KOHA ILS: THE NEXT LEVEL

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ABSTRACT

Koha is an Open Source Integrated Library Systems was developed in 1999. Koha has been adopted by libraries in Malaysia starting in 2008. After 7 years, Koha has been chosen by significant numbers of libraries in Malaysia including large academic library recently. The trend gives indication of library acceptance in Open Source Software as compared to other Open Source ILS Software. This paper intends to discuss post implementation of Koha Open Source ILS in perspectives; technical perspective, new suggested features and managerial perspective related to Koha and open source software. This paper gives overview of selected features that might be missed by Koha users, what more can be done with the system and few critical issues in managing open source software implementation.

KEYWORDS: *Koha, Open Source in library, Integrated Library System*

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INTRODUCTION

Koha was created and developed in 1999 by Katipo Communication for the Horowhenua Library Trust in New Zealand. Koha ILS first installation went live in 2000 and then started to get support from companies and evolve to be what it is now. In 2010, The latest stable version at the time of writing is version 3.20.x (koha-community, 2015). The meaning of Koha is a Gift or a donation in the popular Maori culture of New Zealand. Koha ILS with its web-based technology has a SQL database at the backend. The database contains bibliographic data stored in MARC format and accessible via Z39.50. Its OPAC search is powered by Zebra indexing engine. One of the most significant features of Koha OSS is the configurable and adaptable user interface. Among other features of Koha OSS are an Interface that is simple and clear for librarians and patrons; a variety of Web 2.0 facilities such as RSS feeds; facility for union catalog; search that is customizable; management of circulation and borrower; full acquisition module that includes budgets and pricing information, supplier and currency conversion; for smaller library, simple acquisition is available; 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.

Malaysia has seen Koha earliest adoption in 2008 by Asia e Univesity library after 8 years of first Koha released. Asia e University library has implemented full Integrated Library System with RFID based Library Circulation System (Abu Bakar, A. & Yusoff T.M., 2010). In 2010, there are more than 100 installations consisting 8 academic library, 88 schools, 1 public library and 4 special library covering 134 branches (Abu Bakar, A., 2010). Kelantan State Public Library (http://catalog.kelantanlibrary.gov.my) is the first public library, while Zaid Ibrahim & Co., a lawyer firm library is the first special library adopting Koha ILS. The numbers shows significant adoption of Koha ILS in two years. To date, there are more than 19 academic libraries using Koha.

TECHNICAL PERSPECTIVE

For those who have setup Koha in your library or plan to adopt Koha, what else can you do with your Koha? Most of librarians think some of the ILS features mentioned below are expensive and complicated to set up. In actual, it is quite simple and straight

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forward. Table 1 is a list of selected functions that are already available in Koha, waiting to be use.

TABLE 1: Koha additional functions list

Functions	Description
Automated email notices	Email software named 'postfix' must be install. An ordinary gmail account can be created. Gmail smtp mail server can be use by Koha to send overdue notices, advance overdue notices, borrowing, returning notices and place on hold notices.
Z39.50 Public Server	Minimum configuration needed to enable z39.50 public server. Default setting is port 210 and must be open for access. Please consult your IT support staff. Once configured, other library can search bibliographic record from your Koha via z39.50 protocol.
Self check Machine	Two options provided. i. Koha provides built-in self check features which can be access from the following url: http://[yourlibrarydomainname]/cgi-bin/koha/sco/sco-main.pl. The option can be enabled in system preferences settings. ii. Use third party self check machine software that comply to SIP2 protocol. A Koha SIP2 server daemon must be enable and configured.
HTML5 media	Transform you Koha OPAC into YouTube!. Koha version 3.16 and above already provide features to stream audio and videos via OPAC. Media can be added to tag 856. Once the option is enabled in system preferences, user can stream media from Koha OPAC.

Some of the libraries opt to not implementing features in table 1 due to security reasons. In my experience, if Koha is installed properly following recommended hardening method by security experts, the system are highly secured. I use debian linux with minimal installation without Graphical User Interface (GUI) component and unnecessary software makes the system more stable with minimum processor load and minimum memory usage. Frequent OS update also will provide patch to security holes

and strengthen the server security. I have seen some of the installations run for more than 400 days without system crash.

KOHA: WAY FORWARD

Implementing Open source solution is like jigsaw puzzle. You can take pieces and put it together. Although there are several new features and projects ongoing in Koha community, the following features attracts me. Gathering resources can make these things happen. If shared, it could give benefits to many libraries, which is the main spirit of Open Source.

1. Library dashboard

'Dashboard measures' are intended to give management a quick view of organizational performance, i.e. organizational performance 'at-a-glance'. The term 'dashboard measures' is derived from examples like the set of instruments and gauges found on the dashboard of your car or on the instrument panel of an airplane (Gerald K.D, Robert M.B and Larry N.K, 2003).

Currently libraries are known to use proprietary report designer software such as Cognos or Crystal Report for its reporting purposes, which is not affordable by libraries with small budgets. Open source web graphs and charts solution such as chart.js (http://www.chartjs.org/) can be use to produce visual reports. Library statistics report will be no longer boring and statics. Integrating chart.js codes to Koha databases will provide a live, dynamic, real-time visual statistics displaying performance of your library.

2. Big Data

"Big Data" originally meant the volume of data that could not be processed (efficiently) by traditional database methods and tools. Each time a new storage medium was invented, the amount of data accessible exploded because it could be easily accessed (Kaisler et. al., 2013). The term of Big Data was coined under the explosive increase of global data and was mainly used to describe these enormous datasets. Today, the obsessions that even the most apparently meaningless data may contain valuable information made enterprises gain interest in storing all sorts of Data (Neves, P. & Bernardino J., 2015).

Koha generates a lot of data every day. Data such as:

- Search logs (Koha database and Apache web server logs)
- Bibliographic data (Koha database)
- Circulation data (Koha database)

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- Access logs (Apache web server log)

Given a period of time, these logs will grow bigger in term of volumes. Usually, system administrator will simply deletes these files to avoid system crash. These data if analyzed and linked will make a meaningful pattern that may contribute to our knowledge. Imagine if we combined data logs from all libraries in Malaysia and process it, it may produce indication of Malaysian level of knowledge, reading patterns, information searching patterns and information searching behaviour and etc. For a start libraries using Koha and academic institutions could work together on these issues.

MANAGERIAL PERSPECTIVE

When people talk about system and software, the first things that came across into their minds is the functions, features and all the technical stuffs like how much RAM needed, what kind of loads we are looking into and the list goes on. In my opinion, managing the 'people' component in any Information Systems should be focused as much as technical aspects of the systems. These are some recommendations for library to take into considerations.

1. Knowledge transfer program

    Library must develop internal expert team whom can manage aspect of technical and risk in implementation of open source software. The challenge in managing open source software is it is developed based on other existing open source software. These softwares becomes its basis and related between each other. For example, Koha uses Perl modules, Zebra search engine and other open sourse modules. Koha also runs on open source platform such as linux, MySQL Database, and apache web server which is license under GNU General Public License (GPL) which guarantees end users the freedoms to run, study, share (copy), and modifies the software. From the aspects of web technology, Koha uses HTML5, CSS3, XML and Bootstrap which is also an open technology.

    To ensure the continuity of open system implementation, library needs to plan their future and not too dependent to outside companies. Library has to plan a knowledge transfer program as their priority to strengthen internal expertise in open source software mentioned as above.

2. Participation in open source community

To ensure the sustainability and continuity of open source software, the fate of the software itself determine by its developer's community. To ensure library has 'voice' in the community, library needs to join the community and contribute towards the development of Open Source Software. In process, the library will be recognized by the community and their opinion will be heard. Contibutions can be made in many aspects such as funds contribution in developing new features or additional modules. Library also can contribute in form of non-monetary contributions such as providing documentation, producing manuals, or translating interfaces of the software in native language. Library also can contribute in form of organizing Koha conference or any type of contribution which can be discussed through online forum. These contributions will add values to the open source software. Indirectly, library will have stronger linkages, opens up new opportunities and increase library staffs experiences.

3. Establishment of Open Source Society in Libraries

Koha users dan open source users in library can form a society as platform to plan activities for common interest. Open Source society in library can connect with other open source community at local and international level. The existence of the society and library participation will gives additional advantages and adds values to the library. At local level, we have *Open Source Developer's Club* (OSDC.MY), *Malaysia Open Source Community* (MOSC), *Free Open Source Software Society Malaysia* (FOSS.org.my) and others. Faculty of Information Management, UiTM also has established a *Research Interest Group (RIG) Open Source in Library* to foster implementation of open source software in libraries and open source software education among information professionals. These societies and groups has expertise which can be leverage, and if coordinated, can produce significant impact to the betterment of librarianship profession.

CONCLUSION

In conclusion, libraries who adopt Koha ILS can extend their ILS capabilities because of its open technology. Libraries who adopt open source software also need to take open source development program seriously, beyond a mean of reducing cost to ensure sustainability and continuity of the software itself. In the process, libraries can

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acquire additional values, becomes more competitive and heighten the librarianship profession to next level.

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