



Emerging Trends for SMART Libraries

A Festschrift in Honour of
Professor V.P. Khare in Four Volumes

Volume 4

Librarianship in SMART Libraries

Editors

Sonal Singh • B.K. Singh • Neelam Thapa

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In 4 Volumes

VOLUME 4

Librarianship in SMART Libraries

Editors:

Dr. Sonal Singh

Associate Professor & Head

S.O.S. in Library & Information Sciences

Vikram University, Ujjain

Dr. B.K. Singh

University Librarian

Allahabad Central University, Allahabad

Dr. Neelam Thapa

Assistant Professor

Department of Library & Information Sciences

Dr. Hari Singh Gaur University, Sagar, M.P.

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- RFID Application**
72. Application of the RFID Technology in Libraries 877
 • Ufaira Yaseen Shah, Nelofar Jan and Fayaz Ahmad Loan
73. Use of RFID System: An Innovative Library Services At
 S.K.N. College of Agriculture, Sri Karan Narendra
 Agriculture University: Jobner..... 885
 • K. M. Krishna

Open Access

74. Open Access Manifesto towards Global Library
 and Information Services 893
 • Sambhu Nath Halder
75. Towards Managing E-resources in Higher Education and
 Research Domain: With Special Reference to
 OA Resources 902
 • Sibsankar Jana
76. Open Source Software for Digital Library:
 Advancement in Academic Libraries 919
 • Surendra Sathy

Operating System

77. Operating System: An Overview 927
 • Bhoopendra Singh, Nutan Gaud* and Sharad Kumar Sonkar

QR Code

78. Quick Response Code and Libraries 935
 • Sanjeev Dutt Sharma

SCAMPER

79. SCAMPER: Use of Creative Technique in Social Media
 Decisions for Academic Librarians 947
 • Sushama C. Powdwal

VOLUME - 4

Librarianship in SMART Libraries

Librarians : Chaning Role

80. Emerging Role of Academic Librarians..... 953
 • Manoj K. Joshi

USE OF RFID SYSTEM: AN INNOVATIVE LIBRARY SERVICES AT S. K. N. COLLEGE OF AGRICULTURE, SRI KARAN NARENDRA AGRICULTURE UNIVERSITY: JOBNER

Dr. K. M. Krishna

Deputy Librarian ,SKNAU , Jobner (Jaipur) , Rajasthan

kmkskn@gmail.com

Abstract: The present study has been made with aim to bring out an innovative library services with the use of RFID technology for computerization of library of S K N College of Agriculture, Jobner, Rajasthan. The procurements and other working functions of RFID system have been highlighted in context to library circulation services. Practical utility of RFID with creation of reports, email alert, faster circulation methods along with advantage / disadvantages of system has also been narrated. Overall the implementation of RFID Self Kiosk Check Out / check In of books are highly effective and widely accepted and used among students and staff of this college.

Keywords: RFID system, Self Kiosk Check Out / check In, Email Alert, SKNCOA , Security gate , KOHA database

S. K. N. College of Agriculture, Jobner has become constituent colleges of Sri Karan Narendra Agriculture University (SKNAU) , Jobner- Jaipur was established in 2013 by Govt of Rajasthan under Agriculture University(SKNAU) , Jobner Act, 2013 (Bill No 39). The university imparts teaching at the University or college level, conduct research and extension education programmes in the field of agriculture. The territorial jurisdiction and responsibility of this University extend to the districts of Jaipur, Sikar, Alwar, Dausa, Tonk, and Ajmer, Bhartpur and Dholpur. The library of S. K. N. College of Agriculture Jobner of SKNAU Jobner which is oldest and having biggest collection of books (i.e. 50000) which includes Textbooks / Theses / Bound Journals / CD / Reports / Reference Books / Maps /etc .

The contemporaneous enhancements of global knowledge with changing concept of Information Communication Technology (ICT) have compelled all leading libraries to transform their conventional resources, collections and services into changing needs of user. The library of this college has initiated transforming collections and services into digital resource learning centre (DRC) with introducing various effective ICT based services among academic and research users. The various services included WEBOPAC / RFID system / digital library Portal online access facilities of journals / databases / and eBooks along with other provisions of modern infrastructures, Wi-Fi enabled Internet Technology, facilities. (<http://www.sknauc.ac.in/en/student/resources/central-library>)

RFID (Radio Frequency Identification system) is now widely used technology .The progressive enhancement of RFID technology has made advantages that are related to resource optimization, increased efficiency patrons care, overall improvements in business operations . Nowadays RFID is widely used in many areas which includes Warehouse management, medical implants,

road tolling, building access control, aviation security, luggage tracking at airports and libraries, etc

Presently the college library has implemented latest facilities of Automation System with RFID technology with smart gate antenna, Self check in and check out on Electronic Kiosk, CCTV security and, MOPAC remote access search facilities to all users.



SELECTION PROCEDURE FOR RFID ITEMS IN LIBRARY

Before purchasing all above items all possible measures should be taken with procurements of standard items: ISO 28560 , ISO 15693/18000-3 , ISO 14443A based Mifare cards with 1024 Bits the bidder with 9001:2008 or higher certified company and Standards compliance: MARC21, Z39.50, UTF8/Unicode, SIP2 The various essential standard items required to implement RFID system are

1. RFID chips Tag size app 80mmx 50mm with at least 1024 bits memory multi read, antitheft and life time warranty minimum with ISO 15693/18000-3 or higher
2. RFID antenna security gate two pedestal with provision for E-mail/SMS Confirmation
3. SELF KIOSK for check out / check in of books
4. LMS database (koha or any other library software) for books patrons for charging and detecting items
5. Station reader
6. Ominee reader
7. Blank Patron card with color printer
8. RFID handles reader for physical verification of books
9. LAN network system with internet/ intranet with ports /UPS back up power facilities
10. Two persons handling RFID system with computer data entry works

11. Dehumidifier (to maintain humidity if required)
12. Standard RFID server layer (Complementary) for integration of RFID devices with Koha LMS with essential installation of SIP2 configuration

Working function of RFID system:

To provide seamless transaction of circulation system of books with RFID system following steps must be taken into consideration :

1. All equipments should be of standard make with LAN ports and back up facilities must be available to run the system.
2. prior to issuing of books to students the KOHA / or any LMS database must be ready with SIP2 configuration to work on Self Kiosk for checkout / check in transaction and
3. all books should be tagged and activated with RFID system
4. The database of Patrons must be prepared on KOHA / LMS software so that smart card could be activated for use of self kiosk
5. All photographs of patrons must be uploaded on RFID software so that the photo of each patron will be displayed while doing checkout / check in transaction on self kiosk
6. Email /mobile number is essentially required to get checkout / check alert to patrons
7. Separate air conditioned server unit must be provided to run the system

Seamless transaction of books on self kiosk

Now all patrons must bring their activated patrons card to use self kiosk for check out / check in of books for this cards must be inserted on omineer reader to display their names and after keeping books on station reader it will automatically detect the books and display the names of books with title and bar code number with the help of touch screen one can use for books transactions after getting issue of books the email message will be send to librarian and patron both immediately and two token print slip will come out as confirmation of transaction with email alert which will be shown to gate check point .

Reports created of RFID circulation system

Various reports can be generated after RFID transactions with the help of KOHA LMS with date and time /email alert etc and it will be used for better management of library handlings by the library staff

2018-02-19 12:12:15	BG3310	Basic concepts of vegetable science	N.P. Singh	Prabhu Narayan	Sharma	STF2
2018-02-19 12:12:15	BG3122	Basic concepts of fruit science	N.P. Singh	Prabhu Narayan	Sharma	STF2
2018-02-16 15:05:56	SC/ST4979	□□□□ □□□□□□□□□□	□□□□, □□.□□	Vikki	Nogia	L52
2018-02-16 15:05:56	SC/ST5777	Agricultural Microbiology	Rangaswami BDJ	Vikki	Nogia	L52

2018-01-16 23:59:00	Patel	Manoj Kumar	9098350068	patel.manoj39@gmail.com	Seed technology	K.N. Rai, B.S.C. Dahiya	LIBN48779
2018-01-16 23:59:00	Patel	Manoj Kumar	9098350068	patel.manoj39@gmail.com	Introduction to quantitative genetics	F.C. Mackay Trudy, D.S. Falconer	LIBN48354
2018-01-16 23:59:00	Kumar	Goverdhan Lal	9983447707	gerryprajapat287@gmail.com	Genetics	Snustad , D.P.	LIBN51965
2018-01-16 23:59:00	Jakhar	Raj Kumar	9694383889	rkjkhhar230@gmail.com	Vegetable Crops	Somm,G	LIBN52531

Email alert generated by RFID system

Dear Member, Anand Kumar Meena(TS91)

You have issued following book(s):

SNo	AccNo	Title	DueDate
1	BG4983	Crop Diseases	19/05/2018
2	BG6681	Laboratory exercises in plant pathology : an instructional kit	19/05/2018
3	BG6680	Laboratory exercises in plant pathology : an instructional kit	19/05/2018

Advantages of RFID system:

Besides cost effectiveness of implementing this system. There are various practical implications which includes

- It is time saving and totally self for books transactions on kiosk with print / email facilities
- They can see all is transactions their user profile
- Issued books will not buzzer except non issued books will buzzer
- If not misuse by patrons It is speedy and most modern circulation system in library
- It has self drop box facilities to deposit books in late hours

Disadvantages of RFID system

As compared to utility of this system there are less disadvantages which includes:

- Miss of tags torn / lack of proper LAN facility / internet access
- Patron's cards must be kept safely to a void misuse
- Sometimes books may not detect due to moisture in tags / invalid items of barcode issue but it can be corrected / edited at any time

Conclusion

The RFID circulation system has been successfully implemented and working well at S. K. N. College of Agriculture, Jobner of Sri Karan Narendra Agriculture University (SKNAU) , Jobner- .More than 500 students have been used for issue of books on self kiosk with print and email alert options . It is working without any hindrance except sometimes slow internet connectivity which creates problem for seamless transaction of check out / check in of books which can be solved by proper connectivity / alternative method of card system also . But the circulation is totally working on RFID system and promoting the use of innovative technology for better management of library circulation services.