

# AUTOMATING THE HOUSE-KEEPING OPERATIONS - EXPERIENCE AT THE IGM LIBRARY, UNIVERSITY OF HYDERABAD

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## ABSTRACT

*This paper presents the experience of the Indira Gandhi Memorial (IGM) Library in automating its house-keeping operations. It discusses at the outset the need for library automation and lists in brief various areas of library house-keeping operations that are amenable to automation. It further describes in detail the effort made towards the library automation i.e. the initial efforts; the hardware and software selection and up gradation; building of database; link to the Campus Network and introduction of barcode technology to improve the efficiency of the circulation procedures etc.,.*

### 1. Introduction :

The term automation refers to the mechanization of various routines and repetitive tasks performed by human beings which does not involve reasoning or decision making. Automation reduces considerably human intervention during the performance of a task. Initially when the computers appeared for commercial use the costs were very prohibitive and was beyond the reach of most libraries especially in the developing countries. The introduction of personal computers in the market has revolutionized the computer world and has made computers within the reach of not only the libraries but also individuals.

Further, the initiation of co-operative networking of libraries/information centers using computers and modern communication system has transformed the very concept of libraries as just passive centers of storage to dynamic information service centers with no boundary limitation. Network now operates at all levels from local, regional to global one.

### 2. Library Automation :

Library automation implies the use of computers and other semi-automatic devices like the reprography, microfilms etc., in various operations of the library. In recent years the term library automation has come to mean the use of principally computers along with its peripherals, and the computer based products, in performing various library routine activities and user services.

Library automation in India has mainly taken place in the special libraries attached mainly to scientific and technical libraries. National Information System for Science and Technology (NISSAT) has provided the impetus to the process of automation of special libraries by funding training programs, software development projects etc. The main emphasis in these libraries have been in the area of database development and Information retrieval services.

The academic libraries in India have lagged behind in the utilization of new information technologies with a few exceptions such as the IIT libraries, IGM Library of the University of Hyderabad, etc. The reason could be attributed to the lack of adequate finances and also less demanding users. Apart from these another major constraint is the non availability of suitable trained personnel.

The scenario has slowly changed with the UGC taking the initiative to plan for a computer-communication network (INFLIBNET) linking various academic and institutional libraries. This networking is expected to have tremendous impact on the user based services and operational efficiency.

### 3. Need For Library Automation :

Due to information explosion, change in the trend of research from individual to group activity, and the proliferation of publications, the traditional methods and services used in the library are becoming fast redundant. The need now is for efficient

organization, storage and quick dissemination of information in a packaged form compared to the conventional method of providing just the reading material or the source to trace data. Computers with their capability to perform a task with speed, accuracy; the capability to store vast data and retrieve with super fast speed have had tremendous impact on the library and information science field. With the emergence of computer - communication networks in 1970s the libraries have gone beyond the confines of four walls and are able to participate in co-operative resource sharing.

Another development that has given great impetus to library automation is the introduction of CD-ROMs which has high level of storage capacity. Further it is possible now for the users to directly login and access the information they require at their desk without being physically present in a library through a PC, even from long distances.

#### **4. Areas of Automation for House-Keeping Operations :**

The various library operations amenable to computerization are:-

1. Acquisition
2. Cataloguing
3. Serials Control
4. Circulation

Apart from the above, many areas of administration and maintenance can be made systematic and efficient through computerization.

##### **4.1 Acquisition :**

Manual acquisition system requires the maintenance of vast amount of data, innumerable files, records, etc., which involves tedious routine, repetitive tasks. The computers can perform these tasks faster and more accurately. Even book sellers are now going in for computerization. So much so that in developed countries the interaction between libraries and book traders is through teleordering.

##### **4.2 Cataloguing :**

Catalogues are the windows to the collection of the library and automation in this area of library has far reaching effect on the quality of services. In a manual environment many man hours of professional staff are invested in the preparation of number of cards for each book, sorting and filing of the cards. Next checking for duplicate entries is another tedious and

time consuming process. In an automated system once the relevant data are input into the computer the generation of various approaches is very fast and efficient. The duplicate checking can be done quite efficiently through computers as it facilitates search from any approach to any library material by an user.

##### **4.3 Serials Control :**

Serials control is a very complex process involving large number of publications and expenditure to be handled. Further, the problem of keeping track of receipts, reminders and non-receipt claims; title change, periodicity change, merger of titles etc. is quite a task to be manually managed. Automation makes most of these tasks very easy and efficient. Apart from these, generations of many types of data manually is time consuming and at times not at all possible which is facilitative by the use of computers. For example lists of serials - subject-wise, frequency-wise, currency-wise, country of origin, publisher-wise etc. can be easily generated. These datas not only help the library professionals in the proper management of the collection but helps the users in getting data from their own approach.

##### **4.4 Circulation :**

Circulation section involves direct interaction between users and staff, and therefore requires efficient and speedy service. The transactions at the circulation desk - charging, discharging, reissues, reservations, overdue reminders etc. are time consuming, highly labour intensive and error prone. Introduction of automation tremendously improves the speed, efficiency and accuracy of the transactions. The trend these days is towards integration of circulation control systems with other functions such as online public access systems, inter-library loan, etc.

#### **5. Library Application Software :**

The application software selection is the most important component of library automation. There are various in-house developed software as well as commercial software packages available. It is essential to decide at the outset itself whether to purchase a commercial software or develop in-house. A fully developed and tested library application package should be preferred if the library is to immediately commence the computerized services. Development of in-house software is time consuming and not cost effective. On the other hand the commercial packages are extensively pre-tested, more cost effective (as the development cost is distributed over the number of copies) and

standardized. During the purchase of a commercial package too the library should ascertain in the beginning itself whether the software package will satisfy its requirement.

Sharma lists ten qualities as pre-requisite for a software package to be considered for a library:

1. Data base management system features
2. High level integration
3. Data entry facility
4. Data updation/Editing
5. Search/Enquiries
6. Report/Display/Print
7. Menu Driven and user friendly
8. Compatibility
9. Reputation of the sponsoring agency
10. Scope for local variation

Some of the well known Library application software packages available are listed below:-

MINISIS	LIBSYS
LIBRIS	WILISYS
LIBRARIAN	DELMS
CDS/ISIS	MAITRAYEE
LIBRATOR	SANJAY

## 6. Library Automation at the Indira Gandhi Memorial Library, University of Hyderabad :

### 6.1 The Transition Phase :

The Indira Gandhi Memorial Library initiated its library automation process in the year 1989 by procuring a PC-AT Intel 80286 with 4MB RAM, 80MB Hard-disk, MS-DOS and Xenix operating systems. Initially some programs were developed in dBase-III+ for producing catalogue cards on the continuous card stationery and monthly list of additions to the Library. In this process, the data for the new books became available in machine readable form from May 1989. The database was created for searching by author, title, subject and other access points. Simultaneously, to help journal subscriptions, a database for journals subscribed, giving addresses of publishers, vendors and other details was created. A programme was developed to print this data in a variety of useful formats for helping calculation of subscription

estimates, reminders for missing issues, etc. After the success of the two modules described above, it was felt useful to locate the journals being subscribed by other libraries in Hyderabad. Thus, a Union List of Current Serials in Hyderabad was brought out which contained 5642 journals subscribed by 30 major libraries in Hyderabad. An effort was made to estimate the extension of duplication of journals among these libraries was drawn and reported.

### 6.2 Software Selection :

To effectively utilize the data already available in machine readable form, after a thorough market search, during the year 1990 an integrated library application software (LIBSYS) developed by LIBSYS Corporation, New Delhi was procured under Xenix O.S. All the book records available in the machine readable form under dBaseIII+ were converted into the LIBSYS software package. Xenix is a multi-user operating system on which LIBSYS is available and it was suitable that time for our requirements. LIBSYS: an integrated library application software provides facilities for acquisition, cataloguing, circulation, serials control and online public access catalogue.

### 6.3 Building the Database :

Simultaneously, during the year 1990 to quickly make the services available to the users more effectively, the books data was also captured from the circulation records. The books being issued out at the circulation desk were considered as the books most sought. Thus, the database was built with the highly used and demanded books. The data about the new books in dBase, since 1989, was appended to create the Library database. Even though, the database contained about 35,000 records at that time, it was having the details of most of the relevant live collection. Using these methods within the limited disk space and time available, the Library could capture data pertaining to maximum books in its collection at that time.

### 6.4 Up gradation Process :

During the year 1991, the 80286 system was upgraded to 80386 and the Hard-disk from 80MB to 200 MB. Two Diskless PCs were also added and were placed at the Circulation Desk and was connected to the main system of the computer section. The Library was simultaneously operating its activities in manual and automated environments. In the initial stages the Library went through many problems mostly technical in nature but could solve successfully with frequent interactions with the

software and hardware vendors. During the year 1993, the Library again upgraded its systems by acquiring a 80486 system with three VT 220 terminals, printer and Unix operating system. The Library database created as on that date was transported to 80486 system under Unix operating system. This facilitated quick and efficient operations at different sections. The LIBSYS package was also upgraded on to the Unix Platform. The Library could conduct training programmes to its staff members to handle various modules of the library software package.

### **6.5 On to the Campus Network :**

During 1994 the Library was also hooked on to the Campus network through a thick ethernet. This facilitated the Campus to use the library catalogue over this network. The experience made us to realise during that time that the Library required both online and batch mode features. The amount of data editing for catalogues and providing the classification numbers and book numbers on the books, issue slips and in the system itself involved lot of procedures and physical dislocation of books and data.

### **6.6 Final Phase of Automation :**

During the year 1994, with the special one time grant from UGC under modernisation of library facilities, we could procure and install in the Library a mini system DEC Alpha 2000 Model 300 AXP, 64 bit System with 6 GB Hard Disk, 16 80386 PCs, 4 multimedia systems, printers, 7 Drive CD-ROM net, Flatbed and handheld scanners etc. The new System has OSF/1 (Unix) operating system and pathworks software for CD-ROM net access. All these systems are connected to the earlier systems of the Library and also onto the Campus wide Local Area Network (refer Annexure).

With all the initial problems and with constant up gradation of hardware and software and continuous training programmes to the Library staff members over the years, the Library could achieve introducing automation in all the sections of the Library. The Library could convert (retrospective conversion) all the book records i.e. 2.35,000 volumes into the database by February '95, which was made available for access also across the Campus wide Local Area Network apart from within the Library. Serial holdings data is ready now and is available on the network. Computers are installed in all the sections of the Library for the Library staff to work.

### **6.7 Bar coding Technology :**

We could strengthen our circulation counters with bar-code equipment for accuracy and speeding up of operations. All the books are being bar coded now. All the books added from April 1995 are simultaneously bar coded in the Acquisition/Technical Sections. The preprinted self adhesive barcode labels are made available at the circulation desk for pasting them in the books at return counter. During the semester/summer holidays we plan to shift this work to the stack area to cover all the other books on the racks.

### **6.8 Online Public Access Catalogue :**

Six PCs are placed in the entrance lobby for Online Public Access Catalogue (OPAC) where users can search the Library database. Continuous training and guidance is provided to the users at the OPAC terminals apart from the instructions (search strategies) placed near all the OPAC terminals for reference. There is overwhelming response from the users. Training programmes are also planned for Network users. We could achieve this level of automation with the generous special grants from UGC under modernisation programme, constant encouragement, support from our Vice-Chancellor and involvement of enthusiastic Library staff members. Twenty five Library staff members are trained as on date to handle various modules of LIBSYS package. We will achieve the training of all the professional staff in due course of time.

### **7. Conclusion :**

With the house-keeping operations almost fully automated and implemented and also with the acquisition of number of multi-media PCs., seven drive CD-Net and Scanners, the IGM Library has plans to venture on to provide many more new services to its users. Library has plans to conduct library automation training programmes with the emphasis on practicals.

It is hoped that the experience of the IGM Library would not only benefit those libraries which have already initiated the automation process, but also inspires many more libraries to launch on the automation of their house-keeping operations too.

