

# Library Automation and Software Packages for Libraries: A Study of the Library Automation Software Libsys7

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**Abstract** – The present study has been taken in terms of its usefulness regarding the need of RFID (Radio Frequency Identification Technology) in libraries, its functions, installation and control etc. The main aim behind this analysis is to know about the latest technology and tools used for LA (Library Automation) and how it is applicable in housekeeping operations of the library activities. This paper presents concept of LA, definitions, efforts for LA and its systematically historical development, why LA necessary? To find out the areas where LA is applicable, LA software Libsys7 integrated with RFID technology at Dhanvantri Library, University of Jammu and describes the name of the current automation software packages available for libraries and in use in the market.

**Keywords:** Library Automation, Library Automation Software, Libsys7, University Library and Academic Library System.

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## 1. INTRODUCTION

LA (**Library Automation**) is using computer system to increase access to data and improve efficiency of library operations such as circulation, acquisition, serial control, cataloguing, authority control, and inventory, inter library loan, document delivery, reference services etc. Current trends in LA include the growing importance of 'add-ons' mostly related to the delivery of digital content better integration with the web environment. LA refers to the computerization of all library activities to serve the needs of library users. In 21 century the I.T, not only help to provide fast and reliable resources in print form but also provide access to the electronic resources available anywhere in the globe. The adoption of I.T in the library routine activities avoids repetitive jobs, saves lot of time and management of the library users, speeds up all its operations and increases use of library resources.

Many parts of library administration frameworks requested for progressively and speedier data administrations and the decrease in library assets are convincing bookkeepers or data experts to value the part of innovation inside their housekeeping activities. Curators are hoping to augment the advantages of computerization by spreading the utilization of innovation in numerous parts of library activities and give data to remote clients. Progression of LIS proficient exercises might be conceivable by exploiting improvements in PC equipment, programming and media transmission.

## 2. WHAT IS LA: CONCEPT

The word automation was first taken from a Greek word 'automose' which implies self development or which has the intensity of self movement or development. Be that as it may, when this word utilized as a part of the setting of library, it is motorization of all library routine tasks. A portion of the ordinarily referred to house-keeping tasks are as securing, classifying, cataloguing and serial's control and so forth. In spite of the fact that the computerization term was utilized since the last four or multi decade however in 1936 D.S Harder first instituted the term 'computerization'. He was working with the General Motor Company in USA. Library might be portrayed as takes after:

- LA is computerization or automation of all conventional library exercises, for example, obtaining, classifying, cataloguing, dissemination and serials control activities.
- The term LA is utilized generally for data and information communication technology (ICT), which is utilized to supplant manual frameworks in the library housekeeping tasks like as securing, dissemination, classifying, serial control and so forth.

### 3. DEFINITIONS OF LA

The Oxford English Dictionary (Simpson and Weiner, 1989) characterizes computerization as "uses of programmed control to any branch of industry or science by augmentation, the utilization of electronic or mechanical gadgets to supplant human work".

ALA Glossary of Library and Data Science additionally characterizes the term computerization as "the execution of a task, a progression of tasks or a procedure independent from anyone else enacting, self controlling and programmed implies computerization infers the utilization of programmed data preparing gear, for example, a PC or other work sparing gadgets.

As indicated by Encyclopedia of Library and Data Sciences (Kent, 1977) "LA is the utilization of programmed and self-loader data handling machines to perform such customary library exercises as acquisitions, classifying and flow. These exercises are not really performed in conventional ways, the exercises themselves are those generally connected with libraries; LA may in this manner be recognized from related fields, for example, data recovery, programmed ordering and abstracting and programmed printed examination."

### 4. OBJECTIVE OF STUDY

The basic concepts pertaining to the thrust of the present work i.e. LA, LA Software, Libsys7, University Library and Academic Library System, Radio Frequency Identification Technology, its use in libraries. It has been elaborated by giving its contents, definitions, need of LA and areas where it is applied. Following objectives of the study are defined as follows:

- To identify the areas in which the university library of Dhanvantri library have been automated and what extent to.
- To ascertain the present stage of computerization in Dhanvantri Library.
- To find out the necessities and efforts for LA.
- To identify the usefulness of LA software package Libsys 7 and RFID technology.
- To what extent RFID used and areas where it is implemented.

### 5. EFFORTS FOR LA

Information Technology has assumed an imperative part in precise improvement of LA, broadcast communications and relatively reprography innovation has a similarly assumed critical part in view of the degree of help they offer. We can outline the

systematical recorded advancements and endeavors towards LA exercises.

- French Book Wheel: In 1588 French 'Book Wheel' was designed it enables clients to pivot between books by venturing on a pedal that turned a book table.
- Book Indicator: In 1863 Book Indicator was designed by Albert Cotgreave. It housed scaled down books to speak to books in the gathering of the library. These books were the piece of an outline that made it conceivable to decide whether a book was in, out or past due.
- Punched Card (1880): Punched card framework was created by Herman Hollerith in 1880 and it was first utilized as a part of classifying US enumeration information and in 1930 additionally utilized as a part of library course and procurement housekeeping tasks.
- Ralph Parker's altered Punch Card System: 'Hollerith Punch Card System' changed by Ralph Parker He had built up a course control framework utilizing 80 section 'Hollerith Punch Cards' at the college of Taxes. The University of Texas was maybe the first to utilize Punch Cards in 1936 for course control, serial control in the mid 1940's.
- Hypothetical Memex System: It enables a client to open put away information from many passages and can be take a gander at things at the same time. He portrayed the speculative memex framework as a Mechanical Library in 1945.
- Library of Congress Book Catalog: LC created a book inventory utilizing Punched Card. In 1950 the library of Congress utilized the unit record machines for the creation of inventories out of the blue. Until the point that the 1950's automation was fundamentally accomplished by utilizing just unit record machines, Harley E Tillitt started investigates capacity and looking of an organized list utilizing an IBM 701 not long after the machine touched base in September, 1953. Tillitt's program was operational, looking through the library's planned record, which had been later changed over to a truncated machine decipherable frame.
- Standard created for trade of information e.g. MARC. The LA started in the late 1960's with the achievement of the INTREX and the MARC ventures. On line, ongoing intuitive PC framework was presented.

- Growth of capacity, extension of media transmission ability, Development of the microcomputer business (1970). Library experts moved to incorporate extra highlights into existing innovation and broadened usefulness through buy of programming modules. Business accessibility of LA bundles (1980).
- Global web development.
- Turnkey Library System given by business sellers (Outside USA and UK) (Vendor gave equipment, programming, establishments, preparing, support administrations).
- Integrated LA System (1990): Provided by sellers.
- Today information accessible in simple or advanced configuration and are situated in the neighborhood library, different libraries or somewhere else on the Internet.

## 6. WHY LA:

In the context of emerging digital era, I.T is needed in libraries especially because of:

- Without continuously advancement of I.T, it may be difficult to handle such a large amount of data published all over the globe.
- Data is also being disseminated in Machine Readable Form. Some of the records are available only in Machine-Readable Form.
- Relieving the pressure of professional from routing job in some sectional activities.
- Sharing the resources become inevitable due escalation of prices in publishing & distributing of data among the libraries.
- To increase the speed with latest technology save the time of the user.
- To store huge amount of data in a very small and compact media and also reduce space available.
- To improve effective control over the entire collection.
- To avoid duplication of work.

## 7. AREAS OF LA

Dhanvantri Library, University of Jammu has made its traditional library housekeeping operations through

Libsys 7 software package. Following housekeeping operations were automated through Libsys 7.

### 7.1 Acquisition

List of books for ordering placed through this module. After arrived the books matched with order and accessioned. In between the time the books status shows in OPAC on order and after accessioning it shows the location of the books in stacks. In this module includes selection, ordering, cancellation, receiving invoice processing etc.

- Maintain book fund accounts and print book fund reports
- Provide data on orders outstanding, and sometimes works in process
- Payment works such as generation of vouchers or payment orders
- Accessioning of received documents

### 7.2 Cataloguing

Books accessioned in acquisition module and after accessioning the books were entered in the cataloguing module along with the classification number. If patrons want to be search a book, the full bibliographical details were shown along with the key words and subject headings. The working of computerized cataloguing are as follows:

- Title in process
- Retrospective conversion
- Union catalogue
- Authority File
- Data Entry
- Copy Cataloguing
- Online Public Access Catalogue
- Generation of Reports

### 7.3 Circulation

Members contact details and categories of members easily recorded in circulation module. We can easily track the number of books issued by a member with due date. Overdue charges can be calculated by circulation module itself and also generate reminder for the books, If book can be reserved for the other member in this module.

Some of the basic functions of automated circulation system are describe as follows.

Membership registration Charge

Discharge Renewal

Reservation Recall

ILL Overdue

Fines Binding

#### 7.4 Serial Control

In this module recorded the periodicals and journals subscribed by the automated library. Reminder generated for outstanding issues and the record of the suppliers can also be maintained in this module. The basic functionalities of serial control are described in brief as follows:

- New subscription
- Renewal
- Cancellation
- Budget control department unit-wise
- Invoice processing
- Recording the receipt of journal issues
- Sending reminders for missing issues
- Binding control
- Accessioning bound volumes
- Bar coding
- Report generation
- Record editing and updating
- Searching by title, publisher, distributor etc.
- Sorting by date or volume/issue number
- Article indexing

#### 7.5 OPAC

Cataloguing module is the OPAC what users consult to find and retrieve data of the interest of patrons. The OPAC is equivalent to the card catalogue, but it provides advanced search features. All the books and periodicals records can be checked through this module which Dhanvantri Library has location status of the material can also be traced through this module. The functions of the Online Public Access Catalogue are as follows:

- Simple and advanced searching
- Boolean search
- Field Based Searching
- Browsing
- Personalized OPAC-SDI, CAS, Subject list, etc.,

### 8. RFID TECHNOLOGY AND USE OF LA SOFTWARE LIBSYS 7 PACKAGE

Dhanvantri Library, of University of Jammu, investigated their necessities for the refresh of their inside library framework; they took a gander at various tenders from driving Radio Frequency Identification (RFID) organizations. The Libsys with Tagsys were granted the agreement as they were the main organization who could give a completely configurable arrangement. Accomplices incorporate organizations, for example, VTLS, Tech Logic Corp, Vernon RFID, DS, Gemsys, Decalog, Icontech, Libnets, Fortune Data Systems (International) Ltd Shenzhen Haiheng Enterprise Co. Ltd, ZETES, Libsy. Tagsys arrangement depends on a label consistent with built up worldwide benchmarks (ISO 15693) given by Tagsys' key accomplice Libsys which is then connected to a thin paper mark with a self-cement sponsorship to give an incorporated 'shrewd name'. This name offers double usefulness, consolidating contactless writeable memory with Electronic Article Surveillance (EAS) security capacities, to give an item that can be perused at separations of up to 1.2 meters. The majority of books and different things to be labeled and new stock being included an incessant premise; the time taken to apply labels to singular things is basic. Tagsys' answer takes seconds to apply, with staff examining the current increase number and disregarding the book the peruser, which at that point composes standardized identification information to a tag. Client benefit is drastically enhanced using canny reason composed self administration work areas, which enable clients to look at, return and restore various books and AV things.

These work areas have been intended to mix in with the library's stylistic layout and atmosphere, with all gadgets covered up inside the units themselves. Vitality, the task just takes a couple of moments and does not require the nearness of an individual from staff – making it a totally mechanized arrangement. Tagsys' RFID Library Installation Operated by means of the work area mounted touch-screens; custom programming has been outlined by Intelligent to give easy to use task. Marking, together with wording, messages and other information are altogether customized to Dhanvantri library.

Client benefit is basic for Dhanvantri library, which is additionally exhibited by the establishment of an outside return chute. This item enables clients to return things without entering the principle library - particularly valuable out of ordinary library opening hours. Labels are perused as things enter the chute and the framework is refreshed powerfully. Staffs are advised on-line when the chute is full and what number of books has been returned since it was last discharged. Security offices inside the library are upgraded using Tagsys' ergonomically-planned, remain solitary security doors. To guarantee that all things are distinguished on exit from the library, the entryways essentially read the status of the label's EAS security – much like existing 'snitch tape or 'EAS tag' doors. The Dhanvantri library it is India's second University library to present RFID Technology establishment after Pune University. Tagsys keep on rolling out to libraries over the world, and in 2004 started organization with Libsys program to give administrations to nations over the globe.

## **9. LA SOFTWARE PACKAGES**

Many LA software packages are presently available in the market some of them customized and open source software packages. Some of them are based on barcode or RFID technology which provides fast circulation and also used in tracking. Many libraries remain closed at the time of stock taking and users are unable to access the libraries but stock taking can be done shortly with the help of barcode scanner. Implementation of barcode technology is one of the best tools to minimize the time taken at the circulation counter in charging and discharging the documents.

### **9.1 Indian Library Software packages**

- i) Autolib. Software system
- ii) Easylib.
- iii) E-Grantalaya
- iv) Cynodaya
- v) Libra 2000
- vi) Librarian
- vii) Library Manager
- viii) X-Libris
- ix) Libsys
- x) Libsuite
- xi) Naland

- xii) Nextlib
- xiii) SLIM (System for Library Data & Management)
- xiv) SWIRL (Software for Data Retrieval, Cataloguing)
- xv) SOUL (Software for University Libraries)
- xvi) NewGenLib

### **9.2 International LA Software Packages**

- i) Alice for windows
- ii) ADLIB Library for Windows
- iii) Book Librarian for Windows
- iv) CDS / ISIS Software
- v) Endeavor Voyager
- vi) Keystone LA System 6.1
- vii) Innovative Interfaces Millennium
- viii) EOS Library Systems
- ix) OLIB7
- x) MINISIS
- xi) Micro Librarian Systems
- xii) SIRSI Integrated Library Management System
- xiii) SIRS Mandarin M3
- xiv) Sagebrush LA Systems
- xv) Techlib
- xvi) URICA Version 7
- xvii) STAR / Libraries
- xviii) TCL Integrated Library Systems
- xix) Suprass Integrated Library Management System

### **9.3 Commercial Software Packages:**

Libsys, SOUL, Alice for Windows, VTLS, SLIM, Autolib, E-Grantalaya etc.



#### 9.4 Open Source Software Packages:

Koha, OpenBiblio, Open-ILS, Emilda, Glibms etc.

#### CONCLUSION

Librarian themselves keep them updated and watch on the developments taking place in the field of I.T. Presently wide range of advanced products with low cost are available in the market and librarian should have ability to choose appropriate technology depending on the needs of the patrons. They should keep in contact with I.T professionals because LA is a team work job, it needs team work at all level. RFID (Radio Frequency Identification Technology) reduced the number of repetitive jobs which were performing by the library staffs. RFID (Radio Frequency Identification Technology) is the way many libraries at present are increasing their circulation, inventory control and other services related to library routine work, but strength of their professional staffs are not increasing. The only way to support such changes is to do things better and more efficiently according to current demands of the libraries. The Dhanvantri library solution has been making fully operational the housekeeping activities of the library and RFID (Radio Frequency Identification Technology) making it more easy to manage its routine work. The Dhanvantri Library, University of Jammu, Jammu is India's second University library to introduce RFID (Radio Frequency Identification Technology) installation after Pune University. Tagsys continue to roll-out to libraries across the world, and in 2004 began partnership with Libsys (Library Software Provider) program to provide services to countries across the world.

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