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INDIAN INSTITUTE OF ASTROPHYSICS LIBRARY AUTOMATION : A CASE STUDY

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1 INTRODUCTION

IIA Library has a collection of 12,500 books and 16,600 bound volumes of periodicals. It is a medium sized specialized library both collection wise and service wise. There are some 350 active users for this library which has 2 more branch libraries situated in the field stations. We have attempted to automate some of the library functions.

We have partially succeeded in creating the database of books using CDS/ISIS version 2.3 and we found the storage and retrieval of our collection of books is quiet efficient with the use of this package.Since we automated different functions at different times, we have another package for circulation control which is written in dbase III plus.Though it has its own limitations, it is a simple and easy to use package.Serials control is another major function in the library for which we engaged a software expert to design a package with additional features suited to our library.

Here we have tried to share our experience in handling all the 3 software packages with limited resources.Some ofthe points we have highlighted are with special reference to the time and cost factor which may be useful to our colleagues.

2 SOFTWARE FOR DATABASE:

CDS/ISIS 2.3 Version (Computerised Documentation Service/Integrated set of Information Systems) is a generalised Information storage and retrieval system designed specifically for the computerised management of structured non-numerical data bases whose major constituent is text.

One of the major advantages offered by generalised design is that the same set of computer programs is able to manipulate an unlimited number of databases each of which may consist of completly different data elements. The package can be run on IBM-PC/XT, PC/AT under MS-DOS operating system. The package is made available by UNESCO free of cost to institutions in developing countries under licence agreement. In India, the package is distributed by National Information System for Science and Technology (NISSAT).

21 Hardware Requirements:

The following are the hardware requirements

IBM-PC-AT/XT or compatible equipment
512K RAM memory (640K recommended)

1 Floppy disk unit
1 hard disk- 40 MB
1 (monochrome or colour) screen
1 Printer

22 Features

The features are :

-it is menu driven and one can enter, modify, correct, and delete records

-it can support up to 999 fields / records

-it is capable of handling variable field and record lengths

-it allows multilingual menu / messages for English, French, Italian, and Spanish

-it automatically builds and maintains fast access files to each database

-it can create several data bases containing the required elements

-it retrieves records by their contents, through a sophisticated search language

-it has powerful indexing capabilities

-it sorts the records or portions thereof according to one's requirement and

-prints partial or full catalogue from any given data base.

23 Limitations

The limitations are :

-It is not an Integrated package and does not directly support specialized functions such as acquisitions,serials control and Circulation.However, includes application development language,called CDS/ISIS PASCAL, in which programs can be developed to support these functions.

-It requires some knowledge of and experience with computerised Information systems and needs special training.

-Further, the manual available is introductory and has to be written with more details of the software .It is also silent about the error messages that frequently occur when using the software.

24 Time & Cost Analysis

The following table gives a time and cost analysis :

Familiarisation	6 months	
Training	4 weeks	Rs 2,200.00
-CCF Format Training	3 days	
-Installation of the package,	2 days	
-Design of work sheet,FST & Display format		
-Adoption of CCF Format and use of a Conversion program	1 week	Rs 2,000.00
-Test Run	30 days	
-Consultancy	15 days	Rs 200/- (Per visit)
-Recovery of corrupted data using Master recovery program	2 weeks	

241 Time and Cost Factor for Entering 50 books

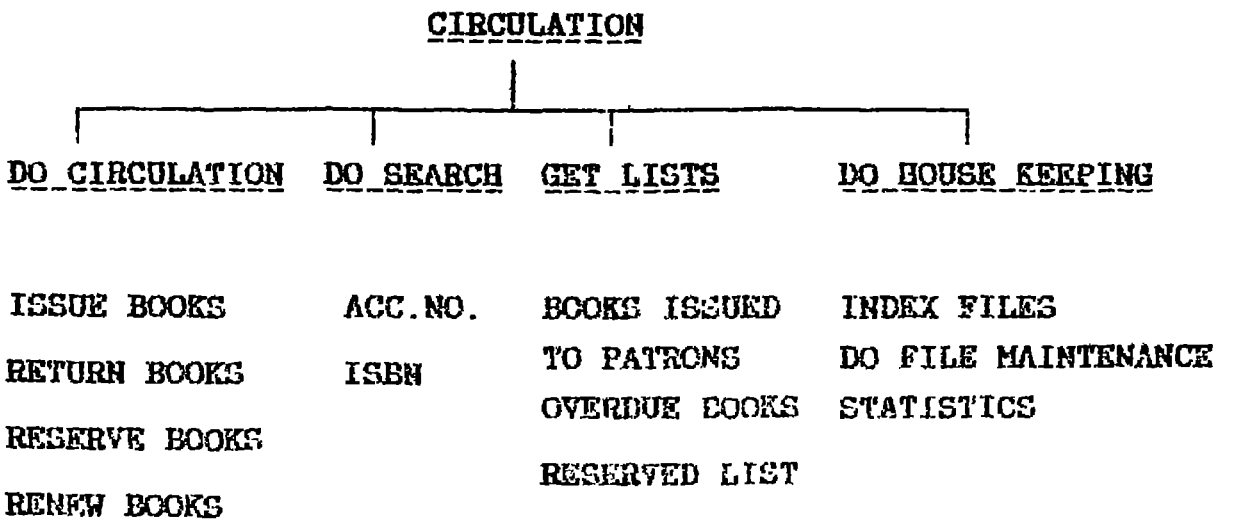
Preparation of Data Slips by semi Professionals	7hrs	Rs 100.00
Checking & Assigning Thesaurus (Astronomy and Astrophysics,AA3A) Key words by professionals	2hrs	Rs 30.00
Data entry by data entry Operators	2hrs	Rs 65.00
Checking & Editing by professionals	2hrs	Rs 30.00
Debugging and Consultancy by an Expert	2hrs	Rs 100.00

CDS/ISIS version 2.3 package was installed last year and a data base for books was started. The work sheet was designed incorporating all the data elements as per our catalogue card.Unfortunately, our data base was corrupted when it had 2600 records. At that point Master recovery program helped us to recover 1800 records. Editing and rechecking was done for allthe 1800 records and for remaining 800 records which were completely corrupted we had to re-enter them.

CCF Format was incorporated mainly for networking and uniformity. A program called Pygmallion designed by Mr A R D Prasad of DRTC was used for data conversion. Our data base now contains about 5000 books.The initial data entry was done by library staff and later it was assigned to data entry operators.

3 CIRCULATION PACKAGE

To begin with Circulation Control package was developed using the dbase III plus.Later, the programs in the package were compiled using the clipper compiler.Now the package works with a single executable file with its associated database and index files.The system can run on any IBM PC/AT or XT computer,preferably with a hard disk.The package is highly user friendly and menu driven and needs very little training.



Database files are BOOKMAST.DBF

ISSUE.DBF

RESERV.DBF

MEMBERS.DBF

There are several Index files associated with the above database files.

31 Time analysis

The following is the time analysis of the Circulation-package -- Circmain designed and developed indigenously by our Computer Staff

Design & Development of the Package		3 months
Installation & Test Run		7 days
Training		2 days
No of Books entered	1600	7 days
Total Number of Members	350	
Daily Transactions(Issues & Returns)	50	2hrs/day

4 SERIALS CONTROL

'Serial Control System (SECOSYS) is a powerful tool for managing subscriptions,check in and claims for Journals. It also generates a whole lot of reports.We present here some of the general features and functions of the package.The package was designed and developed by Mr. M. Gopikrishna, Codesoft (P) Ltd. New Delhi 110 030

General Features:

The general features are :

- User Friendly
- Menu Driven
- Easy data entry
- Little training required to use the system
- Software can run on PC XTs and ATs with hard disk storage

41 Ordering System

The user is allowed to subscribe to a journal, by entering details about the journal, publisher/agent. All subscriptions directed to same agent/publisher can be then printed in a standard format. Details about invoices and payment details are also stored in the system. This enables the librarian to keep track of the funds that have been used up for journals. A warning system to inform the librarian about renewal of subscription is also available.

42 Database

The Database is primarily constituted by six files, one each for storing the

-Journal details such as name, publisher, current volume, issue numbers next issue date, periodicity and wait period.

-Remiaders, that contains details about issues of journals that should have been received by now.

-Holdings file, indicating the exact volume numbers of a journal available in the library

-Missing journals File,indicating issues of journals that are missing from the library

-Yearly arrivals file indicating issues of journals that have been received by the Library

Binding File, containing a list of volumes of journals that are ready for binding.

The database also has files for static data such as vendor details, (Publishers and Agents), subjects and Locations.

All the above files are updated automatically on a daily basis. The user is expected to enter arrivals to the

library on a daily basis. Based on this entry, the system automatically updates and keeps track of reminder letters (upto Three) to be generated.

Security System Maintenance provides the ability to maintain the Security of the Database.Only category 1 users may perform security maintenance. —

4.3 Outputs

The system allows for enquiry on various files based on a number of combinations. Results of these queries can be then printed out in user defined formats. For example, we can get reports for

-subject-wise list of journals

-subject & publisherwise list of journals

-Weekly journals for a specified subject

-holdings for a specified journal

-missing issues for a journal

-all vendors in a specified location

-location-wise list of journals

4.4 Cost and time factor analysis:

The following is cost and time factor analysis in relation to SECOSYS:

Software Cost & Training	Rs 12,500/-
Training for 2 persons	One Week
Preparation of data Slips for 140 journals by professional	One Week
Inputting the data slips for 140 journals by professional	3 days

5 CONCLUSION

We have managed to computerise most of the functionswith a limited budget. Though these programs are not integrated, they take care of all our requirements. Our computer staff is presently working on a software to link CDS/ISIS and Circulation package.