15

Developing In-House Library Software Application: University Of Ibadan Library Integrated Software (UI-ILS)

Otulugbu Dumebi[1], Omoike Adenike[2], Agwu Patrick Uzodinma[3]

Kenneth Dike Library[1], University of Ibadan[2], Nigeria[3]

Email: *d.otulugbu@gmail.com[1]*, *nikeomoike@yahoo.com[2]*, *uzo123ng@gmail.com[3]*

Abstract

Purpose: *The study was carried out to examine the library integrated software compatibility, usage and application in University of Ibadan, with the sole aim of highlighting the utilization and potentials of Library Integrated software and its practical importance to Kenneth Dike Library.*

Implications*: The study also established that the library management need to embark on sensitization programme in order to create awareness among professional and paraprofessional librarians concerning usage and application of these varied software to boost provision of library services to users.*

Originality/Value: *It was recommended that existing software need to be improve and upgrade to boost service provision and that the library management also need to embark on routine training for professionals and paraprofessional librarians on emerging technology such as library software.*

Keyword*: Library software, University library, University of Ibadan library Integrated Software, Kenneth Dike Library.*

Paper Type*: Opinion Paper*

Introduction

Academic libraries of the 21st century are established not only to collect, organise, preserve and provide access to knowledge and information but also for the acquisition of all important resources and provision of unalloyed services for the sustenance of teaching, learning and research of the university. However, libraries whether "university, polytechnic and colleges are established to meet the relative information needs of student, staff and faculty (Trustee Glossary 2004). University library are known to support the curriculum and research needs of students, staff and faculty of university (Online Library Learning Glossary, 2006). In fulfilling this pertinent and central mission, libraries usually preserve their print and electronic information resources for posterity and made available for future use of users by imputing the bibliographic details of the materials into the system. Hence, most libraries devise software to suit such purpose. Library can also be viewed as the repository for books and other materials catalogued and well organized for easy accessibility and it also stand as a link between the user and the information they need. Academic library in most cases plays a vital role in providing users with information they require at a particular point in time.

The modern or conventional library in the recent times is being driven by ICT. It is also noteworthy to state that majority of the traditional functions of university libraries have undergone tremendous transfiguration and made compatible with ICT. Satpathy and Maharana (2011) both opined that the library immediate environment has undergone considerable improvement in terms of collection, organisation and services. One of such ICT tools is the library software which is being used in managing the library information resources effectively and efficiently for easy accessibility and remarkable services. To buttress this assertion, Omeluzor, Adara, Ezinwayi, Bamidele and Umalu (2012) opined that in pursuit of excellence by the university educational system, it becomes consequential for libraries to wake up to their responsibilities and roles . Hence it becomes imperative for the librarian to be well versed in respect of trending software packages so as to deliver well packaged service to the user.

ICT entails lots of emerging and evolving technologies and telecommunications technologies like television, telephone, cables, satellite, radio, and videoconferencing as well as digital technologies such as computer, information network, internet, world

wide web, intranet, extranet and software applications (Chisenga, 2006). ICT has contributed immensely to academic library activities by the enhancement of value added information services and increases access to wide variety of digital based information to their users.

In academic libraries in the recent times, the deployment and utilization of applications´ software such as library software packages have come into limelight. Library software packages are designed specifically to carry out library operations such as charging in and charging out of books, library statistics compilation, bibliographic control, acquisitions, cataloguing, serials control, overdue compilation, etc. (Madu 2004). Hence, deployment of varied library software in performing library functions and services has benefitted specific academic libraries. According to Ifidon and Okoli (2002), some of the outstanding benefits accrued over time through the deployment of library software in the university library include:

Increasing the speed of myriads of library operations

Improving the performance of library staff

Improving the storage and retrieval of information

Creating new services such as current awareness services, recent accessions list, access to online databases, selective dissemination of information (SDI) and resource sharing.

Improving statistical records and recording

The types of library software packages that have been tried on been put to use in academic libraries include ALAS, TINLIB, CDS/ISIS, KOHA , KLAS, VIRTUA , LIBERO, MINISIS, SLAM, OPEN D – LIBRARY, FEDORA, ALICE 4 WINDOWS , TAPIR, GLAS, AUTO LIBRARY, READABLE among others. Most universities in Nigeria adopted only few of these packages. The most common among the library software adopted by most universities, whether federal, state or private are Tinlib, Alice for window, Koha, CDS/ISIS. Hence the success of any academic library in automating or computerising its chores or functions is dependent on the library software adopted.

Integrated library software denotes software packages that automate library routine daily activities (Uzomba E.C., Oyebola, O.J & Izuchukwu A. C (2015). In addition, the decision of library management to select library software must be on the basis of not only the relative performance and efficacy of the system but majorly on the flexibility to adapt to future demands of users. Integrated library software according to Muller (2011) are multifunctional in nature, it permits academic libraries to catalog, manage and circulate their information resources to users.

Breeding (2012) stated relative characteristics/ features of the Integrated Library system as:

"Provision of computer automation for varied library operations such as cataloguing for creating bibliographic records that represent work in the library collection, circulation that automate works pertaining to loaning of materials to patrons, serial for managing periodical and serial acquisitions for the procurement of new materials for the library collection and OPAC to allow library prospective users to browse through library collections".

Accoding to Ukachi, Nwachukwu and Onuoha (2014), library software comes in two divisions which include – Proprietary software – (that require subscription fee) and the Open sources software – (that requires no subscription fee). Majority of the libraries in developing countries particularly Nigeria has adopted Open source software because of its reliability, effectiveness and affordability. It is much more flexible in usage and accessibility rather than those licensed restriction software.

Sangender (2017) observed that in-house library software is usually not discussed much among the library professionals. It helps in removing dependency on others for the maintenance and support services, as the software is being designed by in-house personnel.

History of Kenneth Dike Library Automation Process

Kenneth Dike Library was originally known as University of Ibadan library. Precisely in1988 it was renamed Kenneth Dike Library in honour of the first African Vice Chancellor Professor Kenneth Onwuka Dike. Kenneth Dike Library was established in 1948 and is one of the biggest University Libraries in West Africa. Majorly, KDL operates centralized library system whereby the management, acquisition and cataloguing processes are done in the central library. The University of Ibadan usually maintains a library system with Kenneth Dike Library as the central hub of the system or the main library. Other libraries in the system include Latunde Odeku Medical Library, 26 faculty, departmental and institute libraries.

In pursuit of the global shift from hardcopy resources to electronic resources, the library decided to subscribe to myriads of electronic databases such as AGORA, JSTOR, HINARI, and OARE among others. Users can access them by logging into the University network and those outside the campus can access them through their individual password provided by the library. However, most academic libraries in Nigeria have embarked on automation as far back as 1980 with library management system (Kingdom & Baro 2014). According to Ola (2010) Kenneth Dike

library adopted CDS/ISIS software that was developed and distributed freely by United Nations Educational, Scientific and Cultural Organisations (UNESCO) in 1993. With this software, KDL computerized its cataloguing records. Though the software was very flexible and customizable, but it became necessary to adopt another software as their records increased. Then KDL migrated to Tinlib which was introduced by National Universities Commission (NUC) and funded by World Bank Project in 1994. This software lacked basic elements of flexibility (it was Dos – Based). Hence the library adopted the software known as Alice for windows in 2004. This software was not Marc 21 compliant even though it was window based.

VTLS- Visionary Technology for Library Solutions was equally signed up in 2008 with the approval of university administration in collaboration with 5 other federal universities with the support of Carnegie and Mac Authur Foundation to adopt VIRTUA Integrated Library system software. Ola C. O. (2010) highlighted features of VIRTUA as:

1. Internet based and highly flexible software
2. User friendly, time saving and customizable software package
3. Possessing facility for automatic Selective Dissemination of Information (SDI)
4. Supporting virile networking and resource sharing programme
5. Providing facility for Inter- Library Loan (ILL) system among network libraries.

The users of VIRTUA found it to be flexible because it is highly versatile and it is internet based. It is Marc 21 compliant hence it has interface for sharing resources, user friendly and time saving. VIRTUA software is new in Nigeria which is presently being adopted by new generation Universities. Husan and Ansari (2009) opined that virtua has more than one thousand libraries with a user community in 35 countries. This translates to the fact that OPAC can be accessed by users from any location as long as there is internet connection.

Kenneth Dike library had to discontinue the usage of VIRTUA because of the humongous cost and the expiration of the MacArthur Foundation Grant plus the fact that there was a proprietary change accompanied with several operational amendments that hindered smooth handshake between KDL Servers and the new management of the VIRTUA software.

Presently, the library is using locally designed library software known as University of Ibadan Library Integrated Software. It has been discovered that automation process in most academic libraries have failed woefully in the absence of adequate feasibility studies and continue search for appropriate software by individual libraries (Kingdom and Baro 2014) . In most cases, the academic libraries depend, almost absolutely, on open source / free software. According to Imo and Igbo (2011) the problems associated with libraries software are: paucity of funds for university libraries to acquire appropriate software, lack of maintenance support and lack of trained staff to manage the software. The University of Ibadan Integrated Library Software is developed to effectively manage the basic housekeeping functions of the library and it is currently being deployed in phases. It is a multi-tier, client-server architecture that is broad, stable and includes what libraries need to meet most of their technology challenges. UI-ILS modules support simple day to day library transactions, from cataloguing and classification to placing orders for items to acquisitions to charging and discharging and so on, with an unparalleled technical processing features and workflow efficiencies which offer librarians real time information and complete functionalities to carry out their tasks.

The modules implemented so far include: Acquisitions, Cataloguing, Circulation, Serials, OPAC and Patron modules.

Modules

Acquisitions Module

Being the entry point for most resources of the library, proper documentation of the library records starts here. It leverages on other modules like cataloging, circulation etc. This Module allows for:

- Ordering of Items and resources from vendors
- Registration of acquired items
- Managing of vendors and donors
- Managing of item requests from patrons
- Managing repurchase of lost items
- Acquisition reports, etc.

Fig. 1.1 – Acquisition Module Screenshots

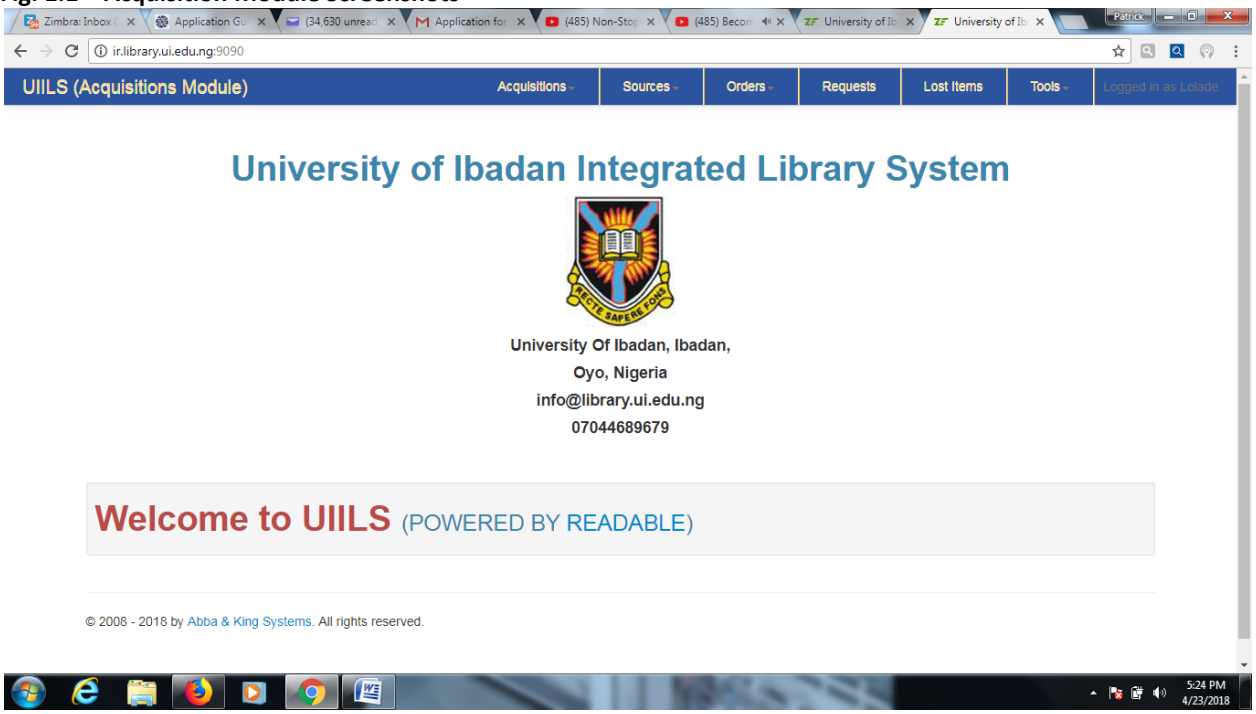


Fig. 1.2 – New Order Form

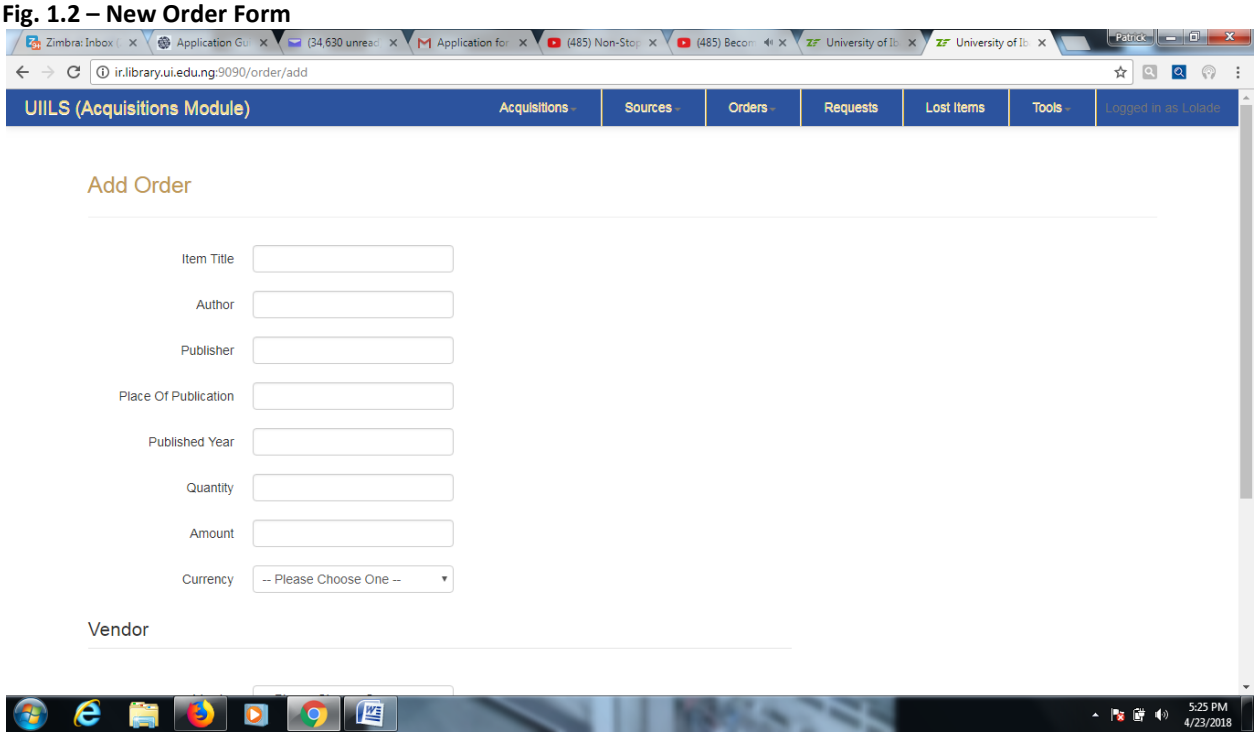


Fig. 1.3 – View Items Request

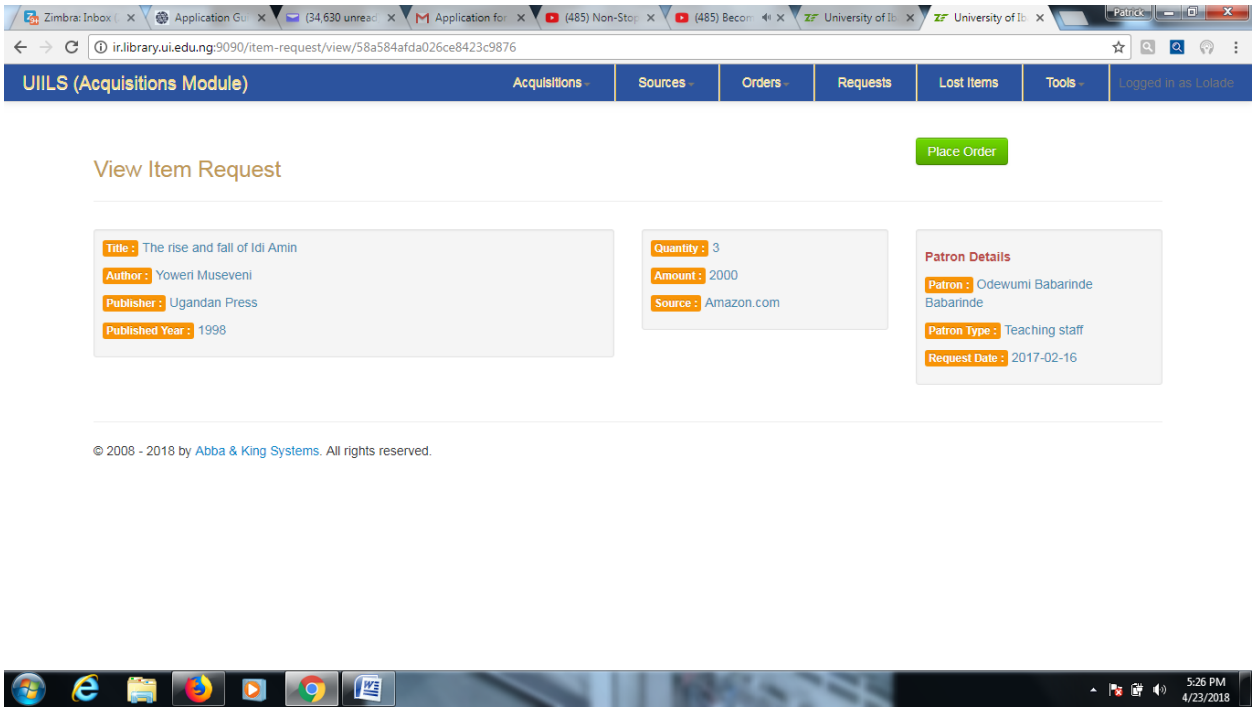
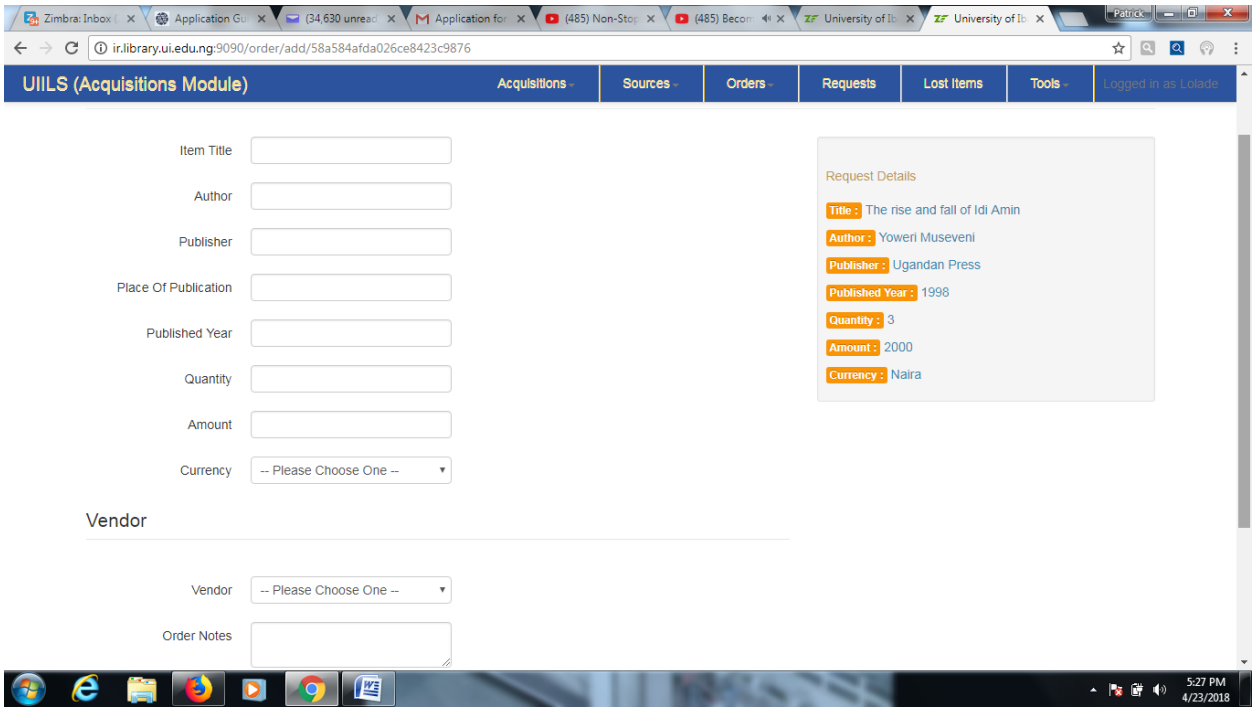


Fig. 1.4 – Order Placement Form



Cataloguing Module

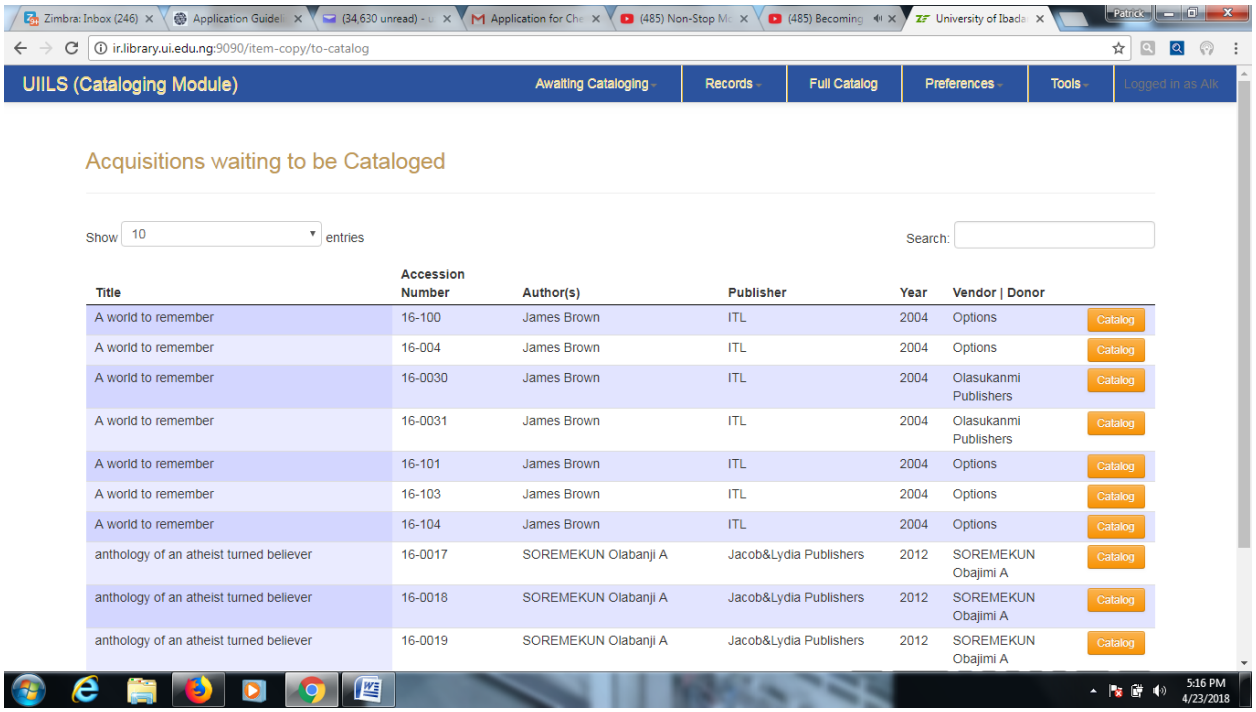
Items are classified and catalogued in this module based on chosen standards. Once items have been recorded in the acquisition register, it moves to this module automatically for the next phase. It leverages on modules like acquisitions, etc.

This module allows for:

- Cataloguing of items via cataloguing templates or via remote databases from the Library of Congress, Hathi Trust, Open Library etc.
- Display of acquisitions waiting to be

cataloged

- Managing cataloguing templates using selected marc fields and marc subfields.
- Managing of item classes.
- Managing of digital entries.
- Cataloguing reports.
- Managing of Marc fields and subfields.
- Online Public Access Catalogue (OPAC). The cataloguing process involves



Serials Module

This module leverages on the excellent features of the cataloguing module as serials eventually will need to be catalogued. It also allows for:

- Managing serials subscriptions.
- Managing issues of serials.
- Managing of articles in issues
- Cataloging of items via cataloging templates or via remote databases from the Library of Congress, Hathi Trust, Open Library etc.
- Display of serials waiting to be cataloged, etc.

Institutional Repository Module

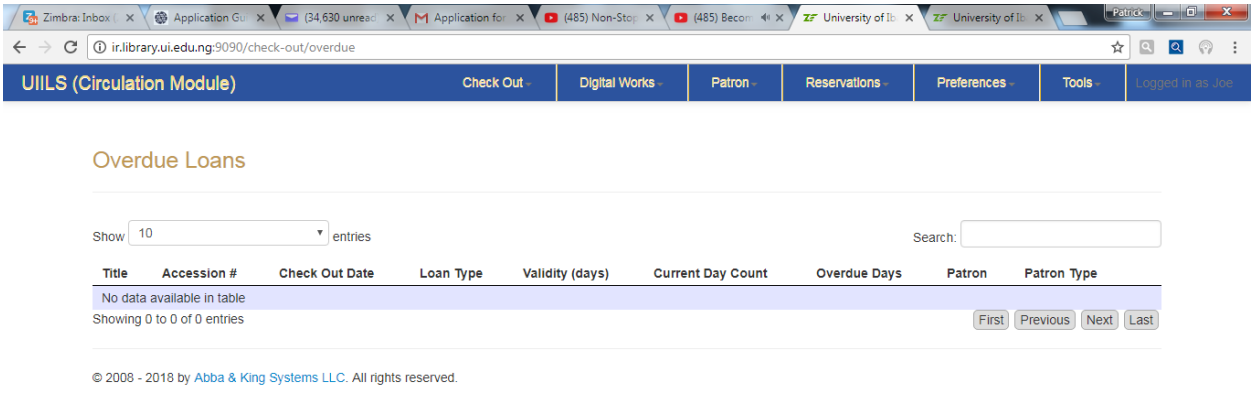
It also allows for:

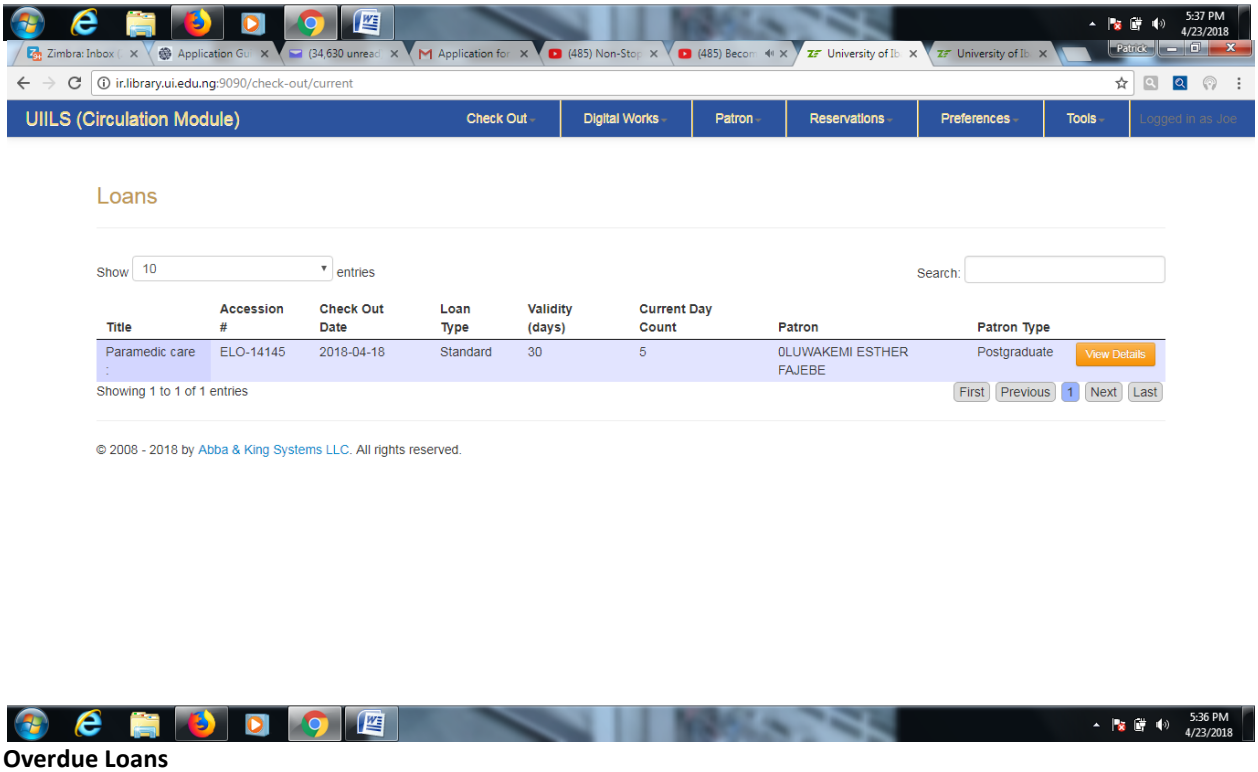
- Self-submission and upload of digital copy of works by original authors
- Acceptance workflow by catalogers
- Cataloging of metadata of digital file
- Seamless integration into the OPAC
- Patron request workflow for access to digital copies
- Public request workflow for access to digital copies
- Approval system integrated with circulation system

Circulation Module

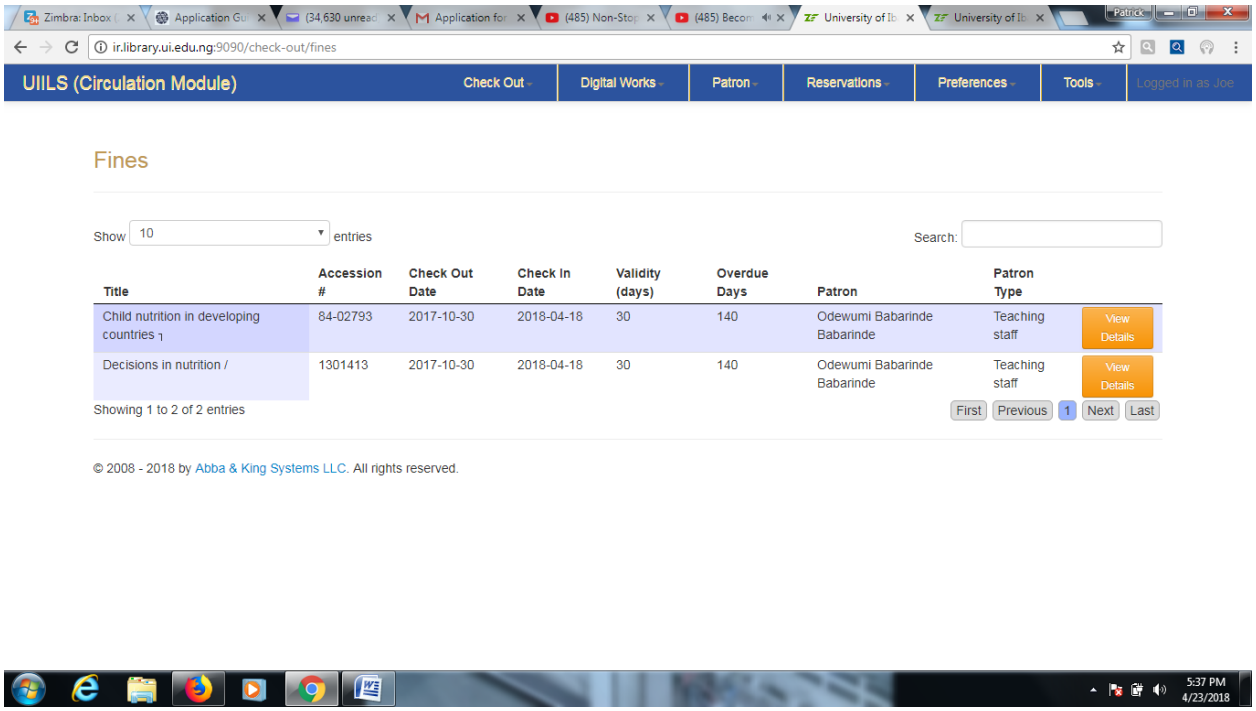
This module helps, to a large extent, to simplify the complexities in the circulation system to simple processes, it interfaces with all modules from the patrons to the cataloguing and even the acquisitions. It allows for:

- Managing of patrons.
- Check out and check in of Items (with option of barcodes).
- Managing of patron types (including item bor row limit, borrowing duration and renewal limits).
- Managing of loan types (including borrowing duration and lateness fines).
- Managing of library shelves.
- Managing item reservations.
- Managing overdue and lost items
- Managing fines.
- Item Recall.

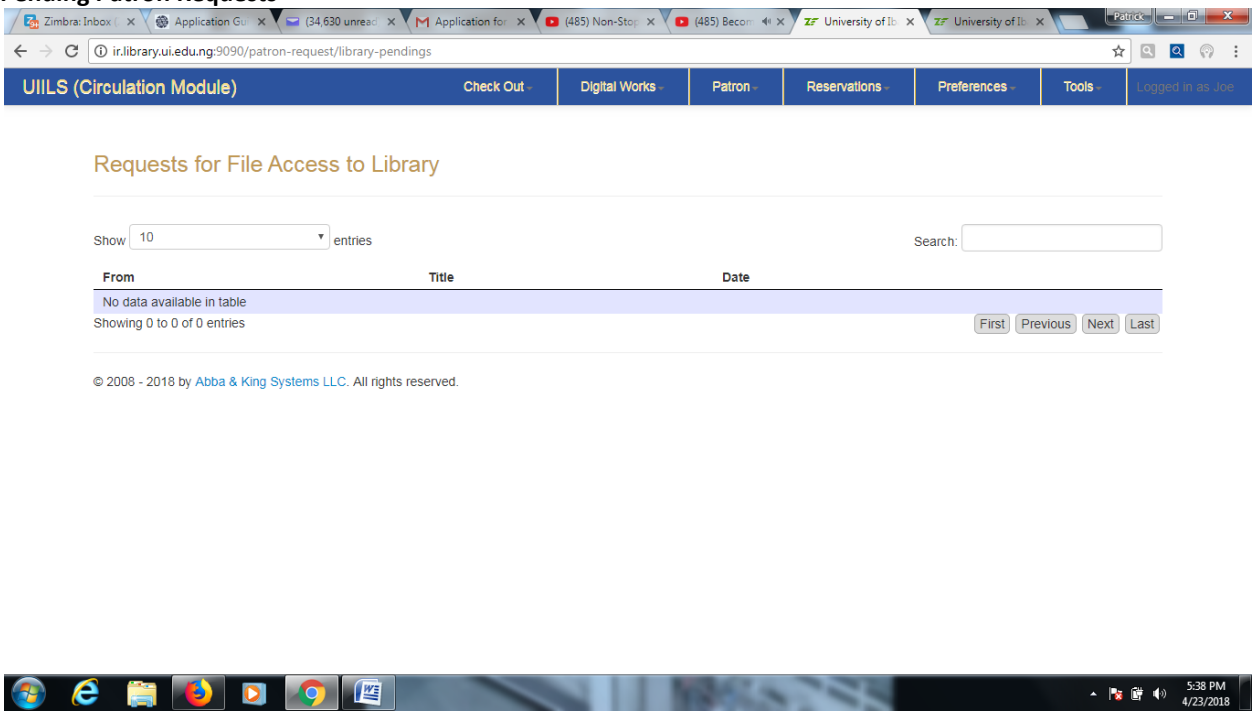




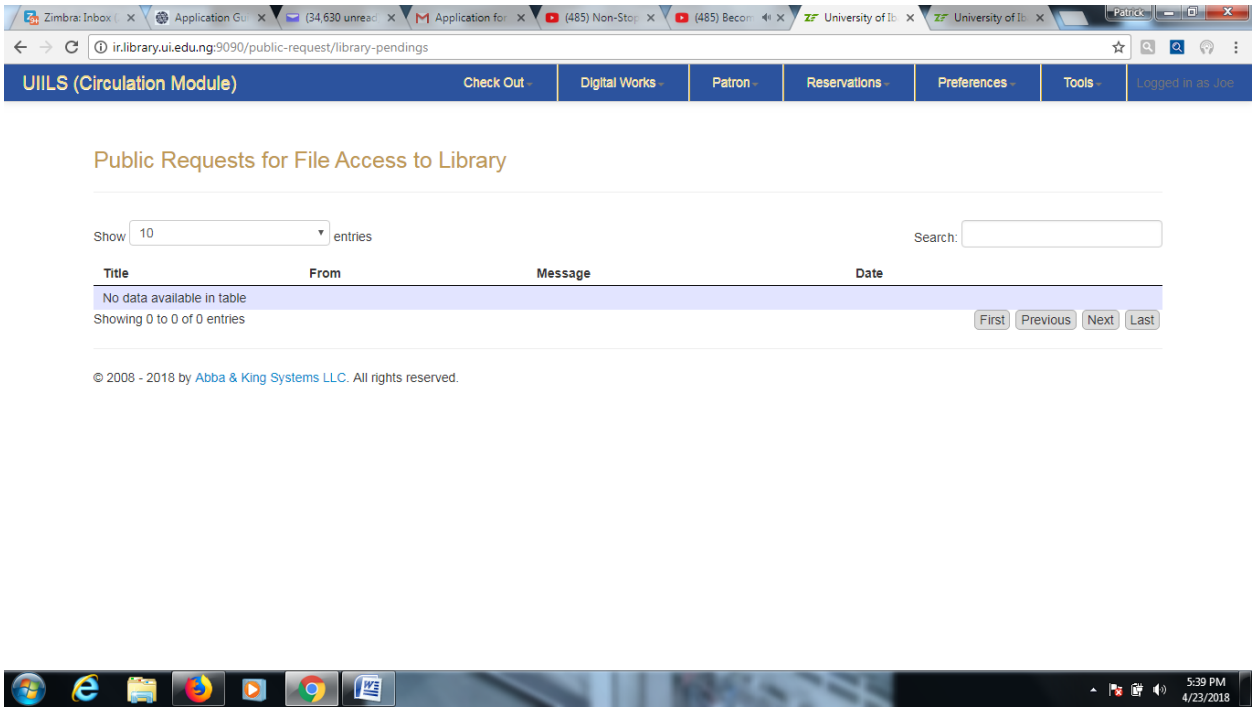
Overdue Loans
Outstanding Fines



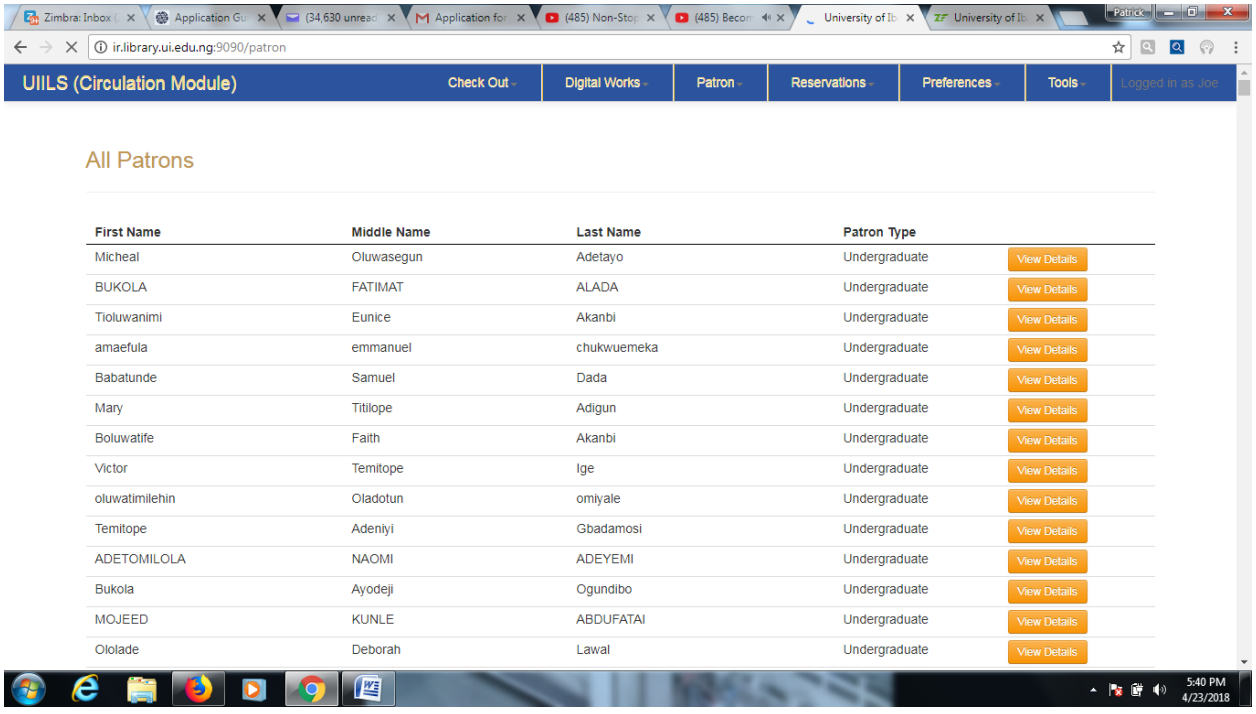
Pending Patron Requests



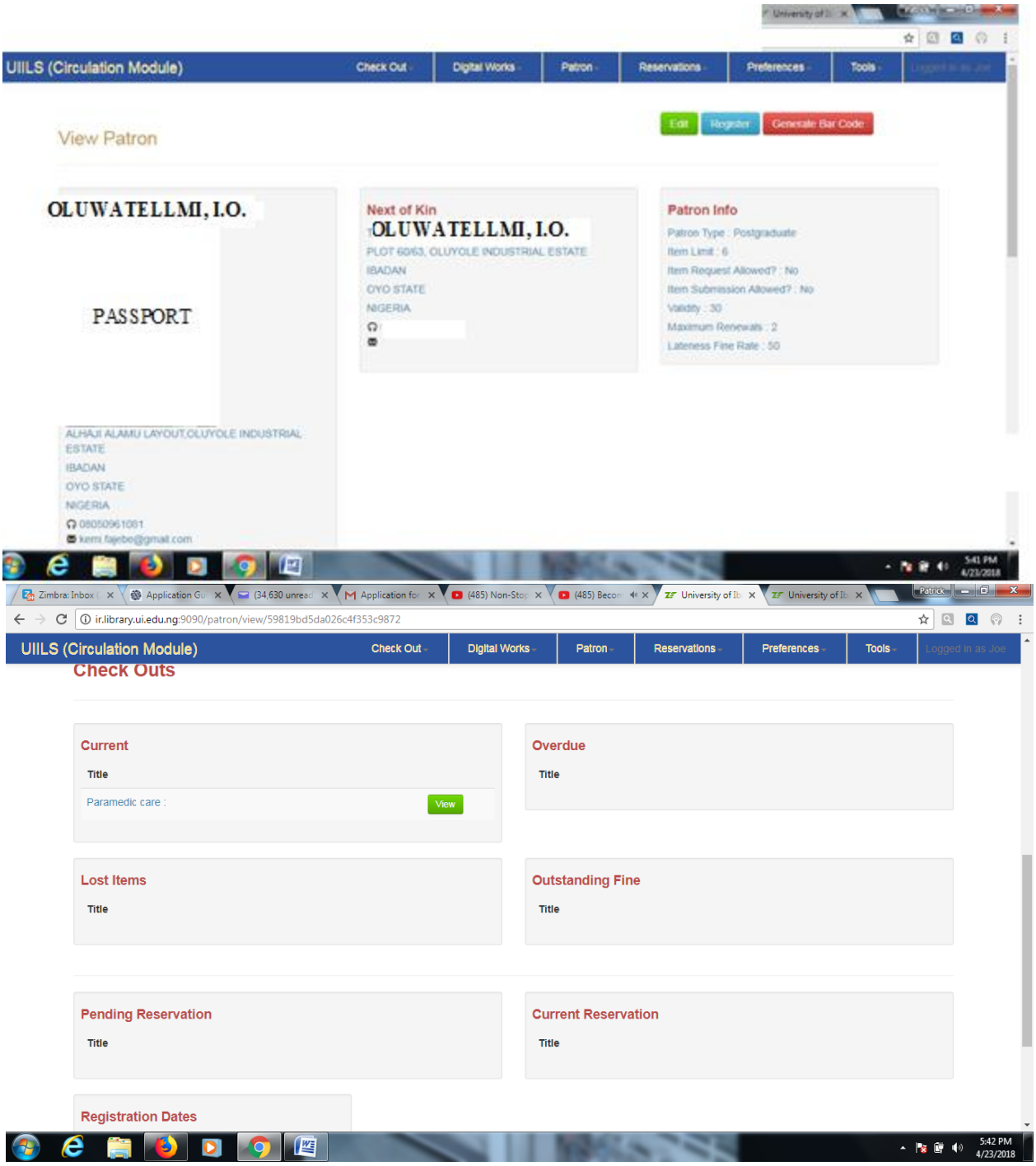
Pending Public Requests



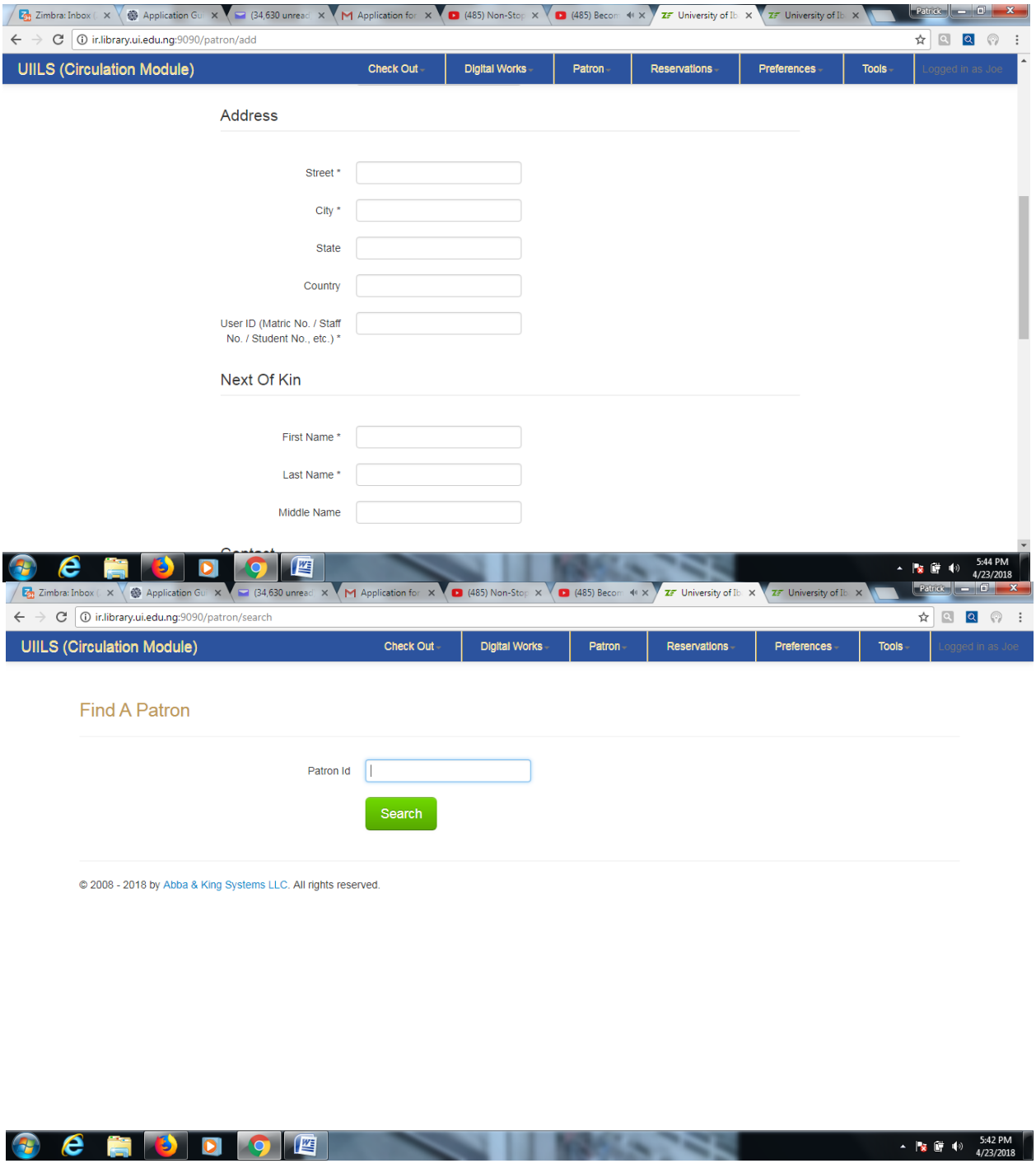
All Patron View



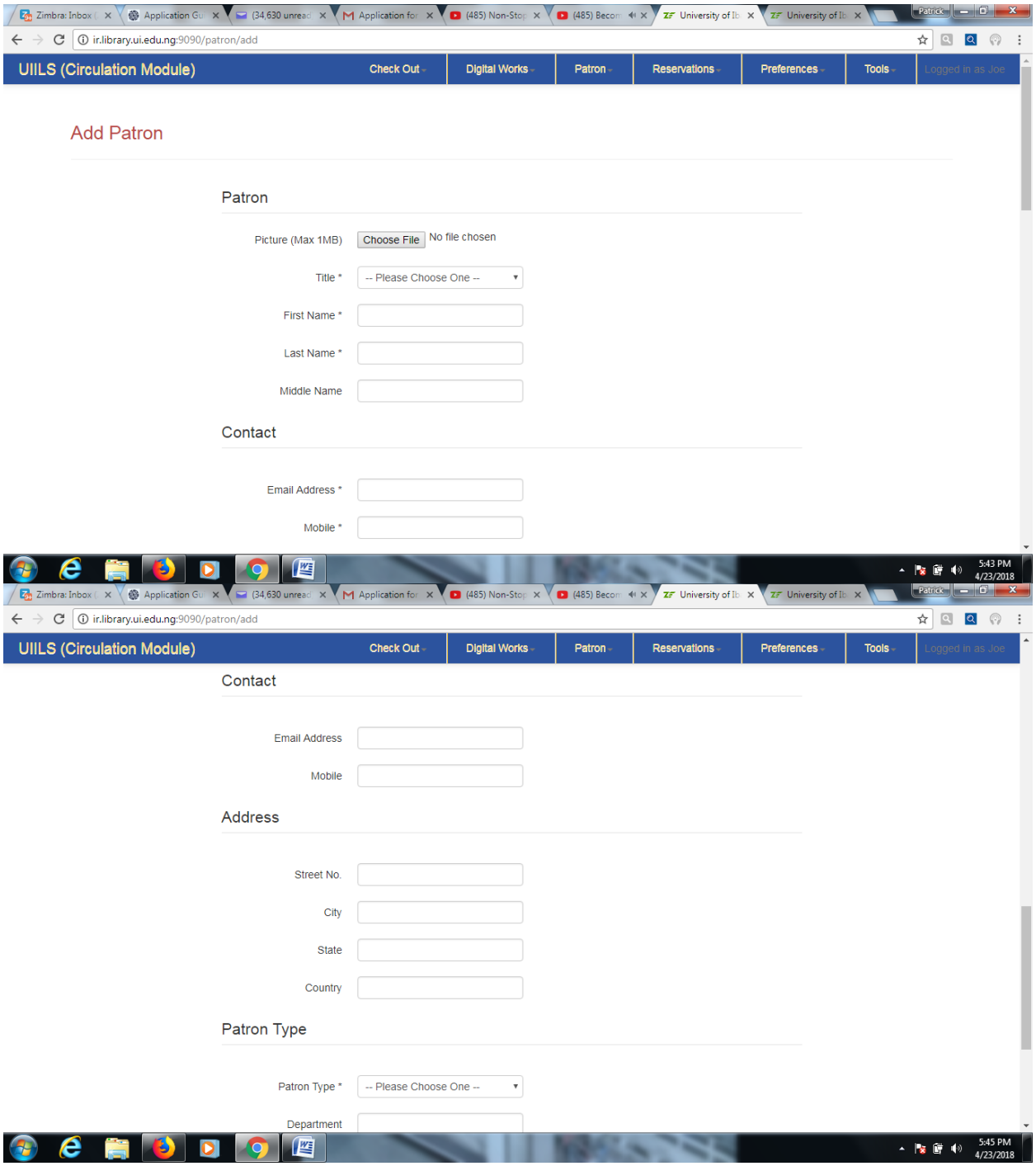
Sample Patron View


UIILS (Circulation Module)
Check Out
Digital Works
Patron
Reservations
Preferences
Tools
View Patron
Edit
Register
Generate Bar Code
OLUWATELLMI, I.O.
PASSPORT
ALHAJI ALAMU LAYOUT,OLUYOLE INDUSTRIAL ESTATE
IBADAN
OYO STATE
NIGERIA
Next of Kin
OLUWATELLMI, I.O.
PLOT 60/63, OLUYOLE INDUSTRIAL ESTATE
IBADAN
OYO STATE
NIGERIA
Patron Info
Patron Type : Postgraduate
Item Limit : 6
Item Request Allowed? : No
Item Submission Allowed? : No
Validity : 30
Maximum Renewals : 2
Lateness Fine Rate : 50
ir.library.ui.edu.ng:9090/patron/view/59819bd5da026c4f353c9872
UIILS (Circulation Module)
Check Out
Digital Works
Patron
Reservations
Preferences
Tools
Logged in as Joe
Check Outs
Current
Title
Paramedic care :
View
Overdue
Title
Lost Items
Title
Outstanding Fine
Title
Pending Reservation
Title
Current Reservation
Title
Registration Dates

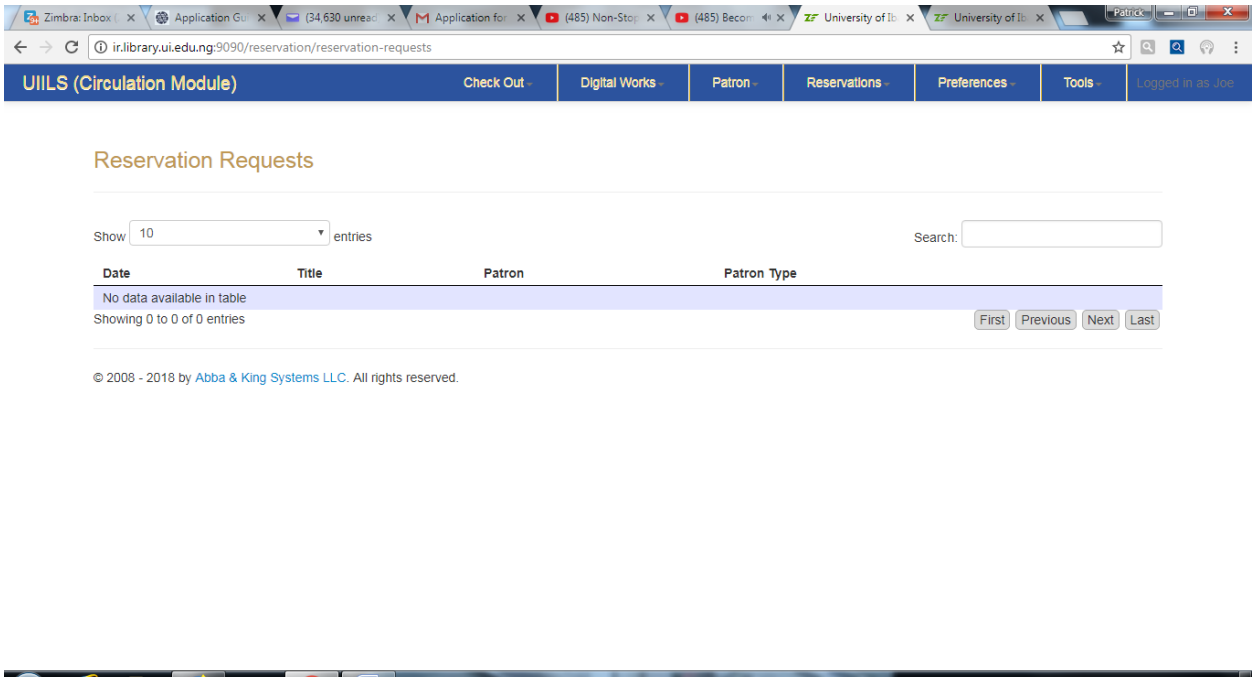
Find **Patron**


ir.library.ui.edu.ng:9090/patron/add
UIILS (Circulation Module)
Check Out
Digital Works
Patron
Reservations
Preferences
Tools
Logged in as Joe
Address
Street *
City *
State
Country
User ID (Matric No. / Staff No. / Student No., etc.) *
Next Of Kin
First Name *
Last Name *
Middle Name
5:44 PM
4/23/2018
ir.library.ui.edu.ng:9090/patron/search
Find A Patron
Patron Id
Search
© 2008 - 2018 by Abba & King Systems LLC. All rights reserved.
5:42 PM
4/23/2018

New Patron Add



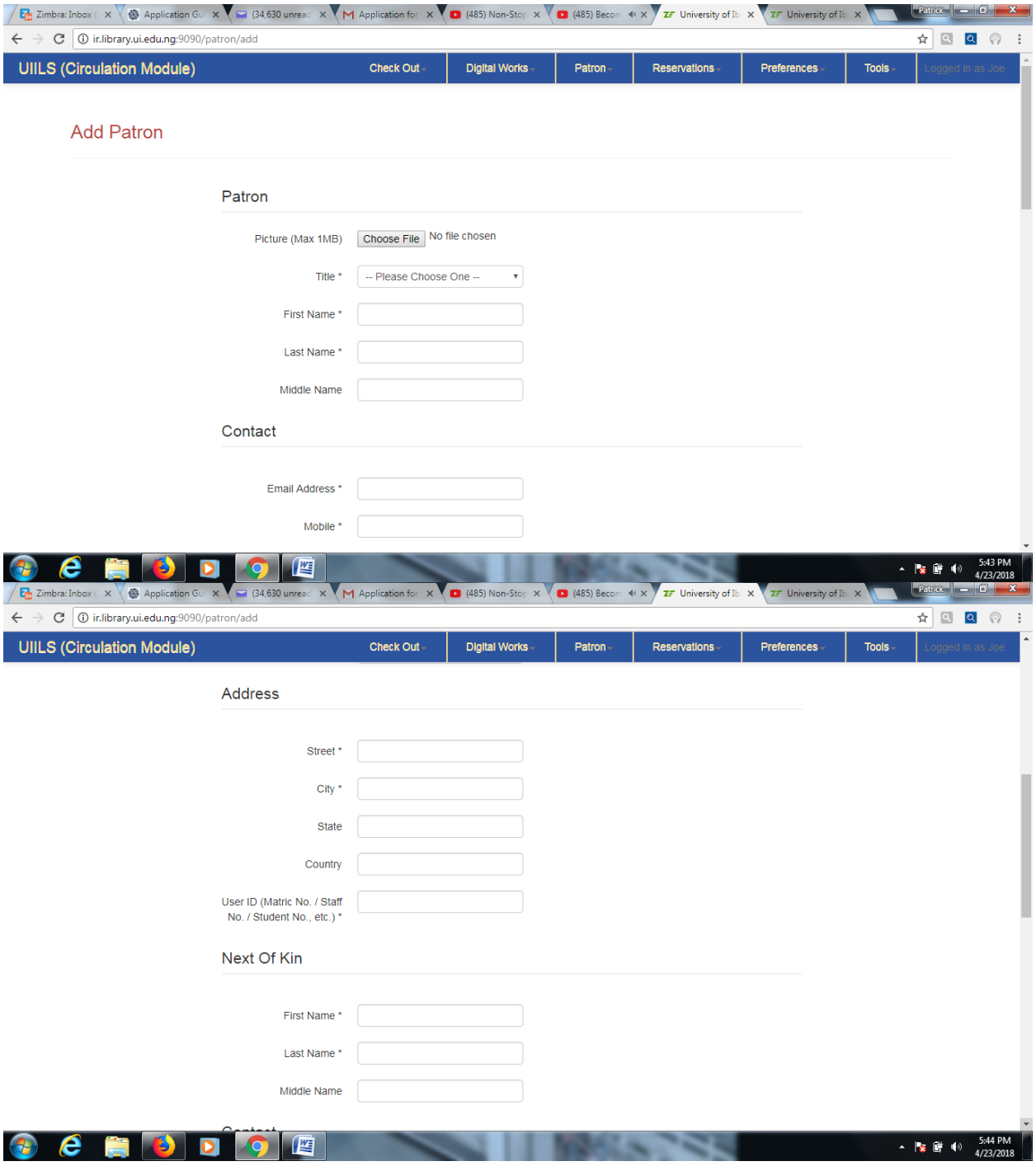
Reservations

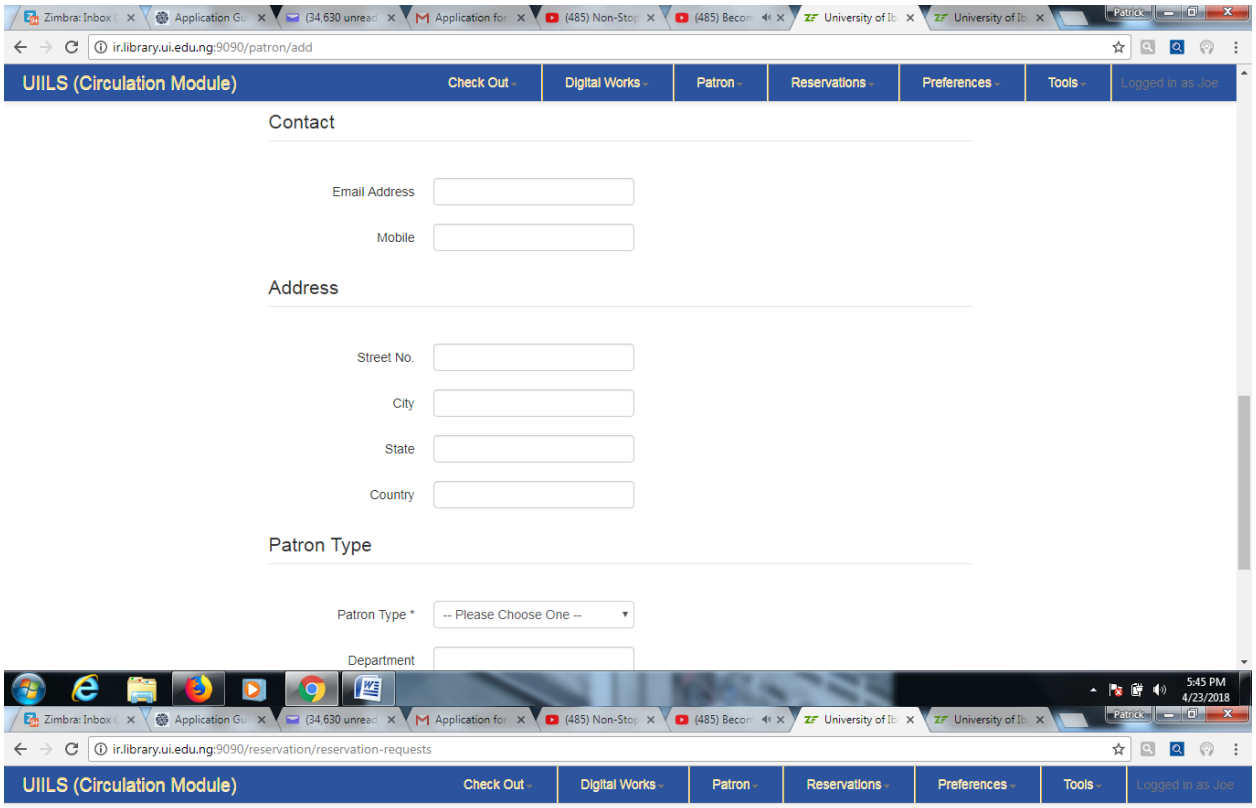


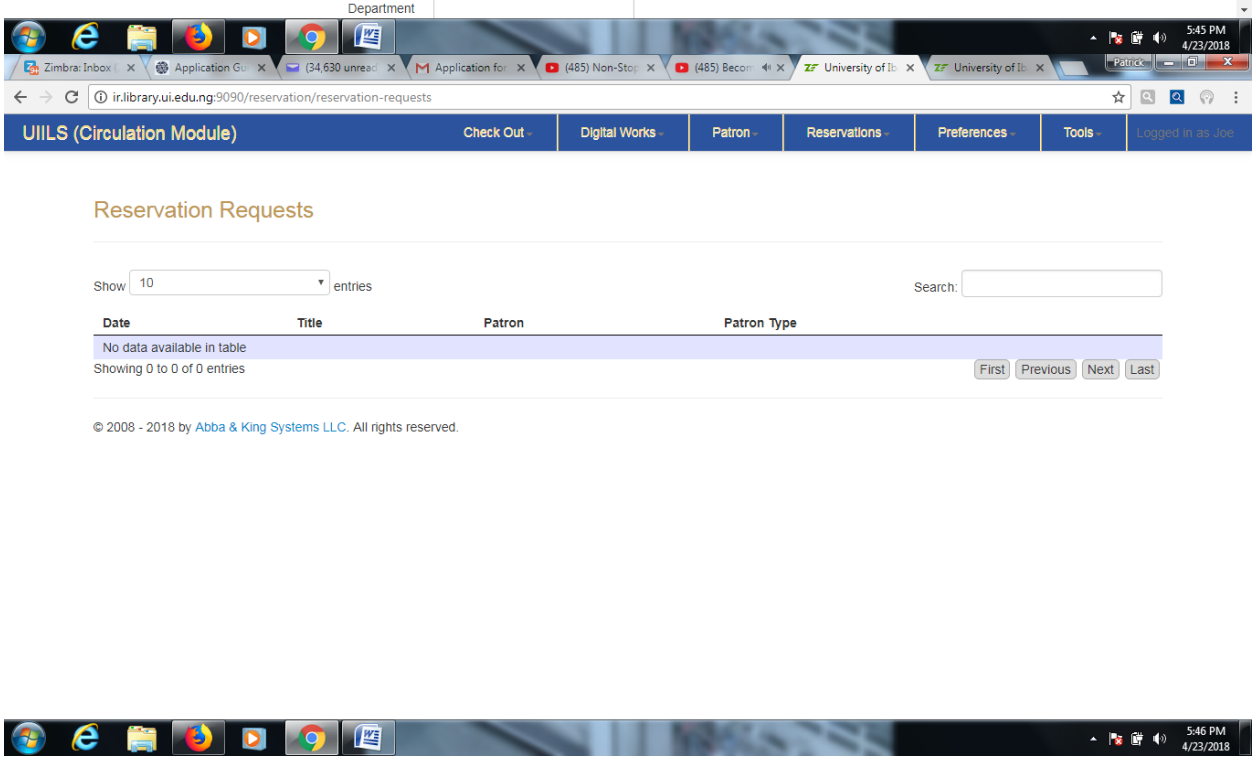
Patron Module

Patrons are the primary reasons why libraries are created and as such service delivery at this point is highly optimized. With each patron having an account, they are able to use the Library in a somewhat self-service mode. This module allows for:

- Advanced searches via the OPAC (Online public access catalog).
- Item submission for Institutional Repository (IR)
- Reservation requests for library items.
- Renewal of checked out items.
- Item status and locations.
- Request for new Items.
- Virtual shelves.


ir.library.ui.edu.ng:9090/patron/add
UIILS (Circulation Module)
Check Out
Digital Works
Patron
Reservations
Preferences
Tools
Logged in as Joe
Add Patron
Patron
Picture (Max 1MB)
Choose File
No file chosen
Title *
-- Please Choose One --
First Name *
Last Name *
Middle Name
Contact
Email Address *
Mobile *
5:43 PM
4/23/2018
Address
Street *
City *
State
Country
User ID (Matric No. / Staff No. / Student No., etc.) *
Next Of Kin
First Name *
Last Name *
Middle Name
5:44 PM
4/23/2018





Admin Module

This Module caters for the general preferences of the software. An engine room for self-maintenance and lends support to other modules.It all ows for:

- Creating of administrative users (catalogers, acquisition users, etc.).
- Manages data back-up.
- Manages library locations.
- Manages data migration.
- Administrative reports (circulation reports, acquisition reports, shelf listings, patron reports, reservation and request reports).

Benefits of the In-House Library Software Application to Library Processes

- Unlimited number of users for all modules.
- Multi library location: administrative users from different Library Locations can use the software over the network.
- Easy reporting: reports are easily generated and produced as pdf.
- Enhanced communication interfaces for delivery of mails and notifications to library users.
- Self-service for library patrons.
- Quick and flexible back up.
- Unlimited databases.
- All-round customer support.
- Software updates.
- Guaranteed return on investment.

Conclusion

The study investigated University of Ibadan Library Integrated Software compatibility, usage and its application. However, the major thrust of this present study showcases importance, utilization and benefits of myriads of integrated library software. It also highlights interface and features of varied modules such as acquisition, cataloguing, circulation. It has been discovered during the course of the study that there are numerous Library Automation software available in the market, but on the contrary choosing more robust library integrated software for an existing library with required features that will promote best services need to be taken into cognizance. Also, this study will go a long way in choosing better software for the library services for the fact that it brings into limelight traits of applicable proprietary software deployed in Kenneth Dike Library which will be useful in delivering efficient and effective library services to library users.

The future of librarianship will be bright if the aspiring custodians of information / professional librarians can equip, polish and prepare themselves for the deployment and utilization of suitable software for library services which will not only improve the image of the library but will be helpful in providing different services to library patron. Hence, it is very vital to improve the quality of existing software for providing services. The selected software have been examined exhaustively under the study.

In order to achieve considerable impact and exhaustive integration of library software in academic libraries, it becomes pertinent for the library management to embark on routine trainings for professional and paraprofessional librarians on emerging technologies such as library software. This becomes consequential in order to improve the skills of library personnel to navigate library softwares. Library management should as well send professional librarians on periodic training in the area of Information Technology Applications.

References

Breeding, M. (2012). Open Source Integrated Library System. ALA Tech Source. Retrieved from http://wwwalatechsource-org/tr/open-source-integrated-library-systems. Chisenga, I. (2006). Global information and libraries in Sub – Sahara Africa. *Library management* 21(4): 174.

Hussain, S. and Ansari, M. A. (2009). Library Automation softwares packages in India: a study of the catalog modules of Alice for windows, Libsys and virtua.''. *Annals of Library and Information Studies*, 54(2): 146-148.

Ifidon, S. E. and Okoli, G. N. (2002). Forty years of academic and research library services in Nigeria, past, present and future, in Nigeria Library Association – 40th Annual National Conference and AGM. A Compendium of papers presented June 16th – 21st 2002.

Kingdom H. K. and Ebikabowe Emmanuel Baro (2014). The use of Library software in Nigeria Uiversity Libraries and challenges. *Library Hi –Tech News* (3):15-17

Madu, E. C. (2004). Automation and service provision in Libraries and information centres in developing countries in Madu, E. C. (ed) Technology for information management and services: modern libraries and information centres in developing countries, Ibadan: Evi- Coleman Publications.

Muller, T. (2011). *How to choose a free and Open source integrated library system*. International digital library perspective 27 (1): 57- 58. Retrieved from http://eprints.rclis.org/15387/1/How%20to%20choose%20an%20open%20source%20ILS.pdf

Ola, Chris O. (2010). The deployment of Virtua Integrated library system software for managing library resources in University of Ibadan, KDL News, A Bi-annual Publications of Kenneth Dike Library, University of Ibadan, Nigeria, 14- 15.

Omeluzor, S. U., Adara O., Ezinwayi, M., Bamidele, M.I., &Umahi, F.O. (2012). Implementation of Koha Integrated Library Management software (ILMS). The Babcock University Experience. *Canadian Social Sciences*, 8(4): 211.

Online Library Learning Center Glossary (2006). *Concept of Academic Library*. Retrieved from http//www.usg.edu/galileo/skills/ollcglossary html.

Parmar, Sagender Singh. (2017*). In-House Library Automation Software With Reference To B.K Birla Centre for Education, Library*. Retrieved from http://www.iiserpune.ac.in/~library/life2017/program/17/3-sagender-singh-parmar.pdf on 19/07/2018.

Satpathy S and Maharana R. (2011). ICT skills of LIS professionals in engineering institutions, *Library Philisophy and Practice,* Vol 3: 124.

Ukachi, N.B., Nwachukwu V.N. and Onuoha, U.D (2014). Library Automation and use of open source software to maximize library effectiveness. *Information and knowledge management*, 3 (4): 74-80.

Uzomba, Emeka C., Oyebola, O.J and Izuchukwu, A. C (2015). The Use and application of open Source integrated library system in Academic Libraries in Nigeria: Koha Example. *Library Philosophy and Practice (e- journal)*. 1250.