

Escape vendor lock-in: Frustration with vendor lock-in is a reality for all IT managers. In addition to ongoing license fees, there is lack of portability and the inability to customize software to meet specific needs. Open source exists as a declaration of freedom of choice.

Unified management: Specific open source technologies such as CIM (Common Information Model) and WBEM (Web Based Enterprise Management) provide the capability to integrate or consolidate server, service, application, and workstation management for powerful administration.

Quality software: Evidence and research indicate that open source software is good stuff. The peer review process and community standards, plus the fact that source code is out there for the world to see, tend to drive excellence in design and efficiency in coding.

Open Source Software for Libraries:

Library Automation:

Koha: Integrated Library System

Koha is a promising full featured open source ILS (integrated library system) currently being used by libraries all over the world. For those of you out there unfamiliar of what an ILS is, well, it is a system of keeping track of the operations of a library - payroll, expenses, purchases, and most importantly, keeping track of the various media being checked out by the librarians patrons. Many smaller libraries cannot afford to purchase, install, and maintain an ILS, and Koha is a perfect alternative. Koha is built using library ILS standards and uses the OPAC (open public access catalog) interface. In addition, Koha has no vendor-lock in, so libraries can receive tech support from any party they choose.

Evergreen

Evergreen ILS is another option when researching open source ILS options. Developed by Equinox Software, Evergreen is a robust, enterprise level 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.

Digital Library:

Greenstone Digital Library Software

The Greenstone digital library software is an open-source system for the construction and presentation of information collections. It builds collections with effective full-text searching and metadata-based browsing facilities that are attractive and easy to use. Moreover, they are easily maintained and can be augmented and rebuilt entirely automatically. The system is extensible: software “plugins” accommodate different document and metadata types. 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.

DSpace

Dspace is a groundbreaking digital institutional repository 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 Hewlett-Packard (HP). DSpace was designed as an open source application that institutions and organizations could run with relatively few resources. It is to support the long-term

preservation of the digital material stored in the repository. It is also designed to make submission easy. DSpace supports submission, management, and access of digital content.

EPrints

Eprints is an open source software package for building open access repositories that are compliant 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.

Fedora

Fedora 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 asweb 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

Other Computer Programs

Ubuntu

Ubuntu the most popular player in the Linux based operating system game. (Linux is the open-source answer to Microsoft's Windows operating system; Ubuntu is a modification of Linux). Ubuntu is a perfect solution for libraries who need to upgrade their older computers using outdated Windows or for bulk computer purchases requiring a new operating system. Many libraries feature computers for users to gain access to the internet, and that being the only function those computers serve. Why pay for all the unwanted things on Windows when you just need to get online? You might be a little scared at first of a new operating system, but just like anything else, the hardest part is getting started. Plus, there's plenty of Ubuntu installations help out there to give you a hand.

Open Office

OpenOffice.org is a multiplatform and multilingual office productivity suite and an open-source project. Compatible with all other major office suites, the product is free to download, use, and distribute. It includes

the key desktop applications, such as a word processor, spreadsheet, presentation manager, and drawing program, with user interface and feature set similar to other office suites. Sophisticated and flexible, OpenOffice.org also works transparently with a variety of file formats, including those of Microsoft Office, and the vendor-neutral OpenDocument standard from OASIS.

Firefox

Firefox is the Mozilla organizations answer to Microsoft's Internet Explorer web browser, and has taken the web by storm over the past few years as the biggest competitor to IE in quite some time. Firefox offers a much more secure browsing experience compared to IE (mostly because the majority if the population uses IE and that's who the bad guys are targeting). The biggest draw, however, is the modifications that can be made to Firefox through its many plug-ins, which can make using the net more constructive. Firefox runs on various versions of Microsoft Windows, Mac OS X and Linux.

Thunderbird

Thunderbird Firefox's little brother program, Thunderbird, is the Mozilla foundations open-source alternative to Microsoft's Outlook Express. The program works exactly like Outlook, providing you with a secure and safe desktop email solution. And just like Firefox, the open source programming community has created free add-ons to make the Thunderbird email client customized to your liking. If you absolutely need a desktop email client (as opposed to aweb-based email client like the recommended Gmail), then Thunderbird is the open source program you need.

GIMPshop

GIMPshop is a modification of the free/open source graphics program GNU Image Manipulation Program (GIMP), intended to replicate the feel of Adobe Photoshop. Its primary purpose is to make users of Photoshop feel comfortable using GIMP. It shares GIMP's feature list, customisability, and availability on multiple platforms, while addressing some common criticisms regarding the program's interface: GIMPshop modifies the menu structure to more closely resemble Photoshop and adjusts the program's terminology to match Adobe's. In the Windows version, GIMPshop uses a plugin called 'Deweirdifyer' to combine the application's numerous windows in a similar manner to the MDI system used by most Windows graphics packages. Since March 2006, it supports Photoshop plugins, through a host plugin that can run on Microsoft Windows or Linux. All of GIMP's own plugins (filters, brushes, etc.) remain available.

NVU

Nvu ("N-view") is a discontinued WYSIWYG HTML editor, based on the Composer component of Mozilla Application Suite and Gecko 1.7. It is a common WYSIWYG editor for Linux and is intended to be an open source equivalent to proprietary software like Microsoft FrontPage and Macromedia Dreamweaver. As a WYSIWYG editor, it is designed to be easy for novice users and does not require any knowledge of HTML or

CSS to use. The project was started by and sponsored by Linspire. Linspire hired Daniel Glazman, former Netscape Communications Corporation employee and CEO/Founder of Disruptive Innovations, to be lead developer. Nvu is available for Linux, Mac OS X and Microsoft Windows, and it can be built successfully on any platform with the Netscape Portable Runtime.

Open source licenses

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.

Functional modules

Certain features or modules essential for day to day work may not be available with the initial development stages of open source software's. In such cases, libraries have to purchase additional modules from open source service providers or make use the in-house expertise to build the required features. Functional modules essential for library management systems (ILS) are cataloguing, circulation, OPAC, serial control and acquisition. It is essential to read release notes of latest version and software roadmap to know which features are already available and are expected in future. Ensure the availability of standards like MARC, Z39.50, and Dublin Core which are essential for exchange of bibliographic information in library software's.

Stable releases

Stable release of open source software shows its developer's ability to fix and correct bugs along with new features. Version history of open source software is often available from project websites or any other project repositories like Source Forge (www.sourceforge.net), Savannah (savannah.net) and Free Software Foundations software directory (www.fsf.org). These services help users to check the information regarding software origin, releasing history, version numbering scheme, developer's detailsetc. Actively maintained open source projects mention even the releasing dates of forthcoming versions.

Developers and user community

The development and maintenance of open source software is a social collaborative activity. Open source software is actively developed on a 24-hour basis by a large number of programmers from all over the world. Depending on the success of a certain open source software project, this results in a development process that out paces that of many competitors. Another aspect of open source software is that, many different people and organisations look at the software from a different perspective. This leads to invaluable discussions on what direction the development should be taken. Many IT experts claim that, it is this multi-cultural and multi-

organisational influence that, combined with the global spreading and fast development pace, makes open source software more innovative than closed software. Active projects usually have regularly updated web pages and busy development email lists. They usually encourage the participation of those who use the software in its further development. If everything is quiet on the development front, it might be that work has been suspended or even stopped.

User interface

Most of the open source library software are available with web interface. Software with web interface is easier to learn and use. Graphical templates of open source software's are possible to customize andusers can add new design. Through redesigning the templates and style sheets open source software can easily integrate with library/institutional websites. Separate administrative and user interface is essential for remote access and maintaining security.

Documentation

So users are mainly responsible for the deployment of open source software; detailed and up-to-date documentation is a prerequisite for successful installation and maintenance. Open source software documentation is available through project websites, wikis, blogs and email lists. They give information of software installation in various operating systems, software architecture, database structure, history of bug fixes, changes in new release, road map(wish list) of future releases etc. Installation details and information for users are also available with installation package. Individual documentation for developers, administrator and user is another advantage of open source software documentation. Software community incessantly updates the online documentation and it is better to make use the online wiki or email lists for error fixing and clearing doubts.

Conclusion:

The Library & Information Science (LIS) professionals should keep eyes on development in order to choose appropriate technology depending upon Institution's needs. Since, numbers of libraries worldwide are using OSS for managing their library systems more economically and effectively. Librarians and programmers should worked together in order to implement open source integrated library systems and at the same time, library professional are also required to acquire new skills for developing and managing the library by using open source LMS. For taking benefit from OSS additional technology, education, and training of the professionals is essentially required. Hopefully this article provides some introductory information as to how to wean your library off of traditional computing products and dive into the pool of open source resources available today

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