# Design & implementation of Koha library automation software: a case study of Fane-fane library Mai Idris Alooma Polytechnic, Geidam Yobe state

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**Abstracts**

Library is a fast growing organism as ascertain by Ranganathan in his five laws of Library Science. The traditional methods of maintaining it are no longer dynamic and efficient. For exhaustive retrieval and dissemination of information and better service for the clientele, application of modern techniques has become paramount. A properly computerized library will help its users with quick and prompt services. Library automation refers to use of computer in library for daily routines, such as cataloguing, classification, charging and discharging, stock verification etc. The study was guided with these objectives. To develop and updated database of Books and other Resources of the Fane-fane Library, Mai Idris Alooma Polytechnic. Geidam to implement automated system using Koha Library Integrated Open Source Software.to carryout the charging and discharging functions of the circulation section more effectively, to provide various search options to know the availability of books in the Library.to generate the list of books due by a particular member and also the overdue charges. Koha is an integrated software system with all the required models for small to very large libraries. It is found that this automation projects will serve as a model for any library. Koha an open source, any Library it can be downloaded to whoever wanted to go for automation for their library housekeeping operations.

**Key words: Library automation, Koha, open source software, data migration**

## 1. Introduction

Saving the time of the users is one of the five laws provided by S. R. Ranganathan, cataloging is one way of saving time of the users, with the advent of computer application in library replace the manual cataloguing this lead to saving more time than the manual ones. Application of computer in daily routine of the library activities is known as library automation, Library automation is the use of automatic and semi-automatic data processing machines to perform such traditional library activities as acquisitions, cataloguing, and circulation. Although these activities are not necessarily performed in traditional ways, the activities themselves are those traditionally associated with libraries; library automation may thus be distinguished from related fields such as information retrieval, automatic indexing and abstracting, and automatic textual analysis. Two different of software is being used in automating library, standalone and integrated library management system. Koha is one of the popular integrated library

automation management software that has 12 modules these include Koha Administration module, patron module, circulation modules, cataloguing module, acquisition module, lists, authorities, advance search, serial control, reports, tools, and about Koha. Koha is the first open source software library automation package in the world it's steered by a growing community of users collaborating to achieve their technology goals.

Automating a library is a unique decision that makes the library activities easy for prompt service delivery to the users. In now a day's users require pinpointed information as well as easy access to information. [1] asserted library automation in the 90's means to computerize the traditional library functions of circulation, cataloguing, the public catalogue, acquisition and serials check-in. The present age library users needs cannot be met with a mere automated library system which was the case in the past, [2] argued that an integrated library system is more than just an online public access catalogues (OPACs), they are fully integrated computer systems that include various modules to perform different functions, example KOHA as I mentioned above. The integration of the modules eliminates duplication of data and waste of effort.

### 1.2 Problem statement

- Capacity to handle any amount of data and information.

- Participating in network programmers and resource sharing.

- Flexibility in information search

- Standardization of library procedures.

- Speedy processing of information and its retrieval.

- Provide better bibliographic control at local/regional/national and international level.

- Facilitate interdisciplinary nature of research and information.

- Economic implication of the latest information technology.

- Overcome geographical and other barriers to communication

### 1.3 Objectives of the study

The following are the objectives of this study:

1. To design, develop, and update database of Books and other Resources of the Fane-fane Library.

*International Journal of Scientific Engineering and Applied Science (IJSEAS) – Volume-6, Issue-12, December2020*
*ISSN: 2395-3470*
*www.ijseas.com*

2. To implement the automated system using Koha integrated library system open source software.

3. To effectively carry out the charging and discharging functions of the circulation section.

4. To provide various search options to know the availability of books and other materials in the Library.

**5.** To generate the list of books due by a particular member and also the overdue charges

## 2.0   Related literature review

[3] in their study revealed that the ancient methods of maintaining library are no longer dynamic service for the clientele; application of modern techniques has become absolutely indispensable. A properly computerized library will help its users with quick and prompt services. [4] through their article discussed the use of automation software by libraries. They found library automation environment favors systems that can deliver, in one way or another, products that allow libraries more liberal access to their data.[3] in their research implementation of automated library management system in the school of chemistry Bharathidasan University using Koha open source software the researchers they found that Koha software is more suitable for the library automation, therefore, this study was also adopt the implementation. [5] in his paper discusses the development of library management software over the years and emerging of open source software solutions for library management as viable alternatives to commercial closed products. It discusses Koha as the most feature-rich library automation software in the domain and reports development of Unicode-compliant Bengali version of Koha for college libraries and public libraries in West Bengal. Library Management Softwares (LMSs) are now established as an essential tool in the support of effective customer service, stock management and management of services offered by libraries. [6]also conducted a research on the adoption and use of open source library management systems in Indian libraries, a structured questionnaire was prepared with the help of a web-based survey tool. This paper provides a brief picture of KOHA software adoption and the users' perceptions about it in the Indian library scenario and evaluates the satisfaction level of Indian library professionals with KOHA. It is found that the software is popular among the southern states of India and the number of KOHA users in India is growing. KOHA open source library management system is a new entrant into library automation marketplace in India.[7] in his research with title "Systematic approach of data migration, customization and implementation of Koha: a case study of Saharanpur Campus Library, IIT Roorkee" described the implementation and customization of open source LMS Koha and the process for migration of existing data from other LMS in Saharanpur Campus Library of Indian Institute of Technology Roorkee (IITR). The author

*International Journal of Scientific Engineering and Applied Science (IJSEAS) – Volume-6, Issue-12, December2020*
*ISSN: 2395-3470*
*www.ijseas.com*

highlighted that technical works for implementation of Koha can be done by Library professionals at zero cost with little efforts. The author also attempted to discuss the real practical problems, solutions, technical difficulties and other management-related issues while migrating from existing LMS to open source LMS Koha. [8] explained the concept of copy cataloguing and its benefits and suggested that the national library should take a leading role in organizing online copy cataloguing programme in India so that all libraries in the country can use its bibliographical information to prepare their catalogue entries without wasting manpower and money. In online copy cataloguing one may search in the database for the bibliographic record using keywords and then compare with the existing record item, and if it matches then the record may be processed for the local library. Modification facility is also available in this copy cataloguing.

### 3.0  Methodology

The various functions and routines of Fane-fane Library operations have been studied and observed accordingly, the following steps has followed to create an automated library system. The bibliographic details have been collected in a data entry sheet browsing the Books, the researcher has prepared data entry sheets (every sheet entries10 records each) with relevant (Acc No, Title, Author, Edition, Volume, Publisher, Place, ISBN, Class no. Date of publication) information to create a database, the data were put into the system using Microsoft Excel. The data have been edited at last after verifying for wrong entries and spelling and grammatical error has also be rectified.

The titles of the books are classified with DDC number for a classified approach to search.  Indexing have been made to enable the search with the titles, author, subject, keyword, publisher, publication and year. The database was integrated with library database by using the Koha MARC edit software.  Different modules of Koha software were also studied and Koha installation (Open Source Software) have been done through the Live CD. Collected bibliographic records from the Fane-fane library was uploaded into an installed system of Koha.

### 4.0 Strategies on data migration

As it was said in the methodology the old record was typed in the Excel file in order to enable the successful migration of the data, the data was converted to mark format using the software MarkEdit by clicking the **delimited text translator**, then it will take you to next stage where the Excel file will be selected as an input and you will name the output with the name of your choice as it is in the picture 2 and check the box beside UTF-8 encoded.
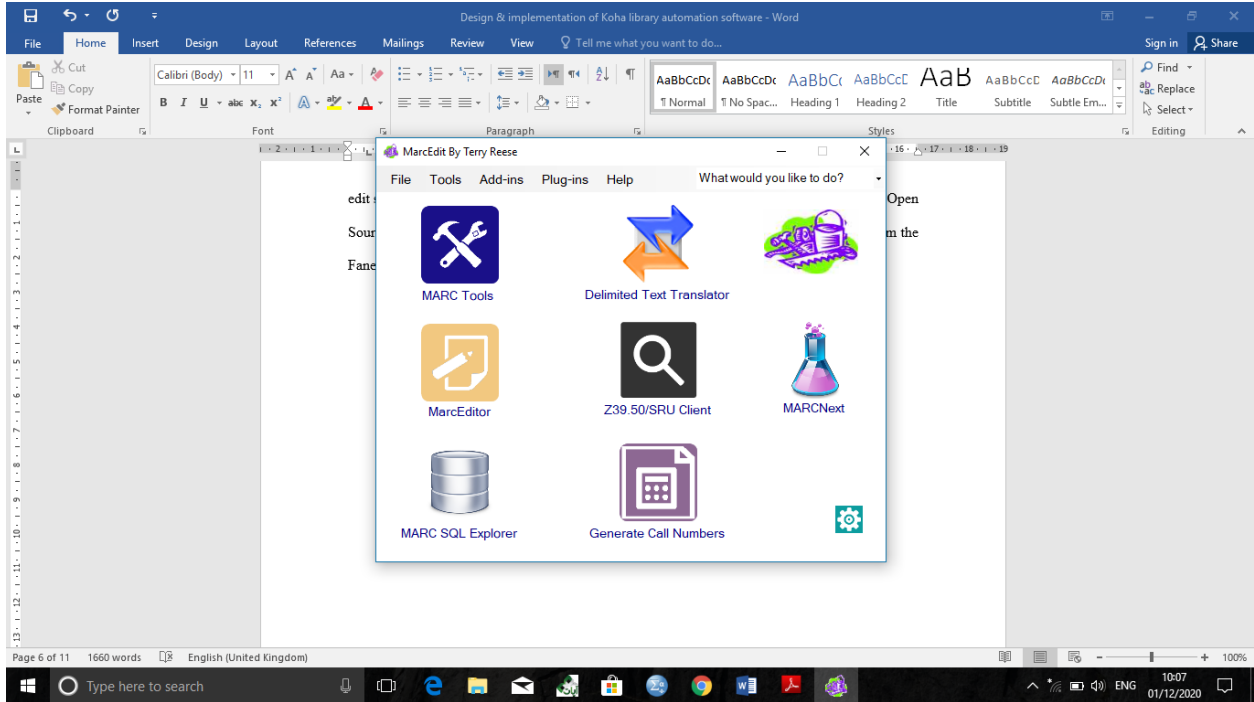
*Figure 1 MarkEdit home page*
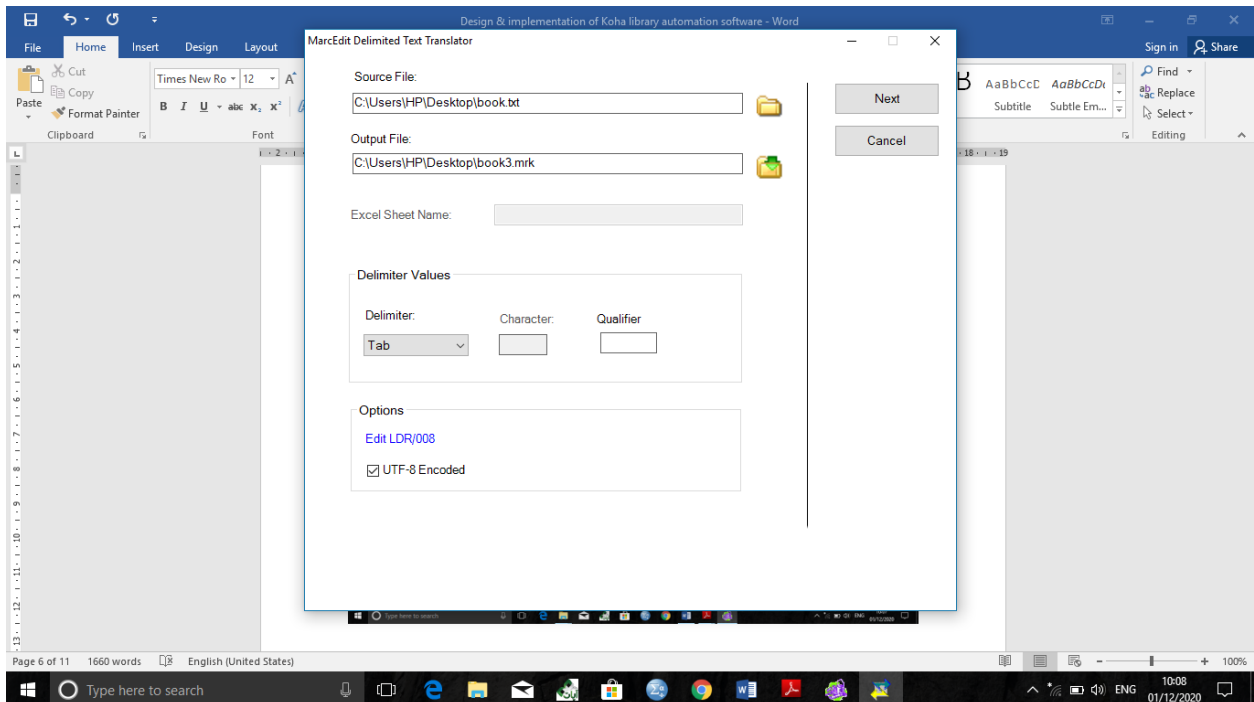


*Figure 2 First page of delimited text translator*

As you click next button it will take you to the below picture number 3 where all the available fields will be map to Mark code and join those code that in the same field for example 260$a, 260$b, and 260$c will be join together.
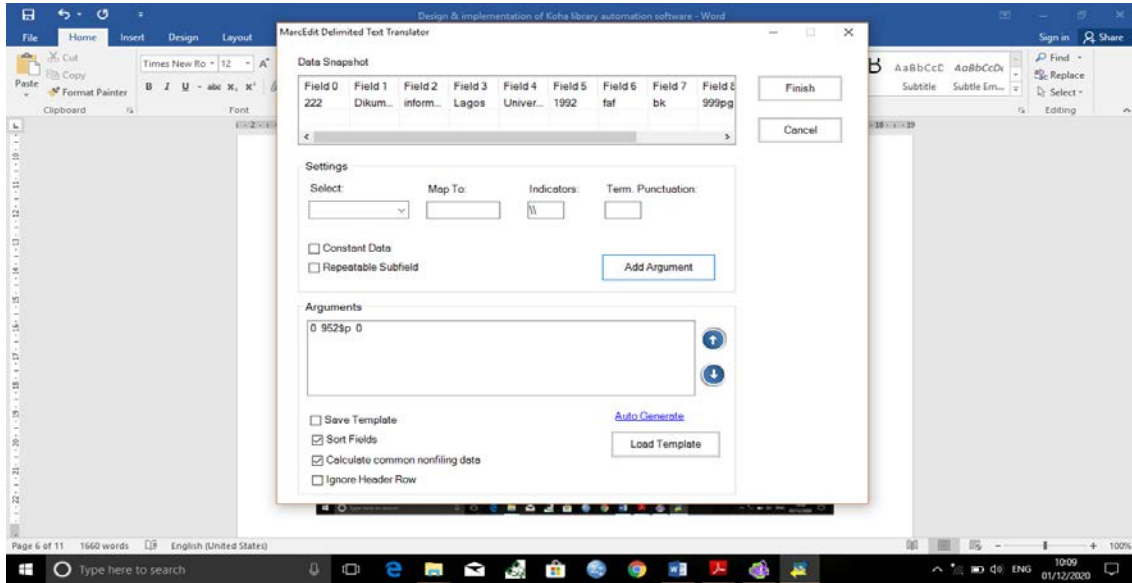
*Figure 3 Mapping page*

After mapping the available fields with the mark code we migrated the converted file to Koha using the Tool menu and then select staged mark import through their you can browse the file as you can notice from in the caption 6 below.
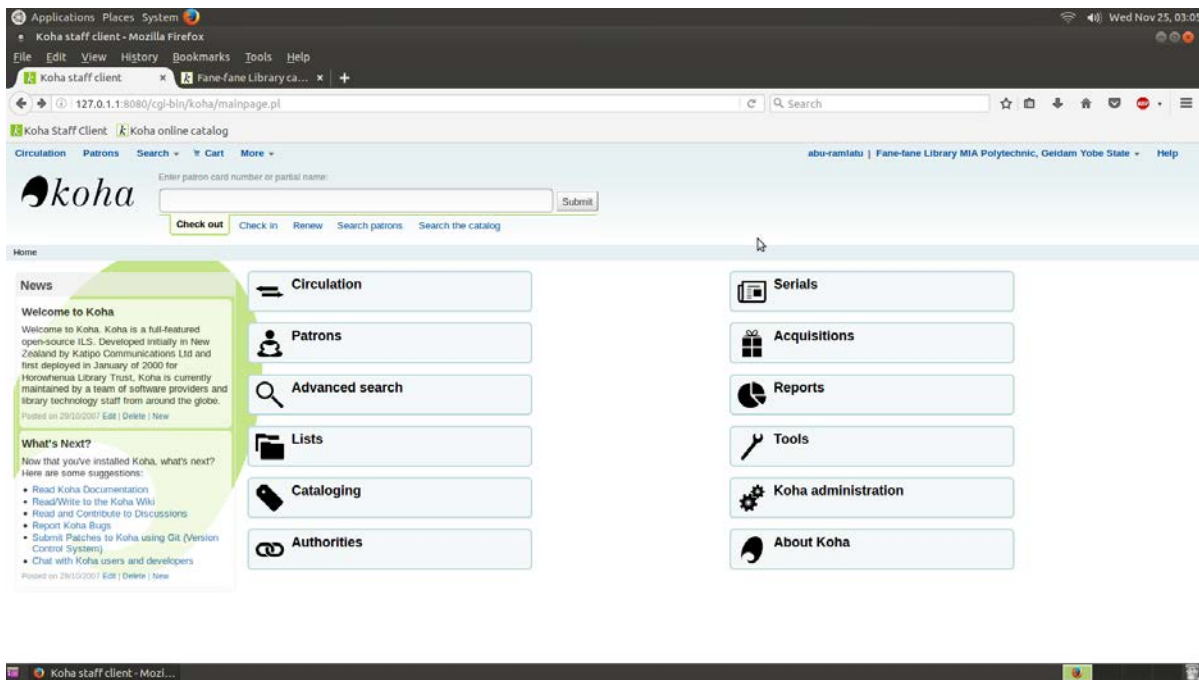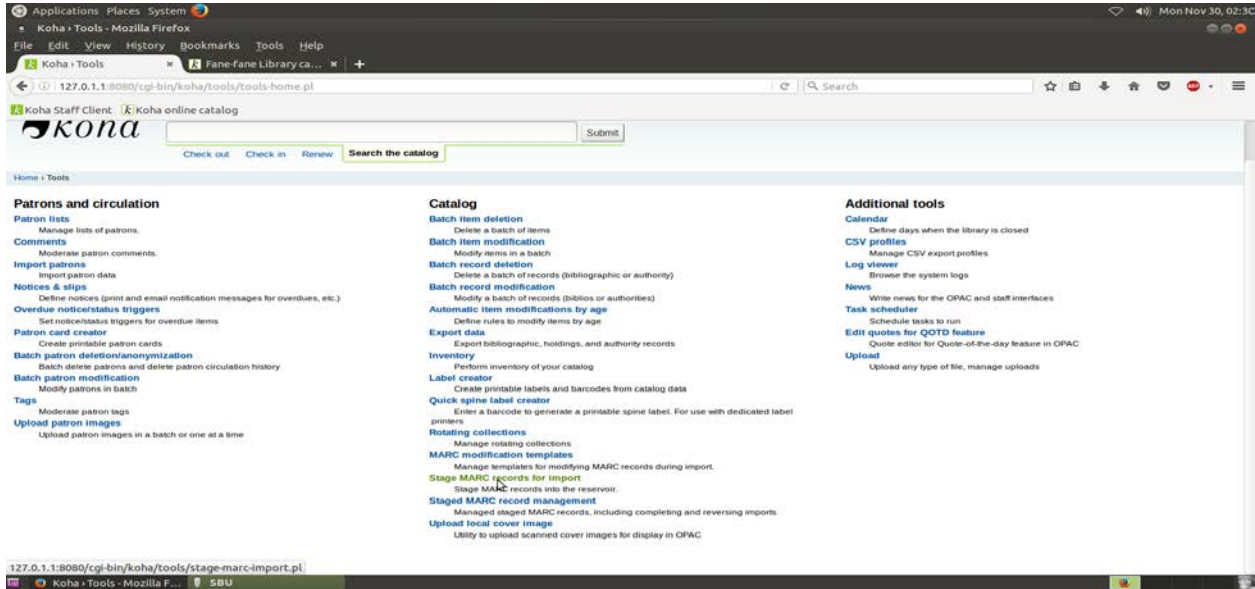


**Figure 4 Koha Admin page**

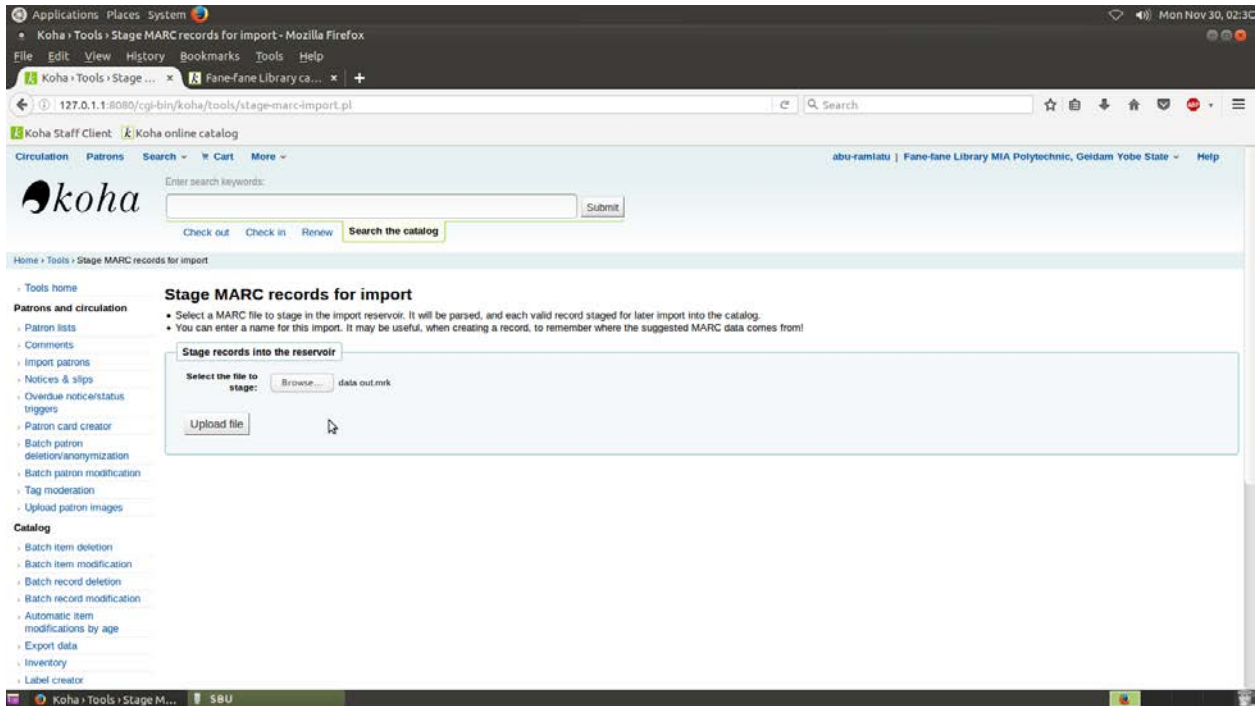**Figure 5 stage mark record to import**
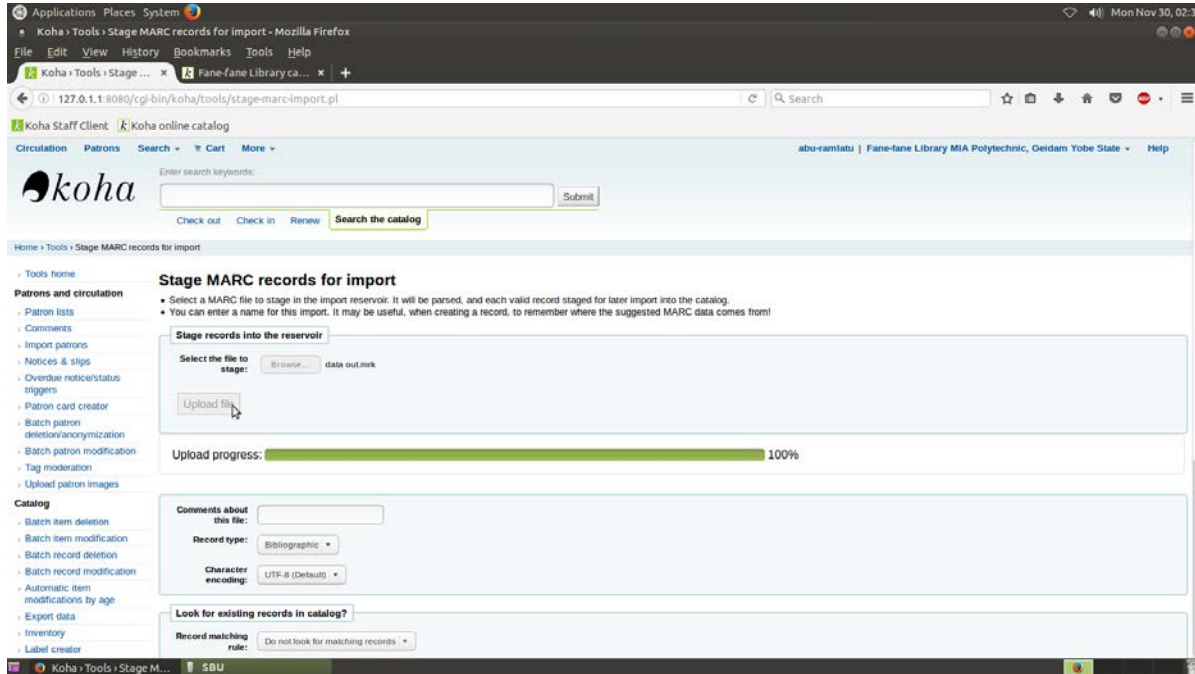


*Figure 6 uploading page*

**Figure 7 upload on progress page**

As the uploading finish the item will become searchable in Online Public Access Catalogue (OPAC) of the Koha as you can witness in the caption 8 below, the result will also tell to the client whether the book is available in the shelf or on reservation or it was checked out in other word the status of the item will also be known in the search result. Furthermore, the OPAC can be customized to fit your need through the global preference in the Koha module, not only the OPAC other module also can be customize.
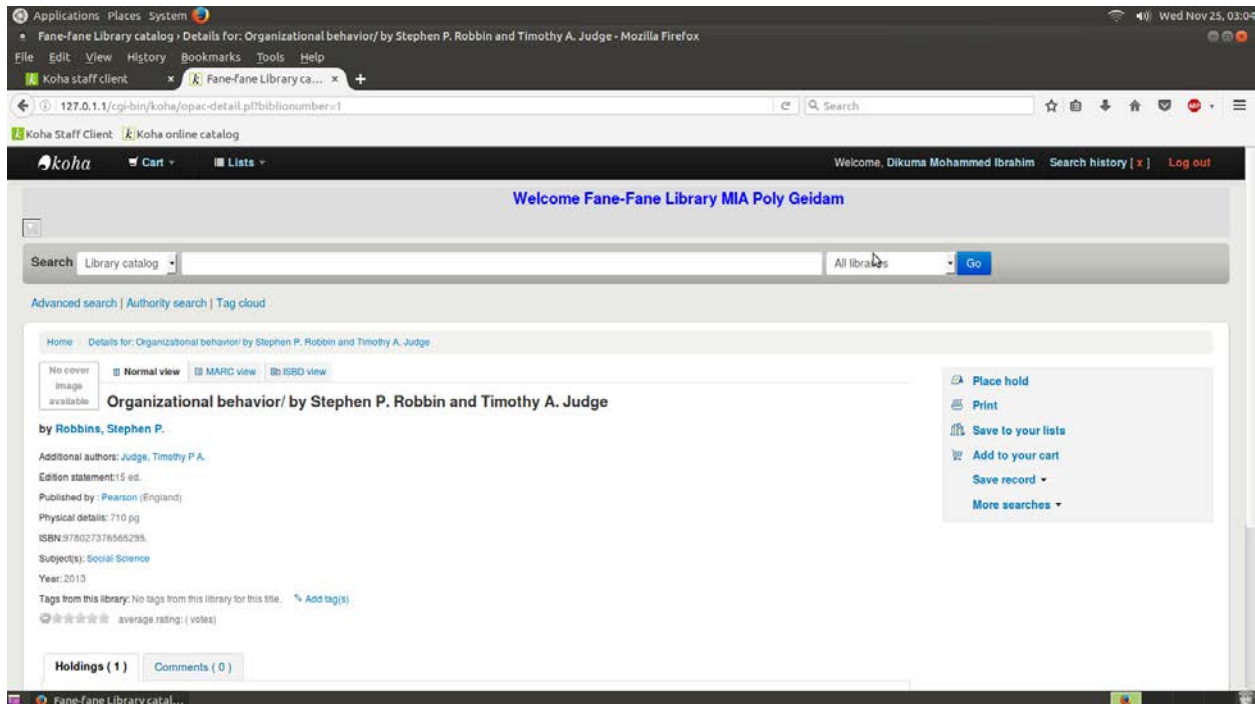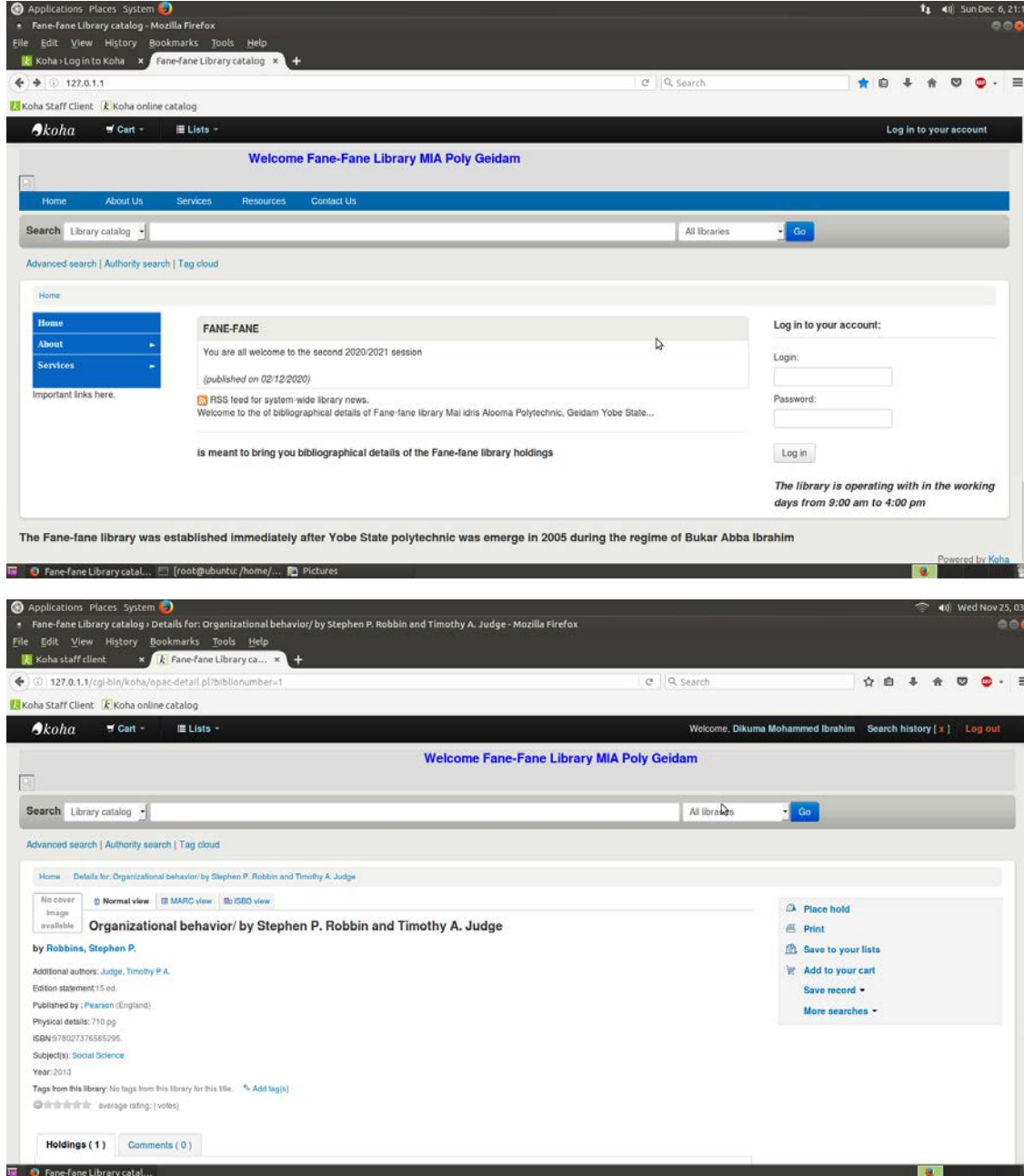


**Figure 7 search result**

## 5.0 Findings, Summary and conclusion

Based on this project research at Fane-fane library the following are the outcomes of the study:

- The bibliographical details of the library are now in single database
- The clientele can now search for their required books through OPAC interface
- Book status can also be seen in the interface
- Data entry of books and other materials can also be possible through the downloading of bibliographic details from Library of Congress and other catalogue so as to minimize error.
- The data of Fane-fane library can be shared with other library

*International Journal of Scientific Engineering and Applied Science (IJSEAS) – Volume-6, Issue-12, December2020*
*ISSN: 2395-3470*
*www.ijseas.com*

In the field of librarianship time of a client is always precious, therefore their time has been save to the extend level, of course library automation is the answer to this. The clientele can now search the whole collection using the OPAN interface and at the same time the search can be either by author, title, subject, ISBN or ISSN or any other searchable field in Koha library automation software within a few second, this will lead to the more patronage of this library. Charging and discharging can also be done within a fraction of seconds and above all more activities can now be done with computer in Fane-fane library.

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