Journey from Library Management System (LMS) to KOHA by Government College University Libraries, Lahore

Muhammad Tufail Khan
Government College University, Lahore, Pakistan
Email: mtufail440@hotmail.com

Aneela Zahid
Government College University, Lahore, Pakistan

Muhammad Rafiq
University of the Punjab, Lahore, Pakistan

Libraries around the world are using the technology in best possible ways to satisfy their users through efficient and effective library services. The paper aims to discuss the process of KOHA implementation in Government College University (GCU) Libraries Lahore, while replacing the Library Management Software (LMS) implemented in 1999. The article discusses the implementation of Koha in a narrative style. In first phase KOHA was installed on testing basis on one computer and its different modules were evaluated as per their functions in context of the requirements of GCU Libraries. After satisfactory results a journal was placed formally for notes taking purpose during the step by step process of KOHA implementation for the required results. On the basis of testing phase, the technical issues were addressed and Koha implementation strategy was chalked out, employed and resulted as the live server of KOHA.

The study discussed the major technical problems that were encountered in the implementation of KOHA. The authors assume that other libraries who are implementing Koha also face such problems. However, these technicalities are not disclosed and remain unaddressed. The study addresses these technical issues and offers solutions. The study offers insight that is valuable for Pakistani librarians at large and other libraries in general which are in the process of implementing Koha for automation.

Keywords Library Automation, Academic Libraries, Library Technology, KOHA, Integrated Library Management System.

Introduction

Academic Libraries are playing an effective role in the transmission of knowledge to their library customers. Academic libraries are providing best possible services to their library users in a friendly way to fulfill their information needs. In today's world it is inevitable to offer the library scales up to the mark without due technological applications. The evolution of technology is targeting the libraries to provide their services as per their user's convenience. The technology removes the wall boundaries of libraries and hence the libraries are expanding their services through technology. The collection available inside the libraries are playing a basic role in the richness of a library. It also attracts their target customers like the students enrolled in that organization as well as the students and researchers from other organizations/universities too. Now a day, the library access mainly depends on the automation software. It is the basic need of a library user to search his/her required material in the library collection through OPAC or at home via WebOPAC. The automation software

helps the users to find out the required material from library's knowledge treasure. In past library automation software was standby for having local network access but now-a-days it is web based and searchable from all over the world through internet.

Many developments were made in the world of library automation in recent decades. A number of large scale and small scale automation software were designed by software companies to fulfill the libraries' needs. Libraries and technology have a deep link since the invention of printing (Vyas, 1997). Advanced countries stared automation in their libraries in 1960's. Libraries automation systems especially the public library system in UK has deep impact on information access in their society (Roberts, 2008). The concept of computer in libraries relates to IBM's introduction of the 360 series in 1964, and it was the first "family' of computers to be released and the robust machine that propelled computing out of the universities and into the mainstream" (McCallum, 1963). In simple words, library automation is a process in which library uses computers to perform different tasks to improve library services and accessibility. Library tasks, mainly house-keeping routines, such as acquisition, circulation, cataloging, reference services and serial control etc. are performed by using computers. In other words, Library automation is the process of performing all information operation in library with the help of computers and related technologies. History of library automation in the world is not an old one. It could be said that library automation development began in the 1930's when punch card equipment was implemented for use in library circulation and acquisitions. It dates back 1950s and 1960s in America and Europe. According to Malik (1996) in Pakistan, library automation was started in 1980s and a number of libraries have been computerized in or after 1987. Adopting computer technologies in libraries is the first step to library automation. However, to keep up with new trends in information and communication technology is also of vital importance. Nok (2006) discussed the successes of library automation in university setup that largely depends on the ability of professional staff to facilitate and implement the process. To arrange proper and regularly training sessions is necessity if the maximum benefit is to be gained from the library automation. Haider (2007) explained that barriers in library automation in Pakistan were: systematic planning for library automation, sufficient knowledge of library software and related hardware, non-existence of standers, library budgets cut, trained library staff and most importantly lack of willingness in professional staff. In order to resolve the situation, the author emphasized that special attention should be paid to: design the information policy, create awareness in regards to technology in library operation, training and development of library staff, arranging awareness sessions for students and library staff. Karetzky (1998) discussed in his study that selecting an appropriate software for library automation was very important step for the library automation. First, it is necessary to have adequate knowledge of the available software in market. Secondly, verify the software capabilities, weakness and possibility to meet the need of library users. Omeluzor (2012) discussed in their research study that unsuitable package could lead to failure. Unhappy clients, loss of patronage are the main problems when selecting an inappropriate library automation package. On the other hand, the right package provides batter services for library clients.

Presently, in Pakistan, many library packages are used for developing better library services for example dBase, Foxpro, INMAGIC, CDS/ISIS, Kitabdar, Pak Library Software, LAMP, LIMS, Evergreen, Virtua and Koha etc. Open source software (OSS) received attention of library community and a number of OSS applications are available for library community. Rafiq (2009) confirmed that library professionals, around the world, had positive perceptions about OSS. KOHA is well developed OSS for library automation and many libraries around

the world are using to meet their automation requirements. According to Boss (2008) Koha is an "Open source" which is free software that includes the original source code and it provide the opportunity to modify this source code according to their library need. It also provides the right of distribution without any charges.

In Pakistan budget allocation for libraries is not sufficient. It hinders the libraries to purchase costly proprietary software. The computer system becomes very common and easily available in all libraries however integrated library systems are missing in Pakistani libraries especially the small and medium libraries. Nevertheless, the trend of adopting OSS especially KOHA is rising in Pakistan. Rafiq and Kanwal (2009) discussed certain issues associated with the adoption of KOHA in Pakistani context. The study mentioned that the adoption of OSS in Pakistani libraries was just at a beginning stage in Pakistan, The major identified issues which affected OSS adoption in Pakistani libraries were social (cultural) disparity, conceptual confusions, digital divide, lack of technological infrastructure, lack of finances, and lack of human resources with needed skills.

Implementation of KOHA in GCU, Lahore

Government College University (GCU), Lahore (formerly The Government College, Lahore) was established in 1864 and it is the oldest institution in this part of the world. The college library, comprising just one room, was established in 1872. However, a formal library with an office and reading room was established in 1937. The Government College was upgraded to the status of university in 2002. GCU, Lahore is popular among all universities established in Pakistan due to its old history and role in supplying the man power for the society. GCU Libraries consist of a Central Library, a Postgraduate Library, a Science Library, and seven departmental libraries.

Library plays a pivotal role in a university life. Well established libraries support their organization in its development. In GCU, libraries were automated in 1999 through the use of library automation software named as "Library Management System (LMS)" produced by Towertech software house, a Lahore based company. LMS was used to automate cataloguing and circulation related tasks. However, it is non-MARC and non-Unicode software that does not facilitate to enter data of Urdu books in Urdu alphabets. Although the GCU, Libraries contained more than one hundred thousand Urdu books collection, yet the system was operated manually due to no hospitality in the LMS software for Urdu language.

Keeping the needs of GCU libraries, its users and especially Urdu subject, in 2013 an informal meeting of Librarian Mr. Muhammad Tufail Khan (Principal Author) with the Chief Librarian Mr. Abdul Waheed was held in which the needs of Library users and libraries were discussed in details. In this meeting it was decided to use KOHA - integrated library software in GCU Libraries to meet the needs. A plan for KOHA implementation was prepared and presented to chief librarian for approval by the principal author. After the thorough analysis and necessary changes, the plan was approved by the Chief Librarian. It was decided that the plan will be implemented without any disturbance in the routine duties of the library staff as well as routine process of GCU, Libraries.

The whole project was designed to be completed within three months. However, the target was achieved within two months and 15 days. The project included: Installation of KOHA, Data Transfer from LMS to Koha (English Books), and data entry of Urdu collection

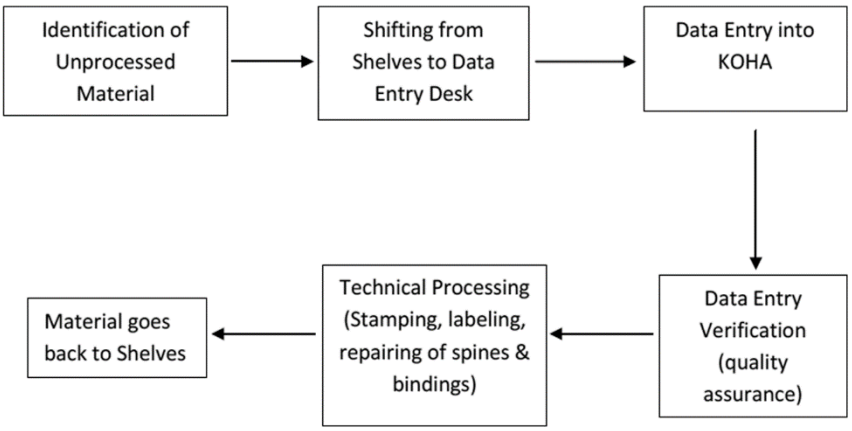

Figure 1: Flow Chart of Automation Process of Urdu Material

The principal author started work and accepted Google as the teacher. In the whole process of the KOHA installation and implementation, two computer systems were demanded from the Chief Librarian to test KOHA in first phase and then to implement it. In the whole process of the project all these two phases were tried first to test on testing computer and after successful results it was implemented on the server. In the same way the installation and system configuration was completed successfully. In first phase KOHA local server was installed and operated from various stations to know the security strengths of the server and bugs. After satisfactory review of the KOHA; it was transferred to live server and now it's available online through internet from anywhere (Fig. 2 shows the screenshots of GCU KOHA OPAC). The data of English books were migrated with the help of Ms. Aneela Zahid Librarian GCU, Lahore as she was newly appointed in GCU, Lahore. The data entry of Urdu collection followed the process as mentioned in Fig. 1. It included the selection of Urdu collection for data entry, data entry and technical processing (labeling, stamping, etc.).

Figure 2: GCU KOHA Web OPAC

Challenges in the implementation of KOHA

Certain challenges were faced by the project team during the implementation of KOHA in GCU Libraries. These challenges are given below:

Installation – From where?

First question that is being faced by Pakistani professionals is about the installation of KOHA. There are four options:

a. From its official website
b. From USB
c. From DVD
d. From CD

In Pakistan, different groups, companies, and firms are working on KOHA prepared KOHA live CDs, DVDs and USBs in Pakistan for the purpose to install KOHA in libraries. The basic aim of all these is to foster awareness about KOHA among Pakistani LIS community. Professional Librarians and Computer Science professionals work on the same to customize it for their own organizations or for the selling purpose in the market. As the source code is open so many groups, firms and private companies make changes and ask for the consultancy charges for its implementation in any organization. These companies and groups also arrange workshops, seminars and training programs to market their KOHA versions among library professionals and many times offer free CDs, DVDs and USBs to the training participants to install it in their work environment. When the professionals return back to their jobs with these CDs/DVDs/USBs, they have interest for some days to explore it and try in their library. But they face basic problems, they request for help to the trainers, or any other professional colleagues to solve their problems related to KOHA installation. Sometimes this practice is successful but most of the time it is neither clear nor solvable. Hence our professional colleagues remain unsuccessful in implementing the KOHA in their libraries. The technical issues being faced by individuals during the installation of KOHA remain unaddressed and hinder the prolific adoption of KOHA in Pakistani libraries.

Technical Issues in Configuration

Other major technical issues in configuration that pose challenges to the implementers are:

1. Configurations of KOHA server into LAN
2. Configuration on WAN
3. Administrative rights
4. Password changes
5. Customization
6. Barcode area tracing for data entry
7. Barcode field properties changeable
8. LINUX operating system

Configurations of KOHA Server into LAN

Solution: Read the basics of networking and discuss it with your networking administrator.

Configuration on WAN

Configuration on WAN also creates problems for librarians due to lack of their awareness with the Linux/Fedora operating system.

Solution: WAN configuration is given in the help file of the KOHA clone. If you feel any difficulty, you may search google as your teacher as I have myself been guided by google.

Administrative Rights

This is a critical area and many experts also have no knowledge about its technicalities. It took the principal author two weeks to trace and solve the problems regarding the setting of administrative rights.

Solution: At this stage the user is defined as administrator but at the backend, the administrator rights are made limited and hence during working on KOHA many times you face problems due to this issue. To overcome these problems simply create another user with admin rights. Secondly if you wish to change the properties of the file, the process is given below:

Open terminal and type as

Sudo passwd root (Press Enter)

UNIX password type in a root password when it ask (It will ask for password twice)

Clear (type it and then press enter)

SU (type SU now and enter your new root password here. When it changes to root so it will be denoted as hash (#)).

Now type nautilus to start up the UNIX explorer window, then navigate to your desired folder and right click on the folder. Open the permission tab and change it accordingly as per your needs i.e. writeable, changeable etc. After this whole process, type exit in the terminal to leave the root terminal and then exit to close the terminal.

Secondly you may login to the system with root user and select the folder to change its properties. Press ALT+F2 and right click on the folder to change the properties. (For UNIX operating system only).

Password Changes

Fourth one task that we see as a challenge is to change the KOHA admin password. It is a complicated process and if you happen to commit any mistake at this stage, the whole database will not work until you remove the changes or make them correct *Solution:* The professionals know to create new patrons with rights in the KOHA. However, the basic work for the professional is to change the master password which is applicable throughout the world. For security purpose of your KOHA automation software it is necessary to change the master password of KOHA. The process of changing the master password is given below:

Open the terminal and follow the below commands:

Step 1. Open the terminal

Step 2. 'mysql –u root –p'

Step 3. Enter password (Default password is empty)

Step 4. Run the query as mysql> update mysql.user set password= password ('katikoan') where user = 'katikoan'; (katikoan is default password for koha)

Step 5. Commit;

Step 6. Exit

Customization

Customization is more attractive area of the software as every library wants to customize it as per their organizational needs. It is easy if a professional librarian knows the basics of computer and has commonsensical views about its use.

Solution: It is the most attractive part of any software. Simply generate HTML codes for any picture or information that you want to display on the KOHA OPAC. Then go to the mentioned area, and paste it and finally save it. After having refreshed your page, you will find the necessary changes made by you.

Barcode Area Tracing for Data Entry

Sixth one is the area to trace where the barcode or accession number is entered during data entry.

Solution: The barcode field name is often changed, due to which the professionals face problem during the process of data entry. The field for barcode MARC tag is 852 subfields $p. So try to search the area and rename it as per your needs related to Barcode or Accession Number. *Barcode Field Properties Changeable*

The barcode field properties are sometime changed by the clone makers. Hence it also creates problem.

Solution: Some time the properties of the barcode field are changed. It causes problem during data entry. Check the properties and make it not repeatable, so it will reject your request if you are making entry having already entered the available materials.

LINUX Operating System

The last one stage in my study is to know about the Linux operating system basics.

Solution: Linux is an operating system which is more securing than window, yet in Pakistan its use is rare. Therefore, most of the librarians are not aware about Linux so they don't know how to use it. For this purpose, we would suggest you to explore the operating system. Install Linux on one computer and play with it for a week or two. Then you will be able to know the basic and further you will learn as per your needs.

Conclusion

The study is based on sharing the practical experience by professional librarians. What the expected problems they face and how to overcome these problems, all the areas have been discussed in detail. The aim of this study is to encourage professional librarians to go forward, to inspire you not only to take initiatives for your libraries but also to make your libraries as per need of your library users. As the whole process were lead and implemented by Librarians there was no single involvement of computer expert or any other expert. Try to focus on your target and do not hesitate from failure. However, in real sense failure leads you toward success. If you face failure, just keep trying it again and again until you achieve your target. We have to work within limited resources in spite of having high demands of senior administration. After successful execution of your project, your senior himself will ask you "what we can do for its improvement". This is the only way to success.

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