

redefine library processes with RFID technology

Rapid Radio Solutions Pvt. Ltd.

www.rapidradio.co.in

RFID IN LIBRARY

- Radio Frequency Identification (RFID) is a technology that facilitates non line of sight identification of items. Basic elements of a comprehensive RFID system for library kind of environment are Tags, Readers & Library management system
- Implementing RFID system in libraries will aid tasks such as circulation, re-shelving & theft detection, and it has several other important advantages.
- It can either replace or supplement existing library bar code system. When the costs of labour is taken into consideration for tasks such as checkout, check-in, inventory holds, lists, mis-shelved items, etc., RFID can prove to be very efficient when compared to traditional bar codes.



- In short RFID streamlines workflow in the area of self service, books return, shelf management and inventory

ADVANTAGES OF RFID TECHNOLOGY

Libraries

Stock management

- Operations such as managing materials on the shelves, finding items that are missing and identifying mis shelved items are streamlined and taking stocks regularly will be feasible

Improved patron services

- Spending minimal time on circulation operations allows library staff to assist patrons
- Routine patron services are not disturbed even when libraries are facing staff shortages & budget cuts

Flexibility and modularity

- Ability to add newer products and features as finances and customer needs dictate
- Expenses of adopting the technology can be managed over a time period
- Allows for phased funding and more effective use of Institutional budgets

Security

- Library item identification & security bit is combined into a single tag, there by eliminating the need to attach an additional security strip, hence minimizing labeling time & its associated cost.
- Security bit is automatically deactivated & reactivated as materials are checked out and in; hence no separate security procedures are required

Library Staff

Less time needed for circulation operations

- Implementing RFID will considerably reduce the amount of time required to issue, receive, transport, sort & shelve library materials
- Automated check in will reduce staff time required for material handling

Efficient Inventory management

- Inventory management can be done using a handheld reader without closing the library and is at least 20 times faster compared to existing barcode based system

Reducing Repetitive Stress Injuries (RSI)

- RFID based system reduces repetitive scanning of individual items at the circulation desk during check in, check out and hence avoids RSI such as carpal tunnel syndrome
- Taking inventory in a rfid based system doesn't require physical deshelving & shelving of library materials

Patrons

- Patrons will spend less time waiting in check-out lines by using Self Check in - Check out systems
- Patrons find what they are looking for quickly & easily
- Reminders for due dates allows patrons to submit borrowed materials in time
- Use of book drops & return chutes for returning library material, allows for flexible timings
- RFID enabled patron cards allows for easy patron identification

Benefits of RFID over Barcode based system

- Non line of sight reading of multiple items at a time provides for efficient circulation of library materials.
- Locating specific items on shelves is possible using RFID based handheld readers.
- RFID based systems can be easily integrated with automated material handling (AMH) units to read moving items.
- On chip data storage & reprogrammable memory allows rfid tags to record information such as location of books in the library, statistics, etc.
- Auto Detection of unauthorized items going out of the library premises is possible using rfid based system.
- RFID based system can be used in harsh environment.

IMPLEMENTATION CYCLE

Phase Wise Planning For Deployment Of Complete Solution

Sr. No.	Tasks	Schedule*					
	Weeks	2	4	6	8	10	12
1	Procurement of Hardware						
2	Tagging Books						
3	Integrating Middleware						
4	Performing Test Cases						
5	Training Staff						
6	Process Improvement						

*The above schedule has been planned for tagging approx. 1 Lac books

Procurement of Hardware

Sourcing of RFID hardware i.e. Readers, Tags & Antenna needs to be done before starting anything else. Once the hardware specification and respective products are finalized, specific read regions can be decided and implementation can be done.

Tagging Books

Each & every book needs to be tagged. The process needs 2-3 people continuously affixing tags to specific area on the books as decided earlier from the findings during the pilot test.

Integrating Middleware

Integrating RapidRadio's middleware with the present LMS and testing the results for improvements and errors.

Performing Test Cases

Predefined set of test cases will be performed in scenario based format to examine unit level and system level performance for accuracy and greater throughput.

Training Staff

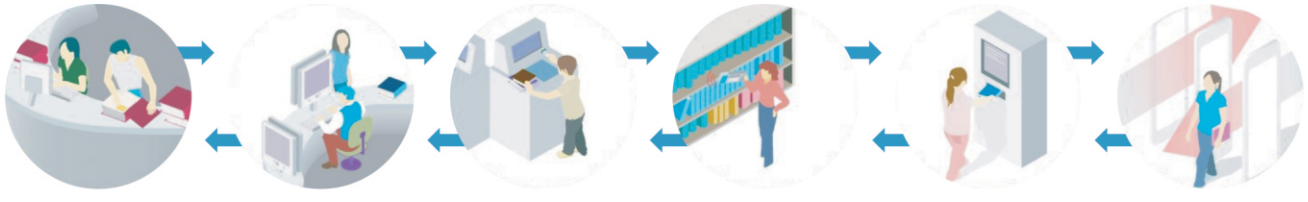
This part of the implementation will include training staff on various aspects of RFID Technology and the new system in place. There will be a demo & training session that will include all the processes in the system.

Process Improvement

The errors and improvements found out from the test cases will be revisited to optimize system performance.

WHY RAPIDRADIO

- Over 6 years of experience in providing RFID hardware solutions to more than 35 libraries and seamless integration with multiple library management systems including KOHA, SOUL 2.0, Liberty 3.0, VTLS Virtua, Alice, SLIM21, Autolib etc. using global standards like NCIP V2.0 & SIP 2.0.
- Systematic approach to after sales support & affordable AMC with positive attitude, keeping end customer objectives always at top most priority.
- Single point of contact to execute tasks right from data entry of books to implementing full fledged Library automation project including RFID and surrounding technologies like CCTV, Attendance management etc in consortium with leading technology providers.
- A unique partnership program where we work with partners to increase their business and through them, whom we consider our customers, we achieve our business objective.



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PRODUCT OVERVIEW



Gate Detection System (RRHFGA2/GA3):

RRHFGA2 is ISO-15693 compliant walk through gate detection system capable of detecting unauthorized tagged items passing through it. It has inbuilt audio visual alert facility for theft detection and a minimum read range of 36 inches.



Staff Circulation Station (RRHFLB03):

RRHFLB03 is a plug n play multi protocol antenna-reader system specially designed for library circulation desk application. With a read range up to 25 cm it can be used for entry of new books or borrowers and issue/return of books at circulation desk.



Self Check in / Check out Kiosk (RRHFLB02):

RRHFLB02 is a stand alone multi protocol Self Check-in / Check-out kiosk primarily for self issue and return of books in Library. With its inbuilt screen and printer, patrons can view & print transaction related information such as number of books issued, outstanding fine (if any) etc. Customized information can also be printed on the transaction slip.



Book Return Station (RRHFBD01):

RRHFBD01 is a Touch Screen based multi protocol book drop primarily used for returning of library books. It helps in better circulation and gives time flexibility to patrons for returning of library materials issued by them.



HF Handheld Reader (RRHFHH3):

RRHFHH3 is a basic handheld reader primarily designed for performing activities such as shelf order checking, shelf-reading, searching, inventory scanning in library kind of environment.



RFID Tags (RRHFT01):

RRHFT01 are rewritable passive HF Tags working on 13.56 MHz frequency. Available in various types and form factors these are used for tagging library materials to uniquely identify particular tagged items using the RFID based automated library management system.



Smart Cards (RRHFSM01):

RRHFSM01 are standard 1K Mifare technology based contact less smart card used for various applications such as Identity cards, employee cards, access control and canteen cards.

RapidRadio Middleware Application:

- RapidRadio Middleware is a customized application to interface data from various RFID hardware products to the existing library management system.
- Key functions of the application are entry of untagged books, EAS bit setting for theft detection, check in check out, stock verification, identification of mis-shelved books and report generation.
- Includes features like email reminder, print slip, intelligent host protocol and user friendly GUI.

Client List :

"BCL, NEHU Shillong, IIM Shillong, IIM Ranchi, UAS Bangalore, RGU Itanagar, JNCASR Bangalore, CMI Chennai, DDE Jammu, Gujarat State Libraries, Sikkim University Gangtok, FLAME Pune, RCC Trivandrum, NLIU Bhopal and many more.."

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