

Library Automation

Rajesh Kumar Pandey

*Department of Library, Axis Institute of Technology and Management (AITM),
112/359, Swaroop Nagar, Kanpur, U.P.-208002, India
E-mail: rajesh18pandey@gmail.com*

Library automation is the general term for information and communications technologies (ICT). that are used to replace manual systems in the library.

History of Library Automation

First generation

- Little integration between modules
- Mainly Circulation & Cataloguing
- Specific to Hardware & OS

Second generation

- Various platforms (UNIX and DOS)
- Functions are Command driven or Menu based

Third generation

- Fully Integrated Modules (using relational database structures)
- Various Standards
- GUI Based features

Fourth generation

- Client-server architecture
- Access to other servers over the Networks
- Allows to access multiple sources

Need for Automation

- User Time
- Man power
- Resource Sharing

- Security(RFID)
- Report Management

Advantages of Library Automation

- Improve the quality, speed and effectiveness of services
- Relieve professional staff from clerical work.
- Improve access to remote users.
- Facilitate wider dissemination of information products and services.
- Resource-sharing among other library networks (Union catalogues).
- Enable rapid communication with other libraries.
- Improve the management of physical and financial resources

Disadvantages of Library Automation

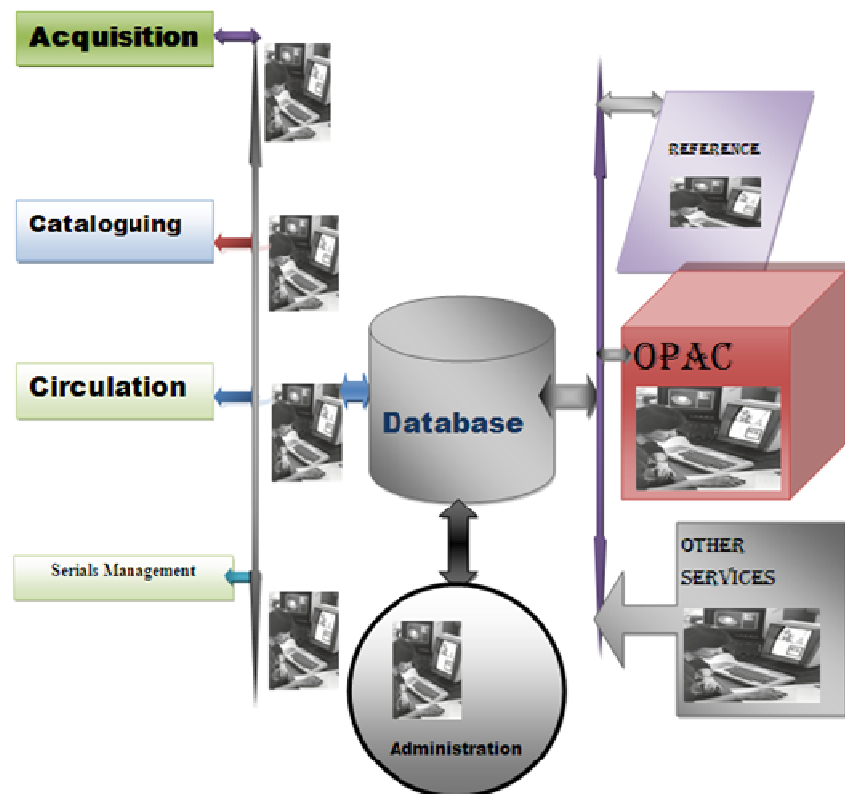
- Initial and recurring expenses
- Continuous staff training
- Hardware and Software Obsolescence

Planning for Automation

- Needs Mapping
- Best possible package
- Staff Involvement
- Budget(Purchase, operation, maintenance, etc.,)
- Hardware Requirement (Client/ Server, Printers, etc)
- Platform (Operating System)
- User awareness
- Maintenance

Selecting Automation package

- User friendly
- Popularity of a package
- Well designed screens, logically arranged functions with extensive help messages
- Minimal training
- Multi-user and unlimited user access
- Multilingual & Multimedia
- Support internationally known standards (MARC, AACR-2, Dublin core, Z.39 etc)
- Training and Support (E-mail, Discussion Forums)



Structure of Automated Library: (LAN)

Functionalities of Acquisition

- Suggestions management
- Ordering, cancellation and reminders
- Receiving
- Budget Management
- Master file management such as currency table, vendors, publishers, etc

Functionalities of Cataloguing

- Creation, Storage, Retrieval and management of bibliographic records and indexes
- Import/Export facility

Functionalities of Cataloguing

- Creation, Storage, Retrieval and management of bibliographic records and indexes
- Import/Export facility

Functionalities of Serial Control

- Subscription of New Journals
- Renewal of Journals
- Invoice Processing
- Payments
- Receipts of New Issues
- Reminders for missing issues
- Browsing Issues
- Reports Generation

Functionalities of OPAC

- Simple & Advanced Searching
- Boolean search
- Field Based Searching (Author, Subject, Source, etc.,)
- Browsing
- Field Based
- Hierarchical
- Personalized OPAC (My OPAC)
- SDI, CAS, Reservation, DDS, Outstanding Doc's, Subject list, etc.,

Functionalities of Administration

- User ID & Encrypted Password Protection
- Module Level Security
- Budget Management
- Stock Verification
- Master file Updation
- Fixing Due dates, Overdue Charges etc.
- Eligibility Holiday Maintenance
- Feedback

Administration**Various Reports**

- New Additions, Catalogue (Main/Author/Title)
- Accession Register/Bibliography
- List of books by Author/Title/Publisher/Year
- Subject/Call Number (by any order)
- Books by Unique Titles, Frequently issued books
- Books by -Subject wise
- Frequently Accessed Books

- Books Issued/Returned/Reserved/Reminder
- Receipt for Fine Amount/Deposit/Loss of Book, etc
- List (User/Publisher/Supplier/Departments)
- No-Due certificates
- Stock verification Report
- Budget Details, Orders
- Journal List (Indian/Foreign/Payment/Gratis/Exchange)
- Journal Subscription /Order Report/Missing Issues

Technologies Check In/Out

- Bar Code System
- RFID System

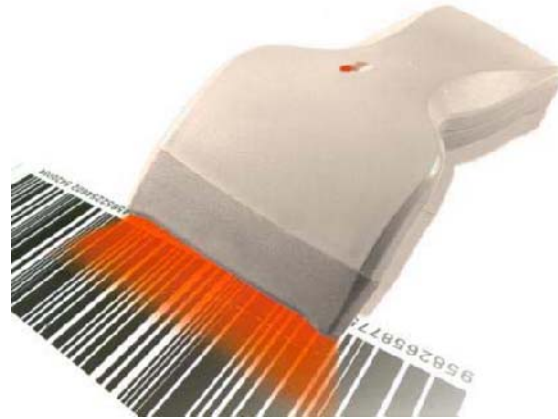
Bar Coding



Barcode Printer



Labels (Numeric, Alphabetic, Alphanumeric)



Barcode Scanner

RFID Technology

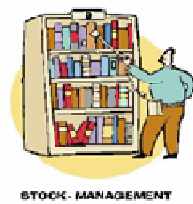


RFID Tags

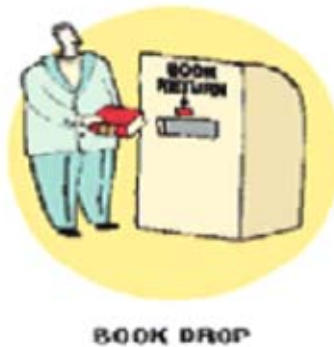
Coupler (Reader)



Gate Antenna



Antenna (Stock Verification)



Return Box

Comparison of RFID & Bar coding		
	RFID	BAR Code
Visibility	Works in any direction, does not require line of sight	Directional, requires line of sight
Read range	Between 4 and 80cm (1.5 – 31 inches) using passive tags, up to 100 meters using active tags	Typically 15 - 30cm
Read rate	Up to 200 tags per second	Limited to rate at which objects can be physically located in front of scanner
Data storage	Up to 4 KB using passive tags and 32KB using active tags	None
Durability	Withstands harsh environments	Prone to scratching and tearing
Security	Difficult to Replicate (95% security)	Simple to Replicate

Advantages & Disadvantages of RFID

Advantages

- Fast track Circulation Operation
- Self check In/Out by users
- Security
- Tag Life
- Shelf Management becomes easier
- Stock verification becomes Faster and Easier

Disadvantages

- High Cost
- Removal of exposed tags by users
- Reader Collisions & Tag Collisions (techniques & algorithms to solve)

SOUL (Software for University Libraries)

- Developed by INFLIBNET
- Windows based user friendly software
- Well designed screens, logically arranged functions with extensive help messages.
- Based on client server architecture
- Does not need extensive training
- Multi-user access
- Provides facility to create, view records in regional languages (multilingual)
- Supports internationally known standards CCF, AACR-2 etc.
- Nominal price (Includes Installation, onsite training, one year support, free future updates, multilingual software, manuals)

Libsuite

- Commercial Software developed by Soft-Aid
- Web enabled
- Runs on Windows platform
- Based on client server architecture
- Personalized OPAC
- Supports article indexing, CAS, SDI
- Powerful Search facilities
- Can attach digital documents (images, audio, video, etc)

Conclusion

For the successful implementation of an integrated library system all key factors must be in place: support from administration, staff competence, consideration of user requirements, presence of the infrastructure (hardware, software, network), available data, excellent managerial skill from the coordinator of the project