AUTOMATION IN LIBRARIES: AN OVERVIEW

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ABSTRACT

This paper aims to highlight the present scenario of library automation and discusses in brief the area of automation in libraries and information centers, advantages, software selecting criteria and gives a list of various software packages for automation.

Key words : Automation, Information centre, Software, OPAC, Computer Communication Technology (CCT), World Wide Web (WWW).

1. INTRODUCTION

Providing access to information has always been a function of libraries and information canters (LICs). Libraries and information centers play a crucial role in keeping citizens well informed. Automated systems are an important tool in an Information Age. Library Automation (LA) is the computerization of Library records and functions. It uses computer hardware and software for tasks that otherwise require a lot of paperwork and staff time. It also makes possible a wider, freer exchange of information.

2. BENEFITS OF LIBRARY AUTOMATION

There are many good reasons to automate a library, but the main once are improved access to information for patrons and increased efficiency in managing the library's collection and circulation.

- Automation can expand the library's usefulness to patrons and staff by providing them with instant access to information available in the library.

- *Automation also helps provide access to information at remote locations. With an automated system, even small, geographically isolated varies can be connected to national and international databases.*

- Automation relieves library staff from many tedious clerical tasks. When library staff is freed from labor intensive tasks, they can spend more time with patrons and performs other professional duties.

- Computerized records are simple to update, so reports and inventories are more accurate and can be compiled quickly.

- Computerized records and statistics provide library administrators with data that is invaluable in planning and decision-making.

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2.1 Administrative Benefits of Library Automation

There are increased demands for librarians and information specialists to practice good collection management and provide accountability to institutions and patrons.

- Library automation systems provide invaluable assistance for performing management tasks. The computer programmes compiles the data and generates the reports; staff time is minimal. Statistics can be broken down easily and used for reporting and long-or-short range planning.

- Reports provide accurate, detailed information about the collection's usage, circulation patterns. The data is useful for acquisitions, budgeting, and weeding. Other data provides information about which patrons the library serves and how this data is helpful when compiling information necessary for funding distribution.

- Data about collection's age and monetary value can be used to establish insurance needs. Records of capital items and fixed assets such as computer or audiovisual equipments are useful if there is theft or damage.

- Over dues are more easily tracked and fines more easily collected. Statistics on lost materials helps to determine if there is a needs to establish a security system or secure display areas, and assist in collection planning.

- Automation makes it easier to coordinate and plan with other libraries within a system. Statistical data provides information that's helpful for writing grants and proposals or reports to governing institutions.

3. WHICH SOFTWARE WILL WORK BEST?

3.1 Select software programmes first:

Although computer hardware is more expensive than software, software should be selected first. The hardware needed depends upon the software's design and complexity. In other words, Librarians should decide what they want automation to accomplish, select the software that can do best, and then select the hardware capable of operating the software. This is most logical way to choose, and it can simplify the choice of hardware by eliminating some brands and performance levels.

3.2 Choose software according to present and future needs:

The Librarians need a clear understanding of their particular library's situation when they choose library automation software. They should consider the specific requirement of their library system and buy software that meets all of these requirements. But be careful not to purchase overprice software that contains features that you are sure will never be used in your library. Librarians also need to determine their long range plans and consider what software will best meet the future demands of their patrons and library. Increasingly, Library automation, system are becoming part of an Infrastructure. Planning for library automation and purchasing software should include an analysis of present and future opportunities for connectivity to other resources. It is equally important when the librarians are discussing automation with software suppliers; ask them about their future plans. Does the supplier stay abreast of new technological developments in library automation software and in computer hardware? Learn how the supplier is keeping up

with changing technologies such as voice-activated computer, wireless networking systems, technology convergence and cross-platform software that are able to search other electronic resources from the on-line catalog and resource sharing by modem or common databases future possibilities.

Here are the following questions, which must be given priority while considering software for library:

* What functions are most important to automate and in what priority?
* What are the age, skill level, and information requirements of our patrons?
* How big is the library (collection size and number of patrons)?
* What is our level of circulation and how busy we are?
* What is our level of circulation and how busy are we?
* Is the library growing and if so how fast?
* Will the software be able to grow with our library?
* Is the library supplier a dependable, growing company that develops new products?
* What can be afford, and what will provide the largest return on investment?

3.3 What to Look for in Software

Efficiency and effectiveness $[E^2]$ of automated library system is more or less depends on the library software. Following are the worth mentioning points while considering a software:

3.3.1 User-friendliness

The term user-friendly may sound like a cliché, but it is extremely important. Most user-friendly programme has a menu, that is, a list of options that is displayed on the screen and leads the patron through the program. "Help" windows and prompts are like having a librarian standing nearby; they assist when the patron is confused.

3.3.2 Integration

Integrated programmes work together to provide a complete automated system. In computer terminology, they share databases. For example, a patron using integrated catalog and circulation programmes can find out whether the collection includes the material wanted and whether it is on the shelf, checked out, or on reserve. Integration usually is not a problem if library buy all their software programme (means complete software) from one supplier. If library is planning to automate in phases, make sure programmes purchased later can be integrated with existing programmes.

3.3.3 Industry Standards

Industry standards (IS) are useful guides, and for library software, the industry standards are the Library of Congress's Machine Readable Catalog- MARC, MARC's microcomputer format; the micro-computer Library Interchange Format- MICROLIF; and the new, post 1991 Format- USMARC/MICROLIF protocol. Programmes that meet these standards allow librarian to store and fully develop catalogue records. Any software library buy should meet CCF, MARC and MICROLIF standards.

3.3.4 Customer Support and Training

Choose a software company, Institute that will be able to assist library before, during and after the purchase. Ask the supplier and the supplier's current customers these questions:

- Are the products and services guaranteed, and what are the guarantee's details?
- Is there a change for post-sale support and if so, how much?
- Are the account specialists and technicians knowledgeable and helpful?
- Is support and training available when you need it?
- Dose support includes toll-free assistance?
- Is modem support provided?

3.3.5 Price

Do not limit your software shopping to inexpensive programmes. Consider software in all price ranges and evaluate price against features. Librarians may find that a more expensive program will do much more and provide a larger, faster payback or you may find it provide less. Whatever you do, buy good quality latest technology equipped software. It is far better to phase in a good system than to buy a cheap but inadequate one.

4. AREAS OF AUTOMATION IN LIBRARIES & INFORMATION CENTERS

Ranganathan's Five Laws of the Library Science stipulates the documents of the library should have maximum numbers of users. With the application of Information Technology (IT) in the areas of Libraries and information centers there has been a tremendous improvement in the library services offered by the library to the users.

Many Libraries mainly concentrated on the house keeping functions consists of acquisition, serial control, cataloguing, circulation, reference etc. In some libraries it has expanded on the library management system to incorporate OPAC's, WebOPAC'S, CD-Rom Networks, DTP, Office Automation etc. A large number of libraries and information centers in the world have automated one or more of the functions depending upon the type of libraries and information centers.

4. 1 Acquisition System

Covers initiation of titles for ordering including checking for duplication; the approval process; placing of orders; receiving materials; invoice processing and accessing. Requisition of payment; order follow-up; receiving and accessioning of free gift items are also dealt with. Online queries may be made on titles, orders, invoices, vendors and budget heads. Various reports such as approval request form; purchase orders; overdue notices; budget and expenditure analysis; payment requisition report, accession register, and bill register can be generated and printed on requirement.

4. 2 Cataloguing System

The cataloguing system maintained titles-in-process file of all items that are accessioned. They are than catalogued. Catalogued are also produced by data import, or by network down loading or by direct data entry. In addition, this system covers catalogue maintenance; thesaurus construction; authority files; and holding updates. Cataloguing System provides the facility to

provide Current Awareness Service (CAS) such as SDI. Special Bibliographies, and Lists of recent Arrivals.

It makes possible import/export of bibliographic data in CCF, MARC and UNIMARC formats; and automates the stock verification process.

4.3 Circulation System

The circulation system supports front desk operations such as checkins and checkouts, renewals, reservations and membership registrations. It provides the option to generate and print bar coded ID cards with the member's photographs. The system monitors titles on display, in circulation and in bindery, has overdue follow up and recall facility, inter library loan and stock verification. The circulation system keeps a complete log of all circulation transactions.

4.4 Serials Control System

The serial system provides for new subscriptions; subscriptions renewals; subscription extension; invoice processing; budget and expenditure analysis, recording of issues received (kardex update); claims monitoring; bindery management; recording and accessioning bound volumes; recording duplicate issues; special numbers; various indexes; online queries on various aspects of serial control including the holdings and circulation of all periodicals.

4.5 Article Indexing System

The article indexing system facilitates indexing and abstracting of articles from various journals, technical reports, conference proceedings, monographs etc. It includes scanning of articles, entry of citation, online searches on author, keywords/descriptors and even word-based free text searches. This system also provides periodic documentation lists, personalized SDI, bibliographies on specific subjects etc.

4.6 OPAC System (Online Public Access Catalogue)

OPAC system provides access to the library's holdings through various catalogues and indexes such as the author catalogue, the title catalogue, the subject catalogue, the classified catalogue, publisher's index, conference place index and KWIC/KWOC indexes. Also possible are combination searches using Boolean operators (AND; OR; and NOT) that yield highly satisfying and precise results. OPAC system also provides the facility to request acquisition of titles, to reserve materials, and to send personalized SDI, overdue/recall/collect notices and messages by e-mail

4.7 Web OPAC System

Provides an advanced GUI to enable searching of the library databases through Web Browser such as Netscape Navigator, Microsoft Internet Explorer, etc.

5. AUTOMATION SOFTWARE PACKAGES FOR LIBRARIES & INFORMATION CENTRES

A number of library software packages are presently available in the market for handling library resources. Broadly they can be categorized into three categories:

i) **Library management functions:** acquisition, cataloguing, circulation and serial control.

ii) **Management support facilities:** statistics, MIS, accounting and budgeting control and

iii) **Database and Information Retrieval Functions:** database design, maintenance, searching, generation of personalized SDI, catalogue cards, indexes and bibliographies etc.

5.1 Software Packages for Automation

Libraries & information centers are using a wide variety of library software for housekeeping activities, i.e., acquisition, cataloguing, indexing, abstracting, and circulation, information retrieval & services, i.e., OPAC, WebOPAC, CAS, and SDI and other administrative activities, such as accounting and maintenance, etc.

The CDS/ISIS software developed by United Nations Educational Scientific & Cultural Organization (UNESCO) predominates. This software is available at nominal cost to computerized library activities from NISSAT/DSIR, New Delhi. The commercial packages despites their higher costs are being increasingly used by libraries and information centers. i.e., LIBSYS, TROODON, ALICE for WINDOWS. There are some in-housed created software packages being used in libraries the DESIDOC, New Delhi for example, use it SUCHIKA, the INSDOC use it GRANRHALAYA, the IIT library Kanpur, use it IIT-KLAS and so on.

Some of the library software packages being used in Indian libraries and information centers for resource management are listed below

Developed Agency /Institute	Name of the Software (s)
1. Designed & developed by United Nations Educational Scientific & Cultural Organization (UNESCO) a organ of UNO, in India NISSAT/DSIR is the nodal agency for distribution and technical supports	CDS/ISIS (DOS) WINISIS (GUI)
2. Designed & developed by Defence Scientific Information and Documentation Centre, (DESIDOC) a unit of DRDO, Metcalf House, Delhi	SANJAY, DELMS, ILMS & SUCHIKA
3. Designed & developed by Indian National Scientific Documentation Center (INSDOC) a constituent body of CSIR, New Delhi.	CATMAN & GRANTHALAYA
4. Designed & developed by National Institute of Science Technology, and Development Studies (NISTADS) a constituent body of CSIR, New Delhi, with the financial support of NISSAT/DISR.	TRISHNA

Designed & developed by Developing Library Network (DELNET), India International Centre, New Delhi	DELSIS
6. Designed & developed by Information and Library Network (INFLIBNET), a autonomous body of UGC, Ahmedabad	SOUL
7. Designed & developed by Indian Institute of Technology, Kanpur	IIT-KLAS
8. Designed & developed by Soft Link Pvt., Australia, and marketed in India by Soft Link Asia, New Delhi	Alice for Windows OASIS for DOS
9. Designed and marketed by Libsys Corporation, Delhi	LIBSYS
10. Designed and marketed by ALGORHYTHMS Company, Pune	SLIM++
11. Designed and marketed by Soft-Aid Computer Private Ltd., Pune	LIBSUITE & LIBRARIAN
12. Designed & developed by Information TECHLIBPlus/Dimensions Inc, (IDI), USA and marketed in India by National Informatics Centre, New Delhi.	BASICPLUS
13. Designed & marketed by Frontier Information Technology, Securandrabad, Mahrashtra.	LIBRIS
14. Designed & developed by CMC, Ltd, Calcutta with the financial support of NISSAT/DSIR	MAITRAYEE
15. Designed & developed by Nirmal Institute of Computer Expertise, Tiruchirapalli	NIRMALS
16. Designed & developed by International Development Research Centre (IDRC), Ottawa, Canada	MINISIS
17. Designed & marketed by WIPRO India Banglore, India	WILISYS
18. Designed & marketed by Datapro Consultancy Service, Pune	LIBMAN
19. Designed & developed by GB Pant Institute of Himalayan Environment and Development, Almora, India	PCLMS

20. Designed & marketed by Comtek Service Pvt. Ltd, Malviya Nagar, New Delhi	TROODON (2.2)
21. Designed & marketed by Amita Consultant Ltd, Mumbai	NILIS
22. Designed & marketed by MINIFAX Electronic Ltd, Mumbai	ARCHIVES (1-2-3)
23. Designed & marketed by IVY Systems, Delhi	GOLDAN LIBRA
24. Designed & marketed by ISI Research Company, Philadelphia, USA	ProCite-5
25. Designed & marketed by Tata Unisys, Noida	TULIP
26. Designed & marketed by Kashab System Software, Chennai	LIBMAN
27. Designed & marketed by Ea lib corporation, Bangalore	EASYLIB

CONCLUSION

Automation Technology has now changed the old concept of libraries and information centers worldwide. Computer Communication Technology (CCT) is growing very fastly and also progressing very rapidly. Sooner or later the benefits of the developments of Computer communication Technology (CCT) is bound to be available in Indian Society. In the new information society these newly emerging high tech disciplines such as computers, telecommunication, Internet etc are given importance because they gather, store, generate, manipulate, process, communicate, evaluate information and data with high speed and more accuracy.

REFERENCES

1. Brochure on SLIM++ - System for information and management, Algorhythms, Pune. 2001.

2. Brochure on SOUL – Software for universities libraries- a total solution for library automation and management. INFLIBNET, Ahmedabad, 2001.

3. Brochure on Libsys4 – an integrated library system. LibSys Corporation, New Delhi, 2001

4. Brochure on Lib*Suite* – An integrated library management software. SOFT-AID, Pune, 2002

5. Brochure on ..AfW- Alice for Windiw- Library automation software. Softlink Asia, New Delhi. 2002.

6. Bridge, Frank (1993). Selecting a library automation software vendor. *Library Journal*. 1993, 117 (1); p. 56-57.

7. NISSAT Newsletter, 1991, 10(3); p 3-9.

8. Rivindran, Sreedevi (1997). Bibliographic Database: Software Issues. *DESIDOC Bulletin of Information Technology*, 17(5); p. 11-16.

9. Saxena, S.C. and Mehta, S.N. (1992). Software packages for libraries. *In* Advances in library & information science, edited by edited by C D Sharma and D C Ojha, V.3. Scientific Publishers, Jodhpur; p. 143-56

10. Srivastava, R.K. and Saxena, S.C. (1997). Software requirements and existing software in India for library automation, Paper presented at the Indo-British Meet on Library Networking 14 –15 Jan 1997, DELNET, New Delhi.

11. Saxena, S.C. and Srivastava, R.K.(1998). Evaluation of library software packages available in India. *DESIDOC Bulletin of Information Technology*, 18(5); p. 9-17.

12. Vyasmoorty, P. (1992). Software Packages in India for Library and Information Work *In* Advances in Library and Information Science, edited by C D Sharma and D C Ojha, V.3. Scientific Publishers, Jodhpur; p. 157-65.