

SWITCHING FROM LIBSYS TO KOHA WITH RFID INTEGRATION:

A Migratory Experiment in Central Library NIT Rourkela

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Abstract

In this paper one of the important library management software Koha has been discussed in details together with its need, features, implementation, customisation, data migration from Libsys to Koha, printer configuration in Koha and RFID integration with Koha.

Keywords- *Open Source Software (OSS), Integrated Library Management Software (ILMS), Libsys to Koha, Data Migration, Koha with RFID.*

1 Introduction

Library and information centres are nowadays considering as one of the most valuable services sectors in the society. Now library and information centres are turning into the digital mechanism. Materials acquired by the libraries are also changing its forms to suit the modern mechanism. But a library is not a library if it is not functioning as the easy search and retrieval with the proper managing of resources. So many software is performing as a tool for providing some tremendous services with its variable features. Integrated Library Management Software (ILMS) are one of the most popular examples of those tools. A tool which turns every in-house operations of libraries into an automated system like; acquisition, cataloguing, circulation, serials, OPAC, reports, administration etc. Koha is a fully featured, scalable, open source ILMS adopted by different types of libraries worldwide (Adamson, 2008).

2 Objectives of the Study

The objectives of the present study are as follows-

- To look at the existing tools for resource management and the need for new tool

Koha in the central library, NIT Rourkela.

- To aware about the implementation and customisation of Koha in NITR.
- To know the steps of data migration through export-import from Libsys to Koha.
- To aware the process of printer configuration.
- To integrate RFID with Koha over existing tags.
- To aware about the complications and present condition of post migration.

3 Literature Review

Moving towards one software from another is being very common nowadays. Some related literature of this kind are given below-

Omeluzor and others have shown of implementing and data migration in Koha from X-Lib at Babcock University Library, Nigeria (Omeluzor, 2012). Ping Fu and Julie Carmen have illustrated the transformation of Millennium integrated library system to Alma/Primo at Central Washington University Libraries (Fu & Carmen, 2015). Mukesh Pund and Parul Jain explain the transformation and migration process from Libsys to Koha (Pund & Jain, 2016). Vinod Kumar Mishra describes the process for migration of existing data, implementation and customisation of Koha in Mahatma Gandhi Central Library, IIT Roorkee (Mishra, 2015). Ram Kumar Matoria and P. K. Upadhyay shows the migration of library data from Libsys to E-Granthalaya in Indian scenario (Matoria & Upadhyay, 2005). Monirul Purkait and Anindita Bhowmick illustrated the process of data migration from Libsys to Koha (Purkait & Bhowmick, 2017). A. C. Oinam and J. C. Nongbri rectifies the choice of an ILMS and the post effect of the same in an academic library (Oinam & Nongbri, 2016).

4 Methodology and Coverage of the Study

The whole process of migrating from Libsys to Koha is done through several steps. The coverage of the present study is limited to the choosing of an integrated library management software (Koha), implementing, customising transferring the full data from Libsys database to Koha, integrating RFID with Koha over existing tags and systems. These steps have been done several times on testing basis. Supports are taken from many online groups/ forums/ communities, resources and some experts.

5 B. P. Central Library NIT Rourkela

The Central Library of NIT Rourkela functioning from 1965 to serve the user community

of NIT. The library acquired huge resources in print and electronic formats as well as provides some useful services to cater the user need. The library website (<http://library.nitrkl.ac.in/>) is performing as the connector between the users and resources.

| Library Resources | Useful Services |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Books, journals, full text/ abstract/ citation databases, consortia, CD/ DVD materials, standards, audio-video materials, video lectures, e-thesis/ dissertation, NITR publications, open access to old and rare odia books, open access resources etc. | Library loan, user education, reserve-renewal, information kiosk, self-issue return, new arrival, e-newsletter, library catalogue, library blog, CAS, user awareness workshop, ready reference service, liaison program, students textbook exhibition, book bank service, research support services, software vault, Android app, quick links to other nationalise institutes, e-newspaper, FAQ, ask a librarian etc. |

Table 1: Resources and Services Provided by BPCL

5.1 Existing Tools in the Library

To manage and maintain these different kinds of resources and keep providing these various services, the library has acquired some tools. Different types of tools are selected for different types of services.

| Software | Purpose | Year of Implement |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Libsys and LsSmart | To automate the library housekeeping work and for RFID-related issues especially in KIOSk to monitor self Issue, Return, Renew etc. | 2006 |
| DSpace | Institutional Repository of e-Papers published in Journals, Conference Proceedings, Books etc. by NITR community. | 2006 |
| EPrints E-Thesis OAOB | For archiving the e-thesis/ dissertation by NITR students and Odia Books Project (A special project in association with Pragati Utkal Sangh, Rourkela and Srujanika, Bhubaneshwar for archiving the cultural heritage of Odisha). | 2008 |
| Joomla | To maintain the library website | 2014 |

| | | |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| HTML & CSS | Library Technical Manual is maintained with core HTML and CSS to design and develop the technical manual of library routine works. | 2015 |
| WordPress | To maintain the library blog to keep updated about library activities | |
| DSpace | The NITR Official documents are archived using DSpace as a repository of NIT Rourkela which contains all the official documents such as BOG, HOD meetings, Senate, BWC etc, committee meetings. | 2016 |
| Subjects Plus | To maintain the Subject Guide which covers the descriptive information about the library services and resources. | 2016 |

Table 2: List of Tools Available in NITR

Except all these, Koha was also used previously for managing the e-books (presently merged with new Koha), Greenstone is used for managing different software (license/ freeware/ trialware/ CC training/ CD-ROM database and others) presently maintain by the computer division, Turnitin, Grammarly, Mendeley, Style Guide etc. are also being provided by the library.

5.2 Need for a New Automation Solution (Koha) in the Library

The major point may be raised from here, is there any need for another library management tool over an existing tool? The perfect answer one can find out by observing the comparative study between them (Madhusudan & Singh, 2016). A lot of studies can also found over the internet. But choosing Koha among various ILMS is for the varied remarkable features of different modules.

| Libsys | Koha |
|------------------------------------------------------------|--------------------------------------------------------|
| Number of simultaneous OPAC access is restricted by vendor | There is no limited number of simultaneous OPAC access |
| Pre customised OPAC, can't add/ remove | Fully customisable |
| More budget for more features/Modules | Full package is free of cost as its OSS |
| AMC is a big problem | Nothing required or minimum AMC |
| No external/ third party link | Available RSS, Web 2.0 features |
| Update is less frequent and chargeable | Update is more frequent and free of cost |

| | |
|-------------------------------|------------------------------------------|
| No control due to proprietary | Full control due to free and open source |
|-------------------------------|------------------------------------------|

Table 3: General Comparison Between Libsys and Koha

6 Implementation of Koha

The implementation of Koha is done using several tools. The following tools are taken for the implementation-

OS- Debian OS was used version 8.8 JC server 32bit.

Koha- 16.11.07 version

7 Customisation of Koha

The customisation of Koha is done in two parts; one is the client end customisation and the other one is OPAC.

7.1 Customisation in Client

In the client end, the main configured parts are followed-

E-Mail Configuration- this configuration is done through postfix. The patrons will receive e-mails of registration of new patrons, issuing an item, returning an item, renewing an item, hold item, collect of reserve item and overdue alerts (before and after). The overdue alerts going 4 times as on, before 3 days of overdue, the day before overdue, on the day and after overdue one time to aware the fine charges.

The Fine Rules- by default, the fine charges are 1 rupee/ day in Koha. But in NITR the fine rules was always incremental. So the fine rules setup is configured to incremental by changing some codes in 'overdue.pl' file and the fine rules are set as 1-21 days- nil, 22-28 days- 1 rupee/ day, 29-42 days- 5 rupees/ day, 43 days onwards- 10 rupees/ day.

7.2 Customisation in OPAC

The OPAC is customised in different areas through using some codes. At the menu bar; one new item added namely weekly new arrival which shows the new arrival items acquired by the library every week. Next, to it, the header image is added to give it an attractive look. In the main user block, the list of new arrival print journals are added and a cover flow plugin is used to show the cover image of last 20 books added to the collection. The auto cover image was fetched after enabling of the Amazon image check box from Administration>System Preference>Enhanced Content>Amazon AmazonCoverImage and OPACAmazonCoverImage. In the left navigation, several links

were added and in the right navigation, the login procedure by the patrons by roll no and password was added. The OPAC credits portion represents the library contacts/ suggestion/ feedback etc.

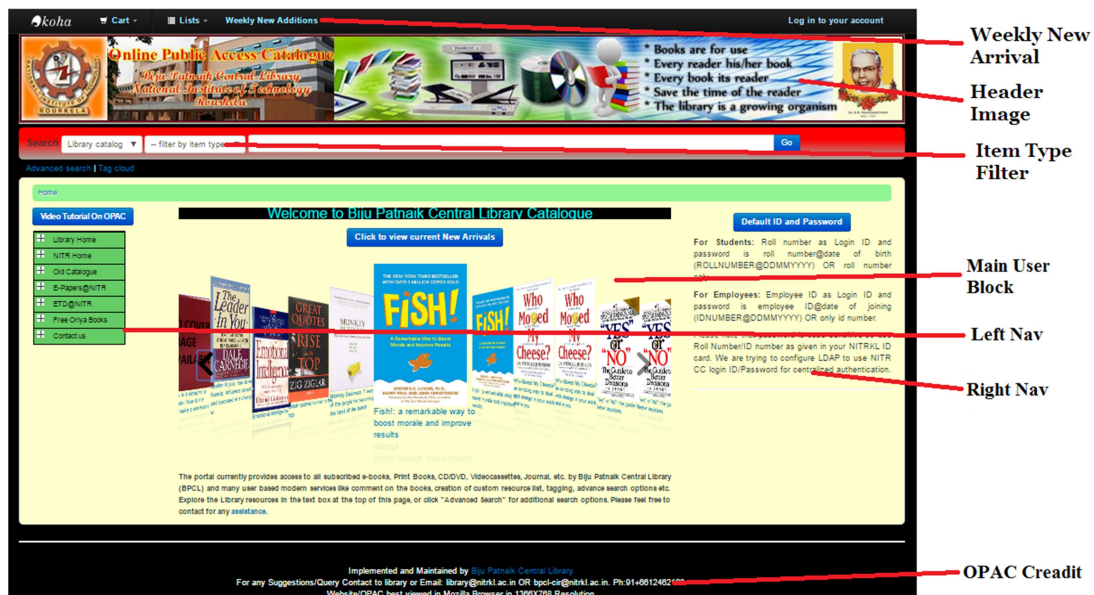


Figure 1: Customised OPAC of NITR

8 Data Migration from Libsys to Koha

The most important part for switching from one software to another is the migration of data and it is quite a tough job for migrating data from Libsys to Koha because Libsys is proprietary software and doesn't allow to accessing or change anything according to your need. Mainly three types of data were taken for migration i.e. books, journals and patrons. Some tricks has been used here while exporting data from Libsys and importing to Koha as follows-

8.1 Exporting Data from Libsys

Here, in this case, data are exported through the reports from a different module like acquisition and serial. The following steps are taken while exporting the data for both books and serials-

- Gone to Acquisition>Reports>Accession Register.
- Leave the page as it is and clicked on My Format.
- Leave the page as it is (select the range of accession no in the case of partly export) and clicked again on Formats.
- Selected the fields of data and placed the sequence as to be shown fixed the

character length of data and then clicked Ok.

- Chosen the information interchange code (ASCII).
- Noted the output file name and saved it.
- Opened the file in notepad and reviewed.
- Then opened the file by selecting all file type from Excel.
- Clicked on next and separated the fields by creating and adjusting lines by the scale (irrelevant lines were removed upwards).
- After clicked on next the data will show in excel (corrections may be done).
- Chosen the No option while saving the data.

Similarly, in the case of serials gone to Serials>Reports>On Serials>List by Title and choose the data fields will be taken and choose the information interchange code (ASCII) and saved the file. The rest are same as above.

8.2 Importing Data into Koha

After successfully exporting of data it is needed to import the data in Koha. MarcEdit is a tool taken for converting the data according to MARC tags. It is needed to refine the data in a good manner before converting. The following steps are taken while importing the data for both books and serials-

- Checked the data fields for refinement
 - Copy status checking (on shelf/issued/lost/damaged/missing/binding)
 - Splitting of class number and book number
- Added MARC tags for different fields
- Imported the file into MarcEdit
 - Created a template for different tags
 - Joined the same tags in different fields
 - Converted into .mrk format
- Converted the caps letter and small letter into running letter
- Inserting of publication year and language in 008 fields of MARC
- Fetched the subject field from LOC database
- Converted the data into .mrc file
- Checked the duplicate copy through ISBN from MarcEdit>Tools>Find Duplicate Records (the outputted data will divide into two folders, in one folder one unique

record is there and the other records are in another folder)

- Merged the duplicate data into one for retrieving one item with its substitute copies instead of all copies from MarcEdit>Tools>Merge Records
- Imported the data into Koha through bulk importing by running commands

The importing of bound volumes is imported by following the same steps. But while importing the serials, it is needed to check and process several times the data because of the volumes no issue no and some other different fields are there in comparison to the book. The patron data are imported into Koha taken from the NITR patron database.

9 Printer Configuration

The configuration of the printer with Koha was done by following some simple steps. Just enable the Mozilla Firefox add-ons. Opened the browser then Menu>Add-ons>Extensions. The JS print setup will open which is a method of setting print page for issue/ return/ renew of items. Opened the jsprint setup option and enable the permission of access from all sites. After setting the permission, identify the printer in Koha by providing the printer name. Logged in to Koha then Administration>System Preferences>Staff Client>Appearance>InternetSlipPrinterJS then searched the line named 'jsPrintSetup.setPrinter("Epson-9-Pin");' in the code and put the printer name (in the case of BPCL, it is Epson-9-Pin). The primary configuration is done. Further configuration can be done through 'SetOption'.

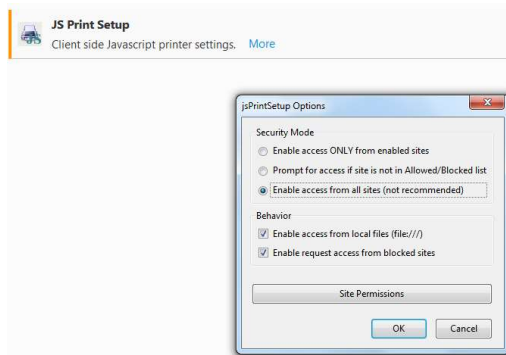


Figure 2: JS Print Setup Add-ons

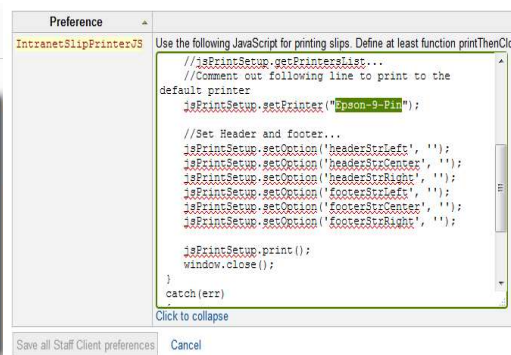


Figure 3: Printer Name in Koha

10 RFID Integration with Koha

After successfully implemented of Koha, old RFID devices are integrated with Koha, the middleware was made locally as per requirements of the library in such a way that existing tagged books and patron cards read very well with old RFID devices i.e. library

do not need to re-write the tags again. Self-issue/return and staff interface of RFID was designed separately for Kiosk and staff workstations but both were integrated into one single package i.e. not separated. To enter in the self-issues/ return interface a command line is used and one shortcut link is also created for quick access.

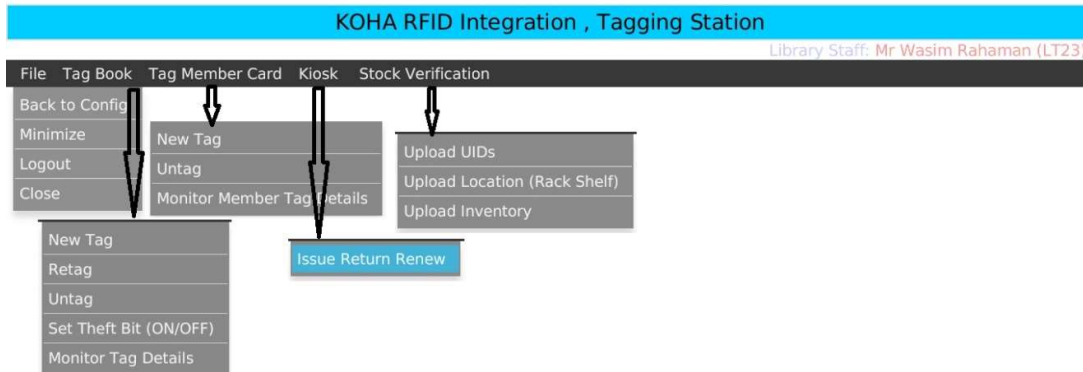


Figure 4: Staff RFID Interface

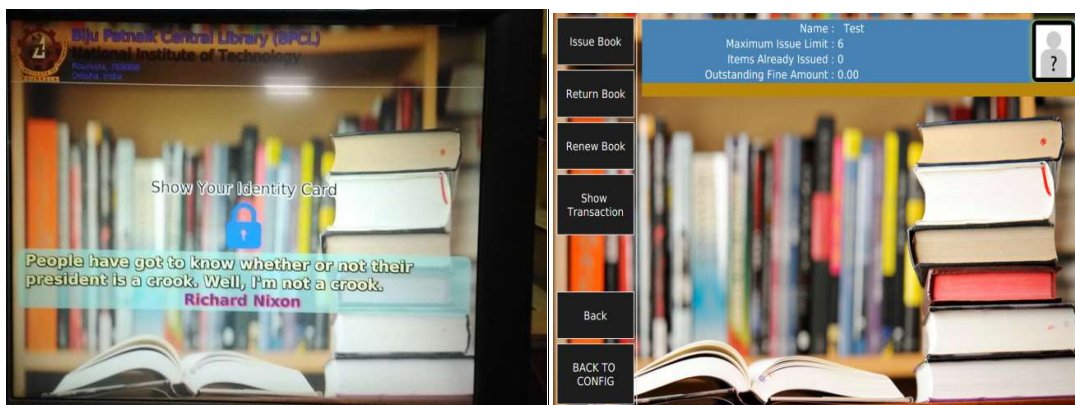


Figure 5: User RFID Interface

Figure 6: User Issue/Return Interface

11 Complications and Present Condition of Switching to Koha from Libsys

Switching to Koha from Libsys is a long time experiment in NITR. During implement and post implement several problems have been facing by the staffs and users. Some of the problems are-

- The issue in integrating old RFID devices with Koha.
- Added Entry personal name was not imported.
- More than 80 letters are not importing in any field in Koha.
- Accompanied materials are unable to import the items.
- Facing some issue return problems in Koha 16.11.07

All these problems are slowly has been resolved by try and error methods. Some experts, forums and groups on Koha are very helpful in this regard.

Conclusion

Going for technology initiative in libraries at present days is not that much difficult. Being a professional one have to identify the effectiveness of these technologies and also make understand the higher authorities/ administrative. The important part is to choose the better software. It depends upon the requirements of the library/ users/ staff and some other parameter. After successful implementation of Koha in BPCL, it is observed that the open source can be the solution of choosing software as a tool for library management system. It doesn't matter whether a library is going to automation/ digitisation/ ERM or any other tool for management. The best part of any open source software is the cost and open source code. One can modify/ change according to the requirement of the library. Switching over to other software in future is also easier without any restriction.

NIT Rourkela has been receiving applause from different regions for its huge achievements and services. Implementing Koha added one more star to the library. Though some problems are still facing by the staffs, but to gain something the risk has to be taken and BPCL proves the ability before, at present and in future will be.

Acknowledgement

The authors are grateful to Mr. Vinod Kumar Mishra, Assistant Librarian NIT Rourkela for various tips and tricks on Koha. They were also acknowledged sincerely to Mr. Monirul Purkait Computer Division, VECC, Kolkata for various RFID issues. Hearty thanks go to Mr. D. P. Tripathi, Assistant Librarian NIT Rourkela for various information on BPCL.

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