

# CIRCULATION SUBSYSTEM IN NBU CENTRAL LIBRARY: A PROPOSAL FOR MODERNIZATION

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## Abstract

The importance of the library can be accessed by making better circulation system and effective information services with modern and advanced technological process. This paper is an attempt to develop a better circulation system in Central Library of North Bengal University. Presently Central Library of North Bengal University followed blind of Browne and Newark charging-discharging circulation techniques. This circulation system is maintained by library staffs, to help to issue and return books or documents. In this paper we have tried to prepare a proposal indicating the use of RFID technology, preferred over Barcode.

**Key words:** Circulation, Technique, Technology, User, Barcode, RFID, NBU Central Library, Document.

## 1. Introduction:

Library is an important part of educational pursuit. The library circulation services are undergoing through rapid changes in the history of civilization. As library is a social institution essential for political, economical and cultural aspect, besides its basic development of educational fraternity. We should make a vision in running library circulation system to bring change environment to combat modern day information requirement. These implementations made us convinced that we need manpower, financial help, better technology and technical know how's then library circulation services will be developed. It is this service that brings user into direct contact with an operating system knowingly or unknowingly.

## 2. Library Housekeeping Operation:

The performance of a library broadly depends on housekeeping operations follow some definite routines and obviously amenable computerization. Computers can better perform in work quickly and cheaply. The basic functions of library housekeeping operations are Acquisition of Documents, Processing of those documents after Organization, Controlling Serials and Periodicals, Indexing articles and Circulation Process. Hence, use and maintenance of the entire functionality in a

Central Library system of a University library is a great activity to satisfy teachers, students, research scholars and intellectuals of the institution.

### **3. Circulation Programmers:**

Lots of collections of books or documents which processed to check in – check out from the library these are no circulation programmed. These include some successful operations such as enrollment of membership, issue and return of documents, maintenance of documents and records, inter library loan issuing etc.

### **4. Present status of Circulation System in NBU Library:**

Central library of University of North Bengal is one of the best libraries of North Bengal having huge collection of information resources total collection as 2, 38540. Text books - 1, 82457, Rare books - 643, Non-printed materials (CD/DVD) - 1004, Census - 2265, Reports - 1727, Gazetteers - 175, Debates - 201, Reference books - 8,330, Bound Periodicals - 37140, Thesis - 1,215, Total Journals - 696 (Indian Journal 503, Foreign Journal 193), Computers (Internet Hub) - 45. Central library of NBU is already using Bar-coded tags on the books and other reading materials. Membership cards are also printed with bar-coded labels. The charging discharging through barcode has not yet started on regular basis, which will start very soon the library.

A mixed method of Browne charging-discharging and Newark charging-discharging, system is followed in the central library of NBU. Main reason of following a mixed system is only for organizing a helpful circulation by the para technical/ technical staff while issuing and returning the documents.

### **5. Why do we need changes?**

When a person comes to lending section to issue/return the books or other reading materials this process is found to be very lengthy. We have to pass through the long hours to get the work done. Here, the Fourth law of S. R. Ranganathan "Save the time of the user" remains only a dream. Thus we have to think about the user to cut down time process of circulation programme.

### **6. Services that can be rendered by NBU Library:**

#### **6.1 Barcode based services:**

This technology is semi automated circulation system. Barcode is used in libraries to check out the books or reading materials in short time. The effective library needs each document bar-coded. This technology includes in library field accession number, call number, institution logo and also ISBN barcode could be used. It provides bibliographical details of all variety of documents.

This system allows real time data to collect accurately and rapidly. The application of this technology for issue/return of books is widely identified and practiced in developed libraries.

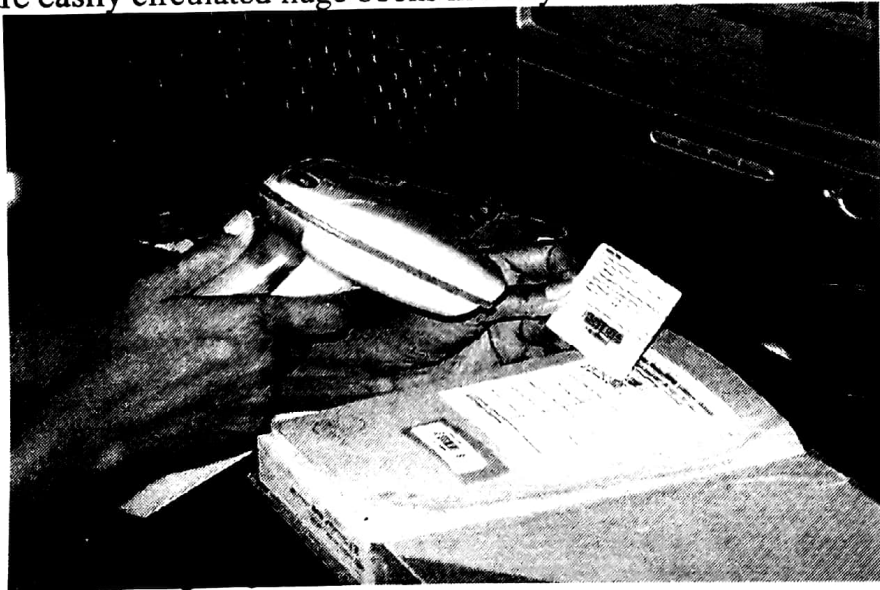
## 6.2 Basic Requirement of Barcode Service:

Circulation through Barcode we needs some basic elements.

- **Personal Computer:** Here Barcode reader can interface with a personal computer using several methods. Some reader use a wireless connection a serial ports or USB ports.
- **Barcode Reader:** Barcode readers are directing the beam of light across in Barcode.
- **Decoder:** The decoder first, it analyses the digital signal from the sensor, and tests to see if it can be interpreted as a valid barcode.
- **Printing Software:** Printing software helps to design and print simple barcode level and complex label with intricate design.
- **Printer:** A number of different print technologies are available to print barcodes.
- **Library Software:** Through Library Management Software's manage the library works. It blends user friendliness and high operational speed with flexibility.

## 6.3 Circulation Programme by using Bar-coding:

Barcode technology is work too speedy and error free. If library staff are trained by this system then this system much more comfortable. Through this system library staffs are easily circulated huge books in a day.



## 6.4 Advantages:

- ❖ Quickly Suitable and error free entry of access.
- ❖ To know stock verification easily.
- ❖ Total integrity of collection data.
- ❖ Suitable for check-in/check-out.
- ❖ Less Manpower.
- ❖ Faster work.

- ❖ Number of manpower needed.
- ❖ Saving time of typing matter.

### 6.5 Disadvantages:

- ❖ Barcode technology is expensive.
- ❖ Damage Barcode tags can't be read by a reader.
- ❖ Barcode scanners need a direct line of sight to the barcode to be able to read.
- ❖ Barcodes have less security.

### 7. RFID based services:

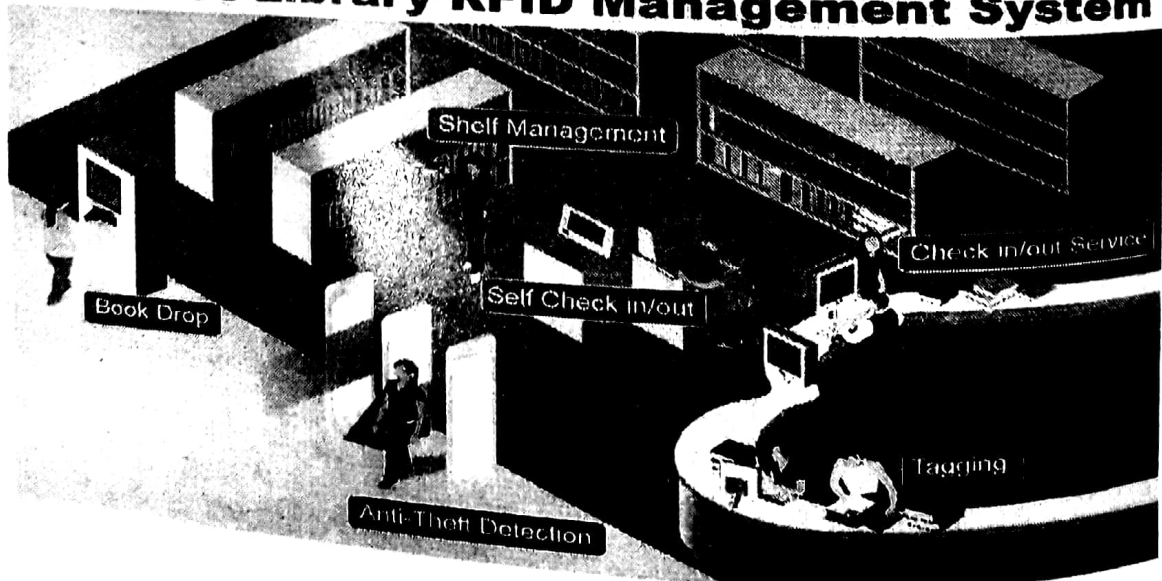
The British Military developed RFID technology for their own necessity during the Second World War as part of their easy identification. A recent trend in library management software's (LMS) is to incorporate self-issue processes during the circulation. RFID is being used to manage self-service and return of documents. This technology uses radio waves to automatically identify individual items. An RFID system comprises three components: a tag, a reader, and an antenna. An RFID tag is a thin chip that stores necessary bibliographic data. The tag is placed on the inside of the document. RFID readers and antennas are integrated into patron self-checkout machines.

Generally, RFID products are of two types: Active and Passive. Active tags are powered by batteries. Passive tags do not have batteries and have indefinite life expectancies.

### 7.1 Circulation Programme of RFID:

The use of RFID reduces the amount of time required to perform circulation operations. This technology helps librarians eliminate the valuable staff time spent scanning barcodes while checking out and checking in books. For the users, RFID speeds up the books or other reading materials issue and return procedures. Library staff are released for other productive and interesting duties.

## LibBest Library RFID Management System



## 7.2 Advantages:

- Rapid Check out/ Check in.
- RFID is a fast emerging technology.
- Self issue facility.
- Its supports stock verification services.
- Identification of misplaced books.
- RFID can be a best anti theft.
- High speed inventory control.
- High reliability.

## 7.3 Disadvantages:

- It's very expensive technology.
- **RFID technology injurious to health (skin and headache).**
- Susceptibility of tags.
- Invention of patron privacy.
- **Lack of Standard.**
- **User Privacy Concerns.**
- **Reader collision.**
- **Tag collision.**
- **Chances of Removal of exposed tags.**

## 7.4 Financially assistance for RFID Programme in NBU Library may be sought from:

- UGC
- INFLIBNET
- Ministry of Human Resource Development
- NBU own funds
- State Government
- Local MLA development funds

## 8. A proposed model of RFID in NBU Library:

On the basis of unstructured survey we came to know from the users the circulation service takes lengthy time so that the users feel annoyed. So we propose to Central Library of NBU to start the RFID as early as possible that helps the users. At present NBU Library has not made use of barcode technology for circulation process. In the days ahead, the library will be looking forward to use either RFID or Barcode technology as the collection is growing and also to cope up with modern technology keeping in view of the changing paradigm of library services.

Barcode technique takes time in circulation process, as each book during issue and return process requires scanning to be done by barcode scanners. Through RFID technique multiple items can be read simultaneously, so it has made the work easier and faster thereby saving the time of the reader. RFID is more advanced as compared to barcode. RFID also helps in stock verification and checks the books which are lost or not returned. Apart from this barcode have no read/write capability on a printed barcode but RFID tags have the read/write capability.

RFID techniques determine a wide frequency range around the library. RFID large antenna is used with active tags having range of 100 feet or more. Large antenna used with passive tags generally has a range of 10 feet or less. This way security to the theft will also be provided.

Even though Barcode technology is cheaper than RFID, it would be better if RFID be implemented by NBU library, because RFID is more advanced than Barcode. Library professionals would require training to this use of RFID. From our point of view the fund required for training as well as purchasing RFID would be provided by state Government, UGC and Human Resources Development.

As the space of the library is growing, so definitely there would be growth in the collections. Thus it would be better if this University Library prefer to use of RFID.

## 9. Conclusion:

"Subjective loss is more painful than objective loss", the users are waiting in line in circulation desk feels discomfort with the subjective loss of time. The RFID based charging-discharging system eliminates the disadvantages of delay in Barcode system. Thus Fourth law of S.R.Ranganathan comes to be fully satisfied with the advent of RFID.

## References:

- 2007, e., & Paget, C. (n.d.). Radio-frequency identification - Wikipedia, the free encyclopedia. *Wikipedia, the free encyclopedia*. Retrieved February 25, 2013, from [http://en.wikipedia.org/wiki/Radio-frequency\\_identification](http://en.wikipedia.org/wiki/Radio-frequency_identification)
- A, N., Singh, S., & M, S. (n.d.). Implementing RFID in Library: Methodologies, Advantages and Disadvantages. *www.libsys.co.in/download/implementing\_rfid\_in\_Libraries.pdf*. Retrieved March 2, 2013, from [www.libsys.co.in/download/implementing\\_rfid](http://www.libsys.co.in/download/implementing_rfid)
- Barcode - Wikipedia, the free encyclopedia. (n.d.). *Wikipedia, the free encyclopedia*. Retrieved February 23, 2013, from <http://en.wikipedia.org/wiki/Barcode>
- Jeevan, V. (2000). Barcoding for Faster Library Transactions. *desidoc*, 20, 15-19.
- McCathie, L. (n.d.). The advantages and disadvantages of barcodes and. *research-pubs@uow.edu.au*. Retrieved February 26, 2013, from <http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1009&context=thesesinfo&sei-redir=1&referer=http%3A%2F%2Fwww.bing.com%2Fsearch%3Fq%3DThe%2Badvantages%2Band%2Bdisadvantages%2Bof%2Bbarcodes%2Band%2Bradio%2Bfrequency%2Bidentification%2Bin%2Bsupply%2Bchain%26qs%3Dn%26form%3DQBRE%26pq%3Dthe%2Badvantages%2Band%2Bdisadvantages%2Bof%2Bbarcodes%2Band%2Bradio%2Bfrequency%2Bidentification%2Bin%2Bsupply%2Bchain%26sc%3D0-0%26sp%3D1%26sk%3D#search=%22advantages%20disadvantages%20barcodes%20radio%20frequency%20identification%20supply%20chain%22>

Tseng, S., & Chou, C. (n.d.). A Study on the Influence of RFID Tagging. [cdn.intechopen.com/pdfs/18100/InTech\\_A\\_study\\_on\\_the\\_influence\\_of\\_rfid\\_tagging\\_on\\_circulation\\_services\\_and\\_collection\\_management\\_a\\_case\\_study\\_of\\_the\\_taipei\\_public\\_library.pdf](http://cdn.intechopen.com/pdfs/18100/InTech_A_study_on_the_influence_of_rfid_tagging_on_circulation_services_and_collection_management_a_case_study_of_the_taipei_public_library.pdf). Retrieved March 2, 2013, from [cdn.intechopen.com/pdfs/18100/InTech-A\\_study\\_on\\_the\\_influence\\_of\\_rfid\\_tagging\\_](http://cdn.intechopen.com/pdfs/18100/InTech-A_study_on_the_influence_of_rfid_tagging_)

eGyanKosh: Log In. (n.d.). *eGyanKosh: Home*. Retrieved February 23, 2013, from <http://www.egyankosh.ac.in/bitstream/123456789/5800/1/unit%205.pdf>