

Koha to Konika: A Journey towards Small Libraries

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This paper emphasizes on the development of a new integrated library automation software named Konika which is a simplified and customized version of Koha. Konika is developed by the Department of Library and Information Science, Jadavpur University, mainly to suffice the need of small libraries in West Bengal. The simplicity of Konika which is its essence is cogently manifested in this article through some graphic portrayal of its differences with Koha.

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Introduction

The use of library automation software, for magnifying the operational efficiency of a library, is nothing new in India. Besides the whole world, India has also observed the onward march of a large number of library automation software for all types of libraries. But what was absent in India, especially in West Bengal for a long time, was the proper concern for small libraries. So, with the paramount objective of helping the small libraries of West Bengal to bask in the fervour of library automation, Jadavpur University Department of Library and Information Science (JUDLIS) started a new journey in 2008. With a dream vision of developing an integrated library management software for small libraries with the facilities of a robust library automation software and depending on the noble principles of open source philosophy, a new mission took its offshoot. Under the **University with Potential for Excellence Phase II Programme**, a new project was undertaken in 2012 by JUDLIS. Following the remarkable words of Leonardo da Vinci that "Simplicity is the ultimate sophistication" as its cherished mantra, a new open source library automation software was born, named KONIKA. With its ultimate motto of serving the small libraries of West Bengal, especially in vernacular language (i.e. Bengali), under the customized garb of Koha, Konika started its toddler's steps from the womb of JUDLIS.

Small Library

The first thing which comes to our mind, while discussing about a library automation software for small libraries is, what is a 'small library'. There are few parameters for determining what constitutes a 'small library'. There has been little discussion in the library and information science (LIS) research literature on the subject. In the few occasions in which the term small library has been defined, it has been based on a variety of factors, such as geography and population (Heurtz, Gordon, Gordon, & Moore, 2003; Olszewski, Van Orden, & Dalrymple, 2007); a library service area or population of area served (Heurtz, Gordon, Gordon, & Moore, 2003); or the characteristics of the libraries in question, such as the size of a library's staff, collection, building, or budget (Strouse, Henry, Brown, & Outsell, Inc., 2008; Calhoun, 2008). In the Indian backdrop, amidst the broad group of public libraries which libraries hold a collection of below 5000, generally fall within the category of small libraries. Rural and some small town libraries can be put into this category. From the same angle the school libraries of India especially of West Bengal can be categorized as small libraries.

Picture of Small Libraries in West Bengal with a focus on the Problems Regarding Automation

To portray the canvas of small libraries of West Bengal the first and foremost focus is to be given on the rural libraries of West Bengal. Whole economic development depends on the basis of rural development and this process of development depends on the basic ingredient of information. As rural communities are farming communities, they will be benefited if information on how to improve their farms and technique, will be provided. In transferring information from one generation to another generation, in playing the vital role of a community information centre, in spreading adult education among the illiterate village adults, in making the rural people aware about the government policies, in a word for making the general public aware about what is happening around them and at the same time what is happening outside their periphery, a rural library has an indispensable significance.

Through a table below the number of rural libraries (of 19 districts, though there are 20 districts at present in West Bengal) has been represented:

Table 1: District wise Public Libraries in West Bengal

Districts of West Bengal	Total public libraries	Rural libraries
Bankura	130	119
Birbhum	124	110
Burdwan	212	163
Coochbehar	109	100
DaksinDinajpur	57	49
Darjeeling	99	91
Hoogly	158	121
Howrah	136	99
Jalpaiguri	110	87
Kolkata	96	0
Maldah	105	92
Murshidabad	145	131

Districts of West Bengal	Total public libraries	Rural libraries
Nadia	110	89
North 24 Parganas	221	99
Paschim Medinipur	158	130
Purba Medinipur	121	106
Purulia	117	111
South 24 Parganas	156	107
Uttar Dinajpur	54	46

Source: Dept. of Mass Education Extension and Library Services (Ayub, 2015)

From the above table it becomes clear that among the public libraries of West Bengal approximately 78.25% is rural library. So special attention should be given to uplift the standard of this vast majority of public library system.

Again there are approximately 3500 school libraries in West Bengal. Those libraries also fall within the category of small libraries. Along with the rural and school libraries, there are innumerable non-government libraries, club libraries, special and personal libraries which also belong to the category of small libraries. So to satisfy the automation needs of those small libraries, this special project of developing new integrated library automation software was undertaken by JUDLIS.

Library automation is the need of the hour. To cope up with the changing scenario of modern times it is mandatory. If a library remains in the days of manual labour even amidst the heydays of technology then no question of development can arise. By using the minimum benefits of library automation any library can save time, labour and money which can be utilized in other purposes. Though it is easy to say but it is really difficult to facilitate a library with automation facilities. This needs some essential things which are mentioned below:

- Electricity
- Enough funding
- Proper infrastructure
- Sound technical knowledge
- Skilled man power
- Internet facility etc.

In most of the small libraries of West Bengal the scenario is really heart rending. The shortage of collection (regarding books and periodicals), shortage of reference books, lack of modern up to date information, deficiency of scientific and technical information, absence of mobile service and so on run rampant in most of the small libraries of West Bengal (Ayub, 2015; Sultana, 2014).

From the statistics of West Bengal Government's Department of Mass Education Extension and Library Services it becomes evident that out of 1850 rural libraries (of 18 districts' excluding Kolkata as there is no rural library in Kolkata district) 1558 are embellished with electricity and 292 have no electric connection. So these libraries cannot even dream of library automation unless and until they are provided with electricity connection.

From of a survey conducted by Ali Ayub on the eleven rural libraries of Jalpaiguri district it becomes clear that only 4 libraries have computers. The rest do not have a single computer. This is not only the scenario of Jalpaiguri district but at the same time this is the picture of the whole West Bengal. Again there is very little scope for internet connectivity for the rural libraries of West Bengal. The lack of fund also adds much to the woes of these rural libraries. Enough staff especially skilled personnel with technical knowledge which is a first priority for library automation is also conspicuous by its absence here (Ayub, 2015).

The scenario of school libraries is not very convincing either. Conducting a survey on the 36 participants

(in the Konika 2nd and 3rd workshop) who are School and Madrasa librarians of various districts of West Bengal it becomes evident that approximately 65 % of them do not have any computer facility in their libraries. Even those who have computers do not have any library automation software. 90% heads of the institutions wish the librarians to engage themselves in teaching activities rather than focusing on their primary duty i.e. librarianship. This attitude of negligence towards libraries on the part of school authorities also creates a lot of hindrances in the development of small libraries. Sanctioning fund for libraries is also a very difficult job.

Though West Bengal public library network has played a great role in bringing together good number of public libraries of West Bengal under the canopy of one network but still a huge amount of rural libraries of West Bengal remain neglected. So over all the situation of small libraries of West Bengal is not very promising for establishing library automation.

Why Small Libraries?

Now the vital question which is to be answered is why the small libraries have been chosen? In India the main emphasis is still given on the development of big libraries. The small libraries do not receive that much attention which can take those to a new height. Seeing the various types of problems the small libraries of West Bengal face the JUDLIS chooses to work on this ground and this new software which is the offshoot of this project is dedicated to the small libraries of West Bengal, completely free of cost. The software, manual, training and participation certificate are also provided to the participants completely free of cost only with the motto of taking the small libraries of West Bengal a step forward in the realm of library automation.

Why KONIKA?

There are many library automation software available in the market. So what is the need of developing new software named Konika? The answer is very simple. Considering the question of limited funding of small libraries, the first and foremost thing which was necessary was to develop a free and open source software. The next important thing was to prepare full featured integrated library management software, with comprehensive modules for acquisition, cataloguing,

circulation, serials control, patron management, report generation, OPAC and the like. In this regard Koha was the most suitable option available in the market. But to an unskilled personnel or a semi-skilled professional of small libraries of West Bengal (though there are many highly skilled persons work in those small libraries but the majority is still not that technically sound) it is not that easy to work in Koha with complete ease. The only reason is the vastness of the modules of Koha because it is made for all types of libraries big or small as well. So a much simplified version of Koha was necessary which will only suffice the necessities of the small libraries. No extra feature will be there. Again the focus was given on the collection building in a local language (i.e. Bengali) through this newly developed software. The interface and almost in every corner of this software one will find the Bengali headings and instructions which will definitely help the Bengali people. A detailed manual in Bengali of this newly developed software, which is provided with the software, also adds much to the comfort level of the users.

The name given to this customized Koha is **KONIKA**. The term 'Konika' emerged from a Bengali term which means a small particle. Being a small and simplified version of Koha, it was named as Konika. Konika is not only a small part of Koha but also a simple, easy to handle automation software.

Project Team

Now some focus is to be given on the origin of Konika as a product of **University with Potential for Excellence** project. This project is a collaborative effort of the project core team, facilitated team and support team under **University with Potential for Excellence, Phase –II Programme**, Jadavpur University.

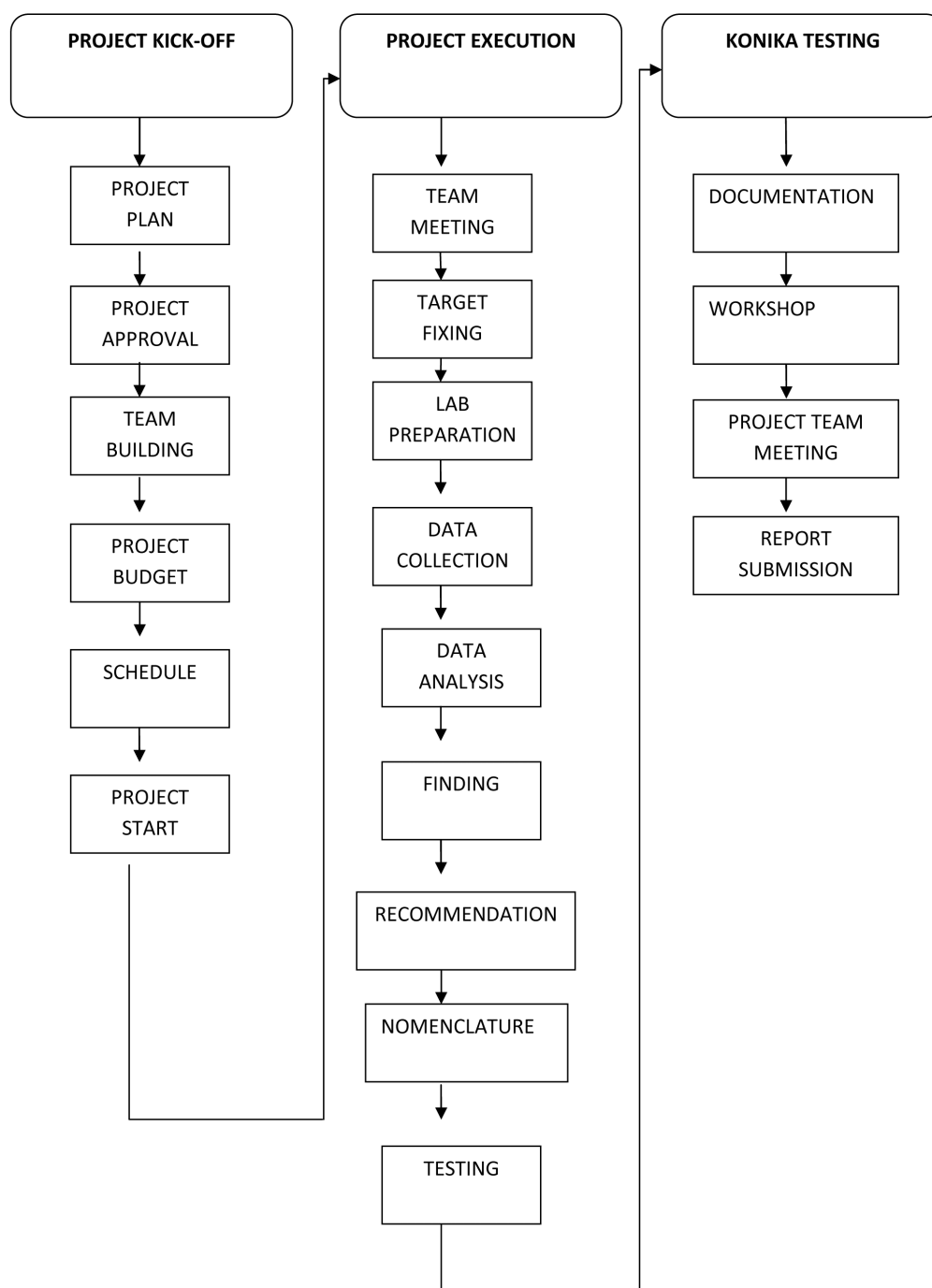
Project Time Span: Two Years

Core Team:

Name	Designation
1. Prof. Udayan Bhattacharya	Principal Investigator
2. Shri Tarun Kumar Mondal	Co- Principal Investigator
3. Mrs. Protiti Majumdar	Project Fellow
4. Mr. Bapan Kumar Maity	Expert

Supporting Team:

1. Mr. Ashok Pal	4. Mr. Ranadip Chandra	6. Ms. Chaitali Ghosh
2. Ms. Shreya Banerjee	5. Mr. Soumen Mandal	7. Ms. Bidisha Bera
3. Dr. Ranjan Samanta		

Flowchart of Project Execution

The following tables show in detail the Project Kick-Off and Project Execution activities with a meticulous focus on the budget of this project.

Project Kick - off

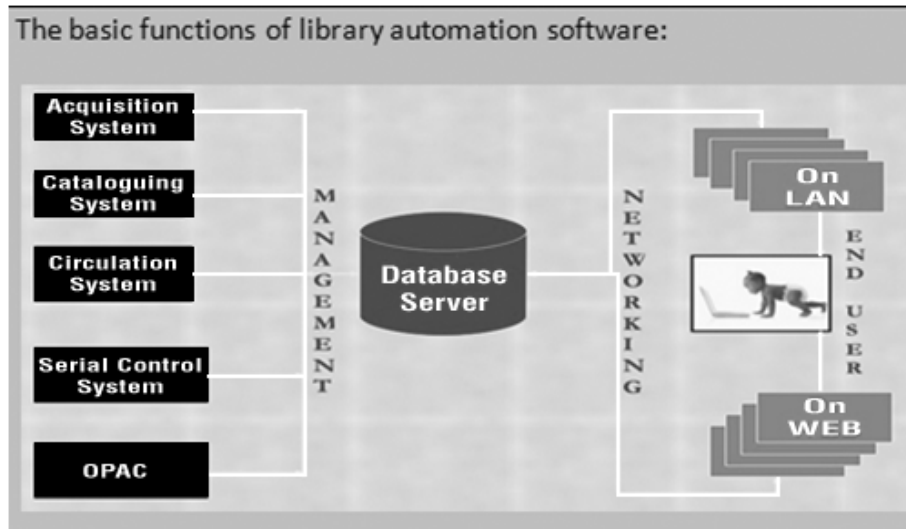
PROJECT PLAN	To develop a free library automation software for small libraries.
PROJECT APPROVAL	Mid of 2012
TEAM BUILDING	Team selection, 2 project fellow worked.
PROJECT BUDGET	20 lacks
SCHEDULE	Finished 1 st phase of project with TGT time
PROJECT START	After setting full flagged lab, project R&D started end of October 2012






Project Execution

TEAM MEETING	Once in a week.	
TARGET FIXING	Months	Targets
	April	Advertisement for manpower
	June	Interview
	August	Recruitment
	October	Lab preparation
	December	Report on existing library automation software
	February	Installation of existing library automation software and find out the problems.
	April	Find out the basic need of the small libraries.
	May	Create a basic layout of expecting software
	July	Find out the important modules need to be included in this software
	September	Modules finalization, Manual preparation
	November	Manual finalization, Testing of modules
	December	Finding out the bugs and customize as per needed.
	February	Workshop preparation. Manual and modules testing.
	March	Project wrap up.
LAB PREPARATION	<ol style="list-style-type: none"> 1. One server 2. Five Client PC 3. Three Laser Printer 4. One Scanner 5. One Hub/Switch 6. Three Laptop 	



In the **Data Collection** phase the focus was given on the thorough analysis of the existing open source library management software, their features and their usage in Indian libraries and finally analysing the pros and cons of those software, a suitable model for Konika was chosen.

Data Collection



Automated library system			
List of free open source library automation software:			
Name	Source	Origin	Logo
Koha	https://koha-community.org/	Newzeland	
Evergreen	http://www.open-ils.org/	USA	
OpenBiblio	http://obiblio.sourceforge.net/	Spain	
OPALS OPen-source Automation Library System	http://www.mediaflex.net/	USA	
PMB PhpMy Biblio	http://www.sigb.net	France	

Software Name **Source** **Origin** **Logo**

Emilda	http://www.emilda.org/	Finland	
NewGenLib	http://www.verussolutions.biz/	India	

Now some general features of library automation software are enlisted below:

Softwares	circulation	cataloging	OPAC	acquisitions	Serials management
Koha	√	√	√	√	√
Evergreen	√	√	√	Limited	Limited
OpenBiblio	√	√	√		
OPALS	√	√	√	√	
PMB	√	√	√	√	√
Emilda	√	√			
NewGenLib	√	√	√	√	√

After focusing on the general features now it is time to look at the special features and some technical dependencies of those software:

Software	Special features
Koha	Support MARC21, UNI MARC, import/export bibliographics records, allow third party add-ons, Web services, has option can-reserve-form-other-branches.
Evergreen	Support search/ retrieve via URL and Z39.50 servers
OpenBiblio	MARC Support
OPALS	MARC support, Z39.50 support
PMB	UNIMARC support, ability to import full bibliographic records
Emilda	MARC support, Z39.50 support
LA ILS	MARC21 support, Z39.50 support
NewGenLib	MARC21 support, Z39.50 support

Technical dependencies of existing library automation software:

Softwares	Environment	Requirement	Language
Koha	OS independent	Apache, MySQL	Perl
Evergreen (Evergreen-ILS-2.0.12)	Ubuntu (10.04)	PostgreSQL 8.4 is the minimum supported version	C, Perl, Python
OpenBiblio	Windows,	Apache, MySQL (4.0.2 or higher)	PHP (PHP version 4.2.0 or higher)
	Linux (Ubuntu 6.06.1)	My SQL 5.0.22, Browser: Firefox 1.5.0.8	PHP 5.1.2
OPALS	Red Hat, CentOS	Apache, MySQL, Zebra	Perl

PMB	OS independent	HTTP server	MySQL , PHP
Emilda 1.2	Windows with difficulties, Linux (Debian)	A Web server, MySQL 4.0 database server, Zebra	PHP
NewGenLib	OS independent	Postgre SQL, JBoss Application Server	JAVA

After the Data Collection phase is over the following phases come one by one:

DATA ANALYSIS	<ul style="list-style-type: none"> ➤ Existing automation software has more features than a small library needs. ➤ Entering data in Bengali is tedious task. ➤ Manual is not adequate source document to learn the software. ➤ Due to too many features users get confused and lost interest to use the software
FINDING	Small libraries want free open source library automation software which can serve their basic needs and will be easy to handle.
RECOMMEN DATION	Develop a customized free open source automation software = The basic need of small libraries + Removal of problems faced by the users while using Koha.
NOMENCLAT URE	The name given to customized Koha is Konika. KONIKA emerged from a Bengali term means a small particle. As it is a small and simplified version of KOHA that's why it was named as KONIKA. KONIKA is not only a small part of KOHA but also a simple, easy to handle automation software.
TESTING	Installed and reinstalled in various systems, find the bugs and fix up the bugs.

Project Expenditure

Project expenditure or the budget of the project is shown in the following table under three different heads like Man, Machine and Miscellaneous.

BUDGET	
MAN	7,00,000/-
MACHINE	7,734 Lacs
MISCELLENIOUS	Books: 1,10,000/- Contingencies: 2,25,000/- Seminar: 2,00,000/-

Technical Aspects of Konika and Its Differences with Koha

Konika is free and open source software developed on the basic principles of Free and Open Source Software Movements. The back end architecture of this software is commonly known as LAMP (Linux operating system – first ubuntu 10.04 and then ubuntu 12.04; Apache as server; MySQL as database management system and Perl as scripting language). Zebra indexing software, yaz packages for Z39.50, are conspicuous by their presence in Konika.

As for hardware requirements, it can be said that according to the amount of data a library is going to store in this Konika software, the hardware requirements will change.

But minimum 1 or 2 GB RAM, 300 to 500 GB hard disk and a processor of minimum capability will serve the purpose of installing Konika.

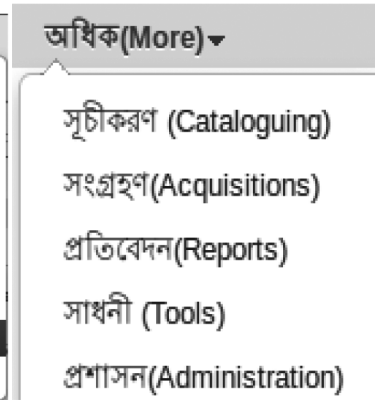
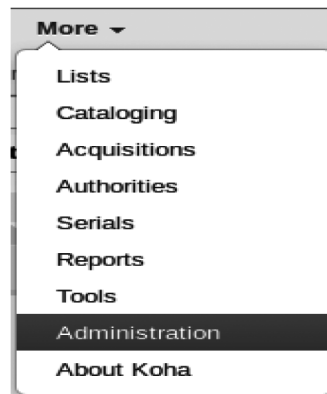
Some pictures of interfaces of both Koha and Konika will unfold the differences between this two software.

Koha Home Page Interface:

KonikaHome Page Interface:

Koha More Option:

Konika More Option:



Koha Administration Page:

Konika Administration Page:

Koha administration

Global system preferences
Manage global system preferences like MARC flavor, date format, administrator email, and templates.

Basic parameters
Libraries and groups
Item types
Authorized values
Patrons and circulation
Patron categories
Circulation and fines rules
Patron attribute types
Library transfer limits
Transport cost matrix
Item circulation alerts
Cities and towns
Road types

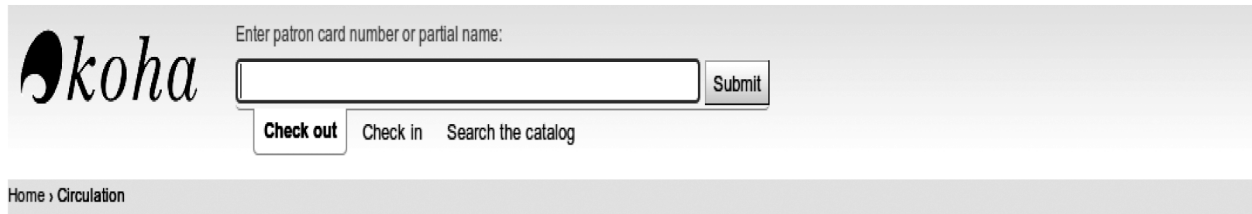
Catalog
MARC bibliographic framework
Koha to MARC mapping
Keywords to MARC mapping
MARC Bibliographic framework test
Authority types
Classification sources
Record matching rules
OAI sets configuration
Acquisition parameters
Budgets
Funds
Additional parameters

Konika administration কণিকা প্রশাসন

Global system preferences গ্লোবাল সিস্টেম

Basic parameters
Define libraries গ্রন্থাগার নির্ধারণ
Define item types আইটেমের প্রকৃতি নির্ধারণ
Define patron categories পাঠকের শ্রেণী নির্ধারণ
Define circulation and fines rules কাইনের নিয়ম নির্ধারণ
Define MARC bibliographic framework মার্ক কেমওয়ার্ক
Define currencies and exchange rates মুদ্রার বিনিময় হার
Define budgets বাজেট নির্ধারণ

Koha Circulation Module:



Circulation

- Check out
- Check in
- Renew
- Transfer
- Set library
- Fast cataloging


Offline circulation

- Upload offline circulation file (.koc)
- Pending offline circulation actions
 - Get desktop application
 - Get Firefox add-on

Circulation Reports

- Holds queue
- Holds to pull
- Holds awaiting pickup
- Hold ratios
- Transfers to receive
- Overdues - **Warning:** This report is very resource intensive on systems with large numbers of overdue items.
- Overdues with fines - Limited to your library. See report help for other details.

Konika Circulation Module:



From all the above pictures it becomes evident that in Konika the minimum amount of features has been kept by customizing Koha. It has been done only to give the librarian of a small library, the ease to work with and the freedom from any kind of confusion, caused due to excess of options in Koha.

Feedback of Users

After the software was developed and its manual was completely ready this newly built software was tested several times and finally the first workshop was organized during 27th February to 2nd March 2014. In the following table the workshop's outcome is represented through various pie charts. This actually shows the feedback of users after using Konika.

WORKSHOP

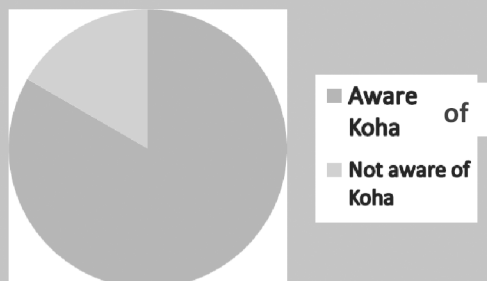
Organized a four day national workshop (27 Feb.-2nd March, 2014) with handout training on what is KONIKA and how to use it.

Workshop details:

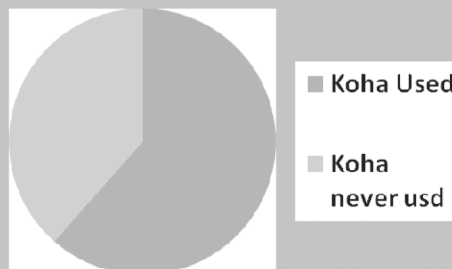
1. **Total Participant: 25**
2. **Types of participants in workshop:**



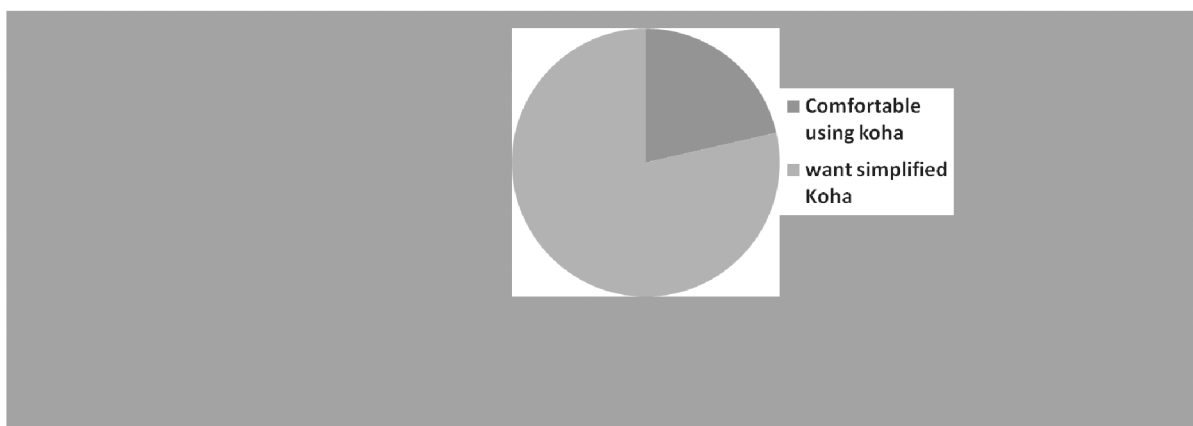
3. **How many of them aware about Koha:**



4. **How many of them used Koha**



Comfortable using Koha



Depending on the success of the first workshop, JUDLIS planned to organize further workshops and as a result the 2nd workshop on Konika took place during 29th January to 1st February 2015. This time there were 18 participants and all were from School and Madrasa libraries. From their feedback and to suffice the demands of more school librarians the 3rd workshop had to be organized very soon. The third workshop was organized on 19th to 22nd March 2015. There were 18 school librarians as participants.

In all three workshops participants were given intensive training completely free of cost and after the completion of their training, a participation certificate has been provided to each one of them along with the software and manual. The ultimate success of this software lies in the fact that overcoming all the difficulties many of the participants (of the workshops) have installed this software in their libraries and started working with this software successfully.

Conclusion

Every new thing has to make a long and perilous journey to kiss the zenith of accomplishment. Konika is also no exception. After a long and tedious research work it took its offshoot. There are lots of library automation software available in the market. Many of those are open source. Amidst the blizzard of so many integrated library management systems/software, considering Koha as its model, Konika took its birth. So Konika had to make its own unique identity to remain alive in its struggle for existence. Happily enough Konika passed this examination with great success. Wearing the garb of simplicity Konika has been walking along in its cherished path of satisfying the automation needs of the small libraries of West Bengal. The warm welcome on the part of the users has already heralded the onward march of Konika and none can deny the fact that Konika will illumine more small libraries of West Bengal in near future.

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