

# APPLICATION OF OPEN SOURCE SOFTWARE IN LIBRARIES - KOHA

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## ABSTRACT

*This paper presents information about the development of open source software in digital library with reference to the KOHA. software. It describes digital library and its importance in details. It also discusses with illustrations how to build .A digital library by using the open source software i.e. 'KOHA , Searching and browsing full text information is also described taking example from New Zealand Digital Library. It identifies the strength and limitation of KOHA. It is predicted that KOHA, is becoming popular digital library software because of its flexibility and low cost/no cost of ownership. The author conclude that because of its cost effectiveness and flexibility can be a powerful tool in bridging the gap of digital divide in India.*

**Keywords:** Digital Library, KOHA,, Open Source Software

## INTRODUCTION

Recently, Information Technology (IT) becomes an indispensable concern of developing countries like India. One of the vital components of IT is software. Presently the developing countries are fully confronted the copyright and illegal copying of software, which widely effect on the prospect of very high and recurrent software cost. All commercial software companies distribute their software in compiled form. We know that once software has been compiled into a computer readable form, it is practically impossible to understand the internal functioning of the software, and it cannot be modified. By doing so, the software companies gain monopoly on improving their software by adding features or fixing bugs and this is how the software becomes expensive. By following this practice the software companies have gained a monopolistic market and have also drive rivals and technological predation one upon others out of business. These strategies adopted by commercial software companies, has given rise to an unhealthy dependence on proprietary software, huge expenditure on licensing fee, growth of gray market inpirated software, troublesome environment in local software industries and most importantly discouraged innovation in the software industry at global level. In this background a development, which is attracting the interest, is the freedom of research and development offered by Open Source Software (OSS). In OSS the source code (human readable set of instructions, which makes a software) is distributed along with the executable form (the computer readable setof instruction,

## WHAT IS OPEN SOURCE SOFTWARE?

“Open Source Software”(OSS) is a marketing name for Free Software, coined in Feb 1998 as an attempt to overcome the confusion over the word “free” in the English language. Open Source refers to the fact that the source code of the software is open to and for the world to take, to modify and to reuse. Open Source Software, as used in this article, refers to software distributed in source form which can be freely modified and redistributed, i.e. Open Source Software is freely modifiable and redistributable software. More precisely, it refers to four kinds of freedom, for the users of the software :

- ❖ The freedom to run the program, for any purpose,
- ❖ The freedom to study how the program works, and adapt it to users’ needs. Access to the source code is a precondition for this.
- ❖ The freedom to redistribute copies so one can help another.
- ❖ The freedom to improve the program, and release the improvements to the public, so that the whole community can get the benefits. Access to the source code is a precondition for this.

A program is Open Source Software if users have all of these freedoms. Thus, users should be free to redistribute copies, either with or without modifications, either gratis or charging a fee for distribution, to anyone anywhere. Being free to do these things means that the developer does not have to ask or pay for permission. The license must allow modifications and derived works, and must allow them to be distributed under the same terms as the license of the original software. Therefore, another group has been using the term Free Software instead of Open Source Software. They consider the Open Source Software is something close to Free Software, but not identical. They prefer the term „Free Software“ because, once we have heard that it refers to freedom rather than price, it calls to mind freedom. The word „open“ never refers to freedom.

However, this author

have no intention to discuss the differences of these two terms. OSS is copyrighted and distributed with General Public License (GPL) terms to design to ensure that the source code will always be available.

**Some Open Source Software are mentioned below :**

- **Operating Systems** - Linux (or GNU/Linux), FreeBSD/OpenBSD, NetBSD, GNU/Hurd, etc.
- **Windowing Systems** - The X Window System, XFree86, etc.
- **Desktop Environments** - GNOME, KDE, GNUStep, XFce, etc.

- **Languages** - GNU C/C++ , Perl , Python , Tcl, etc.
- **Web Browsers** - Mozilla (Netscape 6), etc.432
- **Server-type software** - Samba, Apache, PhP, Zope, MySQL, PostgreSQL, etc.
- **Office Suites** - Open Office, KOffice, etc.
- **Productivity Applications** - ABIWord, GNU Image Manipulation Program, Dspace, GREEN STONE, KOHA,NEW GENLIB etc.
- **General Utilities** - GNU Utilities, etc.

## DIGITAL LIBRARIES

In the present day context due to the wide use of information technology and digital/electronic storage media, it becomes a challenge to the library professionals how to acquire, organize, store and retrieve various information available in digital form. This has initiated the concept of creation of „digital library“. Digital library has a number of machine readable study materials as well as other publications such as text, images, sound, videos, and any combination of text, images, sound, videos etc. in digital form and facilitates remote access to several databases. The basic concept behind a digital library is to exploit the facilities of information technology with a mission of sharing resources available globally for providing nascent information to the users“ community at right time. Hence, a typical digital library has a media server connected to high speed networks, and we also call it „Virtual Library“. Unlike a conventional library where users are provided with physical materials from many sources, a digital library is a group of attributed repositories that users see as single repository in a digital form. The functioning of a digital library is controlled by machines with minimum human interventions.

### 3.1. Why open source software use in Digital Library ?

There are a number of reasons for creating digital library. In a library, even in an automated library searching information in printed books in response to some queries will be time consuming and sometimes impossible also. Because, information are available in the books are not structured information. But, in digital resources searching information on a particular query is possible if those are organized with the help of metadata sets. In a digital library the delivery of the materials is different from removing of a book from shelf and checking out. This is because the book in digitized form can be copied to a user’s computer for reading, but the book still remains in the source computer (server). It can again be loaned in the name of another user.

Again sharing and circulation

of printed books in a wide area is also time consuming, but, it is very easy to share the digital resources through network, even multiple users can use digital resources at a time available in a single source. Therefore, it becomes essential to acquire, organize, store and disseminate information available in digital form.

Here we have to consider two possibilities:

(1) the materials originally available in digital form, and

(2) the materials in digitized form. In the second one there is an involvement of the creation of digital information from conventional stage, which generally is a two stage process. The first stage is digitization. This is obviously the conversion of physical medium, say a printed book, into digital representation. It has no effect on the information content of the original material. The second stage is the computerization process to make the computer extract information from the digitized image by using Optical Character Recognition (OCR) software. This stage allows the information from original book or document to be made available to the computer, and make possible to index the text for retrieval and is also able to reformat the text for different forms of output such as compressing, changing the font size & type and graphical manipulation etc. However, once digitised, the problems are not over, searching, retrieving and delivery may be problematic in real life.

## DETAILS OF OPEN SOURCE SOFTWARE

### 1) KOHA



Developer(s)	Katipo Communications Ltd.
Initial release	January 2000
Stable release	3.4.3 / July 25, 2011
Written in	Perl
Operating system	Cross-platform
Type	Integrated library system
License	GNU General Public License
Website	<a href="http://www.koha-community.org">www.koha-community.org</a> <sup>[1]</sup>

**Koha** is an open source Integrated Library System (ILS), used world-wide by public, school and special libraries.

## BACKGROUND OF KOHA

Koha was originally created in 1999 by Katipo Communications, Ltd, a consulting firm with a wide range of projects, for a small consortium of libraries in New Zealand called the Horowhenua Library Trust to replace an aging automation system not able to handle the transition to Y2K. Subsequently, the software initially found use in a relatively small number of libraries. Koha came to the United States in 2002 when it was adopted by the Nelsonville Public Library, OH, to replace Spydus, a commercially-provided ILS from an Australian-based company. Nelsonville's implementation of Koha was spearheaded by Joshua Ferraro. Since Koha's original development in New Zealand, libraries throughout the world have implemented it at a steadily-increasing pace.

## HISTORY

Koha was created in 1999 by Katipo Communications for the Horowhenua Library Trust in New Zealand, and the first installation went live in January 2000.<sup>[3]</sup>

From 2000, companies started providing commercial support for koha, building to more than 20 today.<sup>[4]</sup>

In 2001, Paul Poulain (of Marseille, France) began adding many new features to Koha, most significantly support for multiple languages. By 2010, Koha has been translated from its original English into French, Chinese, Arabic and several other languages. Support for the cataloguing and search standards MARC and Z39.50 was added in 2002 and later sponsored by the <http://www.myacpl.org/> Nelsonville Public Library.<sup>[5]</sup> Paul Poulain co-founded BibLibre in 2007.<sup>[6]</sup>

In 2005, an Ohio-based company, Metavore, Inc., trading as LibLime, was established to support Koha and added many new features, including support for Zebra sponsored by the Crawford County Federated Library System. Zebra support increased the speed of searches as well as improving scalability to support tens of millions of bibliographic records. In 2010, LibLime was acquired by another vendor, PTFS.<sup>[7]</sup>

In 2009 a dispute arose between LibLime and other members of the Koha community. The dispute centred on LibLime's apparent reluctance to be inclusive with the content of the <http://koha.org/> sites and the non-contribution of software patches back to the community. A number of participants declared that they believed that LibLime had forked the software and the community.<sup>[8][9][10][11][12][13]</sup> A separate web presence, source code repository and community was established at <http://www.koha-community.org/>. The fork continued after March 2010, when LibLime was purchased by PTFS.

In the 2010 LibraryTechnology.org survey of ILS perception, independent Koha support and Koha support from ByWater Solutions outranked support from LibLime in every single question.<sup>[14]</sup>

On 8 April, Domingo Arroyo announced that the Spanish Ministry of Culture is spinning KOBLI, a customised version of Koha.<sup>[15]</sup>

In 2007 the state of Vermont began testing the use of Koha for all Vermont libraries. At first a separate implementation was created for each library. Then the Vermont Organization of Koha Automated Libraries (VOKAL) was organized to create one database to be used by libraries. This database was tested in 2010 and is being rolled out in 2011. As of May, twenty-six libraries have chosen to adopt Koha and thirteen have moved to the shared production environment. Previously Vermont used software from Follett.<sup>[16]</sup>

## ESTABLISHMENT HISTORY

Koha.org has been around since the creation of Koha. It was initially owned and managed by Katipo Communications, the company which developed Koha 1.0 for the Horowhenua Library Trust. When Katipo's Koha assets were acquired by LibLime, possession and control of the domain passed into LibLime's hands. LibLime oversaw significant improvements to the site and appeared to have good intentions to improve access to authors from around the community.

## COMPLAINTS

However, in recent months LibLime's interest in conscientious stewardship of the site seems to have waned. Information on the site is, little by little, becoming out of date. The home page lists Koha 3.0.4 as the latest stable release, when Koha 3.0.5 was released two months ago now. It's even worse on the "Download" page, which lists Koha 3.0.2 from *June 4 2009* as the latest stable release. This kind of misinformation is irresponsible.

Besides providing information about Koha software, the site also provides users with information about commercial options for Koha support and hosting through its "Pay for Support" page. For months new companies offering Koha hosting and support have waited for their information to appear on the site. The submission form companies are asked to use is broken.

## REMEDIES

The Koha community has attempted to communicate with LibLime about the situation without success. The Koha community has nominated the Horowhenua Library Trust to act as an independent steward of Koha-related assets like the Koha.org and the Koha trademark. We have proposed to LibLime that, given their lack of care and interest in Koha.org, transfer the domain and its management to HLT and let the Koha community take back control. LibLime has not responded to these requests.

The community was left with no choice: we had to create a new home for the Koha project. We can no longer depend on the good will of LibLime. Koha-community.org came together quickly and beautifully thanks to all involved. Thanks are owed especially to Liz at the Northeast Kansas Library System for all her hard work.

If you want to share a link to the real open source Koha, please use <http://koha-community.org>

## FEATURES OF KOHA OPEN SOURCE SOFTWARE

Koha is web-based ILS, with a SQL database 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.<sup>[2]</sup> 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
- Full acquisitions system including budgets and pricing information (including supplier and currency conversion)
- Simple acquisitions system for the smaller library
- Ability to cope with any number of branches, patrons, patron categories, item categories, items, currencies and other data
- Serials system for magazines or newspapers
- Reading lists for members

## CURRENT STATUS

The latest stable release of the Koha is 3.4.3 (written as koha-3.04.03 in the download file).<sup>[17]</sup> Koha is currently a very active project. According to ohloh, it has a *[v]ery large, active development team* and a *[m]ature, well-established codebase*<sup>[18]</sup>. The analysis of the size of the

code base may be deceptive because koha stores user interface translations alongside actual source code and ohloh cannot always distinguish them.

## ARCHIVING AWARDS

- 2000 winner of the *Not for Profit* section of the 2000 Interactive New Zealand Awards<sup>[19]</sup>
- 2000 winner of the LIANZA / 3M Award for *Innovation in Libraries*<sup>[20]</sup>
- 2003 winner of the public organisation section of the Les Trophées du Libre
- 2004 winner *Use of IT in a Not-for-Profit Organisation* Computerworld Excellence Awards <sup>[21]</sup>

## IMPACT ON LIBRARIES

What about the libraries that have contracted with LibLime for support or sponsored development? LibLime has amassed a relatively large customer base, with 108 active contracts representing over 500 libraries reliant on LibLime for support services. While an open source ILS provides more independence from vendors than proprietary software, they still have a great deal at stake in how well those companies provide critical support services. These libraries also have a strong interest in the forward development of the software, and many have made large investments in sponsored development. PTFS assumes responsibility for an extensive slate of software development commitments that libraries contracted with LibLime to fulfill.

## CONCLUSION

Growth of OSS concept and koha, New Genlib can be viewed as an opportunity of the library & information Professionals to come out from under the yoke of the proprietary platform and high software license. Fees. Because of its cost effectiveness and flexibility, KOHA, can be a powerful tool in bridging the Gap of digital divide in India. 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. Digital libraries are radically reforming how information is disseminated and acquired in UNESCO's partner communities and institutions in the fields of education, science and culture around the world, and particularly in developing countries. It is hoped that this software will encourage the effective deployment of digital libraries to share information and place it in the public domain

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