

## **Computer-based Periodicals Management System in SAC Library**

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### **ABSTRACT**

The paper discusses the efforts made for a Periodicals Management System developed and designed for implementation in SAC Library, using DBASE III software. It briefly describes the computer programmes in PMS and highlights the present system which is implemented by using 'LIBSYS', a comprehensive library software package and a multi-user system on Pentium system, under Unix environment.

### **1. INTRODUCTION**

Information is an essential resource for development. It is a key factor, both in decision-making as well as in subsequent actions to be taken by an organisation for development and research. We are living in the age of information explosion. This is evident from the large number of periodicals and books published in the world every year. The number of articles and papers being produced in different branches of knowledge every year is mind boggling. The age of 'information society' is round the corner.

Surveys reveal that scientists, technologists, doctors and decision makers, most frequently use periodicals as primary sources of information. Periodicals constitute the most important segment of technical literature on which library and

information services depend. They are considered as the backbone for research and development and SDI services. The problem of controlling serials by computer remained a challenge for a long time. It is considered as one of the most difficult house keeping operations to be automated, mainly due to the unpredictable nature of serial publications like susceptibility to change of titles, scope, publisher, frequency of publication, price, etc.

### **2. NEED FOR AUTOMATION**

Automation of periodicals management requires utmost concentration and staff involvement. It is one of the most complicated technical processes carried out by a library. The following characteristics necessitate the need of automation in handling periodicals.



■ Periodicals are often the most important and most frequently used material among a library's collection. Hence, an ideal serials control system is required for its effective utilisation.

■ Serial publications come in different formats and frequencies. Often, there is irregularity in the publication schedule, etc.

■ The cost and time required to send renewal orders, reminders, and for processing and maintaining them is constantly increasing.

■ Serials control function can usually be isolated with minimum disruption of other library functions. To control the significant and complex problems, considerable manpower is required.

In a computerised system, organising financial matters, charging in the appropriate account, organising for complete volumes of serials to be bound, and keeping current and accurate details of serials holdings is easier.

### **3. PERIODICALS CONTROL IN SAC LIBRARY**

SAC Library currently receives 540 journals and have more than 12,000 bound volumes. On an average 10 to 15 journals are added every year. Manual control of periodicals using conventional methods is not conducive to meet the specific requirement of the users in the least possible time. Because of the multifarious problems being faced, it was decided to automate the procedures relating to periodicals control.

### **4. CONFIGURATION AND SOFTWARE**

In the beginning efforts were made to design the system using DATATRIEVE

software and FORTRAN language on VAX II/780. An HCL PC XT was installed in SAC library in the year 1987 on which the present system was implemented using dBase III+ package.

The database of holdings of periodicals in SAC Library was created using dBase III software. This simplified its regular updation with speed, accuracy and efficiency with less manpower. The database was updated in 1986, 1991 and 1994. The holdings database is useful in getting several outputs like missing issues list, subject-wise list, country-wise list, frequency-wise list, and current list of periodicals. Missing issues list is generally required to complete the lacuna of backfiles of journals.

In addition to the holdings of periodicals, other outputs were also obtained by using the same database. these include vendor's list, publisher's list, status-wise list, subject list, list of duplicate issues, renewal orders list, etc.

In 1990, it was decided that the library information system should be in multi-user environment, so that many in-house activities and users can be handled by the system at a time and also that in-house activities should be integrated. Therefore, a Wipro Genius 386 with 380 MB hard disc, an eight port card for eight terminals with Unix Operating System was installed in the Library.

At this juncture, it was felt necessary to have an integrated library management software package. From the available ready made library software packages, 'LIBSYS' software developed by M/s INFOTEC Consultants Pvt. Ltd., New Delhi, was found suitable for our requirements. It is an integrated multi-user library information management system which supports all in-house activities and public access information system. It has maximum

possible integration of functions, where data entered once can be accessed from various angles with powerful search and query facilities. It was obtained and installed on Genius 386 in October 1991.

Recently a Pentium microprocessor with the following configuration has been installed :

60 MHz Pentium Microprocessor  
16 MB RAM  
1 x (1.2 + 1.44 ) MB FDD  
1 x 1 GB SCSI Drive  
150 MB CTD  
256 KB External Cache Memory  
Intelligent 16 Serial Port Card  
1 MB Video Memory  
14" Colour Monitor with VGA card  
LAN (32 Bit).

## 5. SERIALS CONTROL

Serials are distinguished from monographs by their ongoing nature. Any serials control system may have fewer titles to handle but must record more details for each title and can expect a greater number of transactions per title. It is one of the most cumbersome and expensive procedures due to the cost of acquiring and maintaining serials, complexities of manual procedure of ordering, check-in of serials, claiming of missing issues and its follow-up, and cost of binding and related paper work. Also, most of the serials records are subject to some change in title, frequency or publisher. Hence, an automated serials control system with following functions is desirable.

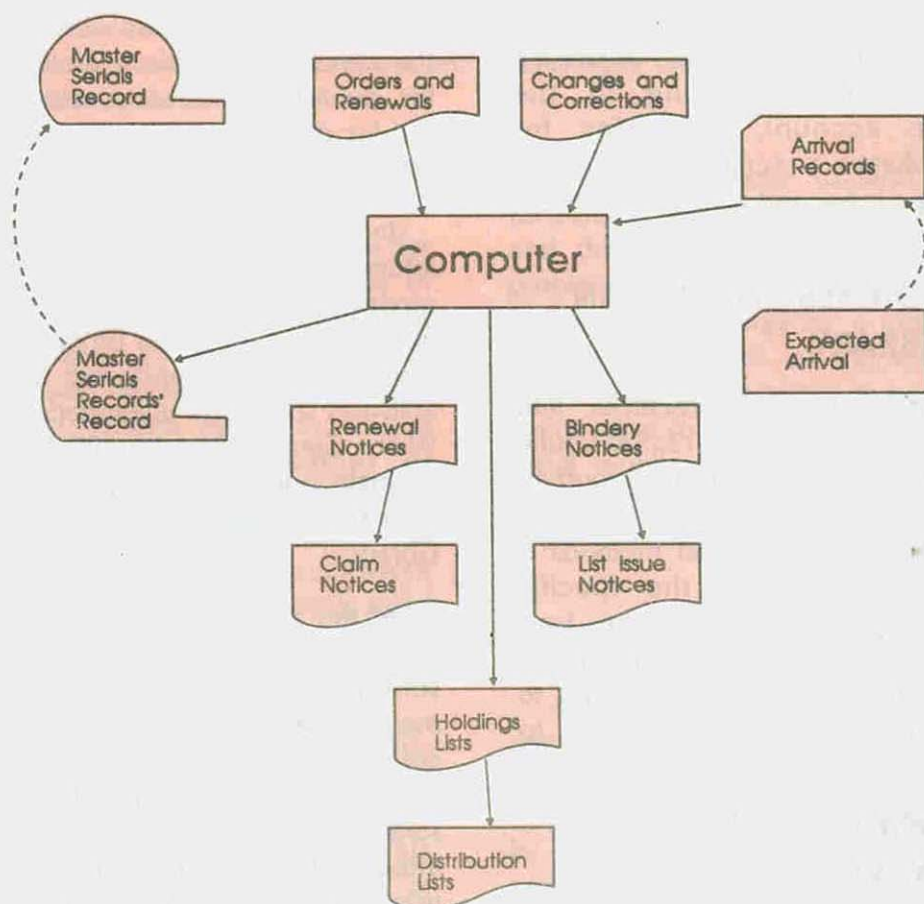


Figure 1. Schematic diagram of the serial control subsystem.



(a) *Establishment of policies and procedures:* determination of procurement procedure.

(b) *Maintenance of procedure manuals :* Performance analysis, user feedback analysis, collection analysis, and inter library loan/holding lists.

(c) *Establishment and maintenance of subscription control :* Review of new order requests and renewal requests, preparation of subscription renewal lists, order preparation, fund accounting, and vendor and source file maintenance.

(d) *Establishment and maintenance of bibliographic file control :* Cataloguing of new serials, recataloguing of old serials, preparing serials record entry, provide cross reference controls, update serial holdings, and transaction control (additions, changes and deletions).

(e) *Recording of incoming receipts :* Sorting incoming issues, bibliographic identifications, posting to control file, recording changes in bibliographic control, information for file updating, and claiming titles not received.

(f) *Materials handling and collection control:* Sorting and shelving issues, servicing request for serial issues, circulation control, storage of title pages, indexes, etc., maintenance and binding control file, missing issues control, and preparation of 'want' lists to complete holdings.

(g) *Output generation and dissemination:* Preparation of serial holding lists, accession bibliographies, union list, and printing of order forms, subscription renewal lists, claim notices, binding notices, prepare serial check-in forms or arrival cards.

(h) *Reference and retrieval :* Processing bibliographic verification enquiries, selection and dissemination uses, and bibliographic control of serial catalogues.

As mentioned earlier, LIBSYS — is being used for different activities of SAC Library. Presently, LIBSYS version 2.3 is being used. It is easy to operate and the staff can learn it quickly without any pre-requisite programming/computer skills. It ensures high productivity because of minimal data entry requirements. LIBSYS supports almost all activities relating to acquisition, cataloguing, circulation, serials, article indexing and online public access catalogue.

## 5.1 Serials Control in SAC Library

The Serial Control Sub-system of LIBSYS is an independent system in SAC Library which provides control of periodical subscriptions and subsequent monitoring of the scheduled arrival of individual issues. It maintains a record of budget sanctioned for serials under different categories, amount encumbered and expanded for complete budgetary control. This sub-system also handles serials on subscription, gratis or on exchange.

## 5.2 Serials Menu

The functions of Serials Menu as shown in Fig. 2 and are discussed below.

### 5.2.1 New Subscription

New subscription of a serial is initiated in this system by entering its basic details, such as title, publisher, ISSN, country, annual subscription, etc. The titles initiated for new subscription pass through the approval process by printing an approval form. After approval status is recorded, the new serials are available for ordering. Ordering involves specifying a vendor and selecting approved serial(s) for the order. After placing an order, the important function is to update subscription details. The worksheet details are shown in Fig. 3.

The information to be provided in this worksheet should be perfect, since it plays

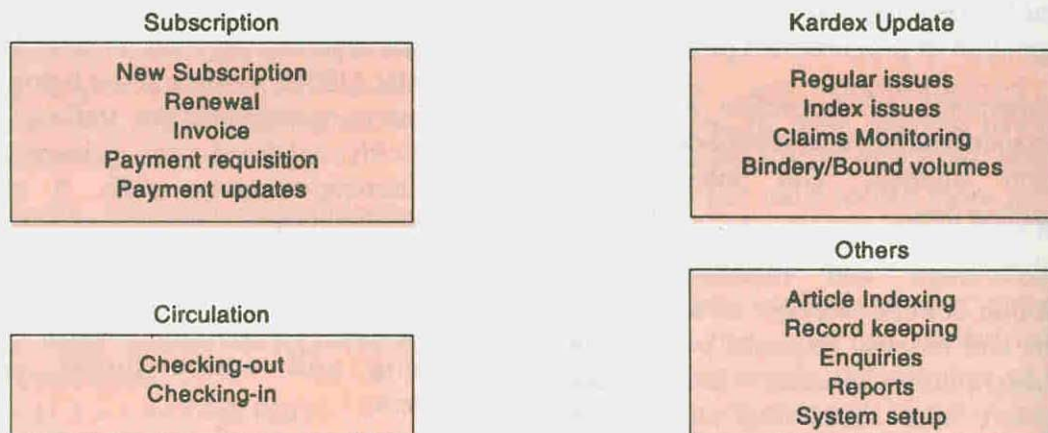


Figure 2. Functions of serials menu.

a very important role in generating reminders. The order forms are automatically printed for direct mailing. For new subscriptions, the system monitors their status as 'specimen copy requested', 'send for approval', 'approved', 'ordered', 'billed', 'paid for' and 'first issue received.'

### 5.2.2 Subscription Renewal

The subscription renewal procedure is basically the same as for new subscriptions involving approval process and ordering. It commences with the printing of renewal

request form in which titles to be renewed are listed alphabetically. Such a list may contain budget information also. This list is used for getting approval in the renewal of specific serials. Separate orders are printed for subscription renewal and new subscription.

### 5.2.3 Invoice Processing

Invoice processing involves matching invoices received from vendors against orders placed with them, payment

Title :			
Publisher: Subs :	Airmail	Other	Curr:
Delivery Mode:	Airmail/Surface mail		Vol. Roman.:
Volumes:	Issues:	Prd:	
Copies :	Issue/year:	Vol/year	Iss/Vol :
Volume Cost :	Issue Cost {Rs.}:		
Budget Head :			
Vendor/Direc:	Subsc Mode:		
First Issue on :	Intransit Period (Days):	Is Issue No. continuous:	
Recpt Control on :	Vol:	Issue:	Vol/Iss:Period:
Subsc No :	Vendor Ref.:		
Vol overlap with previous year (Y/N):			
Vendor :	Set No :		
Part/Iss :			

Figure 3. Worksheet for update subscription details.



requisition and lastly payment cheque updates.

For the ordered title, its details such as subscription period, volume, discount, exchange rate, etc. can be changed as per requirement. The system allows for more than one invoice for an order and keeps an up-to-date status of each order with respect to titles ordered and billed against it. It also accepts supplementary invoice for any title.

When invoice amount matches with the net total cost of each serial billed, the invoice can be processed for payment. Payment requisition involves preparing requisition form for getting sanctions and payment from the Account Section. Once a requisition has been processed, no more invoices can be added to the requisition, however, invoices can be removed from a requisition already processed if these are not to be paid. Once a requisition form is processed, it can be printed through the 'Reports' function.

After verification of bills, cheque/drafts are prepared by Account Section and sent to the library for necessary transaction to the vendor/publisher. 'Payment updates' allows required information to be entered like cheque number, cheque date, bank drawn on, etc. Reports are generated, which can be sent to the publisher/vendor. It is essential that payment details are entered for all the vendors in the requisition form.

#### **5.2.4 Receiving Issues**

Receiving issues is one of the most important functions of the system which uses a well-designed screen requiring entry of minimum possible data. It involves recording of volume and issue number/period which ever is applicable for the serial. There is separate facility for special issues and additional issues respectively. This function automatically

updates the serial holdings. It has a provision to record damaged/soiled issues for subsequent replacement. Duplicate issues whenever recorded are flushed, however, it allows the recording of the same in the serial holdings to enable generation of 'duplicate issues' list.

#### **5.2.5 Claims Monitoring**

Monitoring of issues to be received as per the respective frequency of each subscribed serial basically involves generating notices which could be mailed directly to the vendors/publishers for overdue, not received and received damaged/soiled issues. The following functions are used for monitoring of issues:

- Schedule updates
- Reminder notices
- Display reminders

(a) *Schedule updates* : This function allows entering the schedule of irregular issues of a serial. For serials having regular frequency such as monthly, or quarterly, the schedule is automatically developed on the basis of the first issue scheduled and in-transit delay (in days).

(b) *Reminder notices* : The notices to the vendors/publishers are generated which list out the serials having 'overdue', 'missing' and 'soiled/damaged' issues. For each serial, complete details of all the issues for which reminders to be sent to the vendor/publisher, are given in the notices. These also contain the reference and date of the last reminder sent for each issue.

While developing reminders, the system asks for the subscription year for which reminders are to be generated. As the subscription year is entered, the system identifies the overdue, missing and soiled/damaged issues from the current holdings of each serial and generates reminders to be sent to the vendor/publisher



for the specified subscription year. Reminders are also generated one by one by giving alpha code of the journal or title or ISSN number whereby it generates reminders for specific journals.

(c) *Display reminders* : This function shows the number of reminders sent for each overdue/not received issues of serials.

### 5.2.6 Bindery Management

The following functions relate to the management of binding of loose issues of serial.

- Bindery update
- Bindery order
- Bound volumes
- Back issues
- Checking out of loose issues

(a) *Bindery update* : On selection of this function, the system scans the current holdings of loose issues of various serials and reports for serials whose volumes are completed. While listing out the completed volumes, it assigns a control number to each complete volume which is used for subsequent bindery order generation.

(b) *Bindery order* : This function is used to generate order for bindery from the records of the completed volumes. Once the bindery order has been processed, no more serials can be added to the order; it can be printed through the 'reports' function.

(c) *Bound volumes* : This is to record the bound volumes received from the bindery so as to update the collection of a serial. The accession number is entered for each bound volume received along with the detailed information like volume, issue, month, year, etc.

(d) *Back issues* : It deals with the recording of existing bound volumes in the collection. Availability of back issues maintained by the

library can be recorded as well as updated. There is a facility to view the list of bound volumes before adding these to the database. There is also option to see the list of loose issues for the established serial.

(e) *Checking-out of loose issues* : This function is used to keep track of loose issues of serials checked-out by the borrowers.

### 5.2.7 Enquiries

The enquiries on serials are based on the following :

- Titles
- Vendors
- Budget heads
- Checks-out of loose issues
- Miscellaneous

(a) *Title based*: The following alphabetic lists of serials are given on query to facilitate the serials control process:

- Serials' details,
- New serials,
- Renewed serials,
- Current serials, and
- Missing/overdue, replacement issues.

It provides information related to subscription, loose issues, missing issues, invoices, etc.

(b) *Vendor based*: This enquiry lists out vendors dealing with current serials, status of orders placed with the vendor, and list of invoices received with their current status.

(c) *Budget head based* : It includes enquiries related to serials by budget head, and expenditure analysis.

(d) *Checks-out of loose issues* : It includes enquiries related to checks-out of the loose issues based on borrower, serial, etc.



(e) *Miscellaneous enquiries* : It includes serials in bindery, recent arrivals, unbilled serials, and subject-wise serials.

## 5.2. Reports

Various reports generated by the serials system are as follows.

(a) *Serial-based* : Alphabetic list of serials, list of current serials, serials by publisher, list of special issues, list of duplicate issues, and list of missing/overdue issues, etc.

(b) *Forms/notices*: Approval form, subscription order form, payment requisition form, cheque delivery notice, bindery order, etc.

(c) *Check-out of the loose issues* : Borrower-wise, serial-wise, etc.

(d) *Miscellaneous*: Vendors directory, recent arrivals, bill register, bindery register, specimen request, location-wise serial, bound volumes, etc.

## 5.3. Record Keeping

These are maintenance functions for keeping the up-to-date records of various entities of the serials system. Both the acquisition and serials systems of LIBSYS share the same records of vendors, budget heads and currencies. Thus, these records can be updated through the corresponding functions of either of the system. The following are the sub-routines of records keeping.

(a) *Serial details*: This is used to update the basic details of a serial. If there is change in the basic details of the serial like title, name or address of the publisher, frequency, etc. it is entered here.

(b) *Update loose issues* : This is used to update the loose issues holdings of a serial, perhaps updated wrongly by 'receiving' function, e.g., if number or month of the issue is wrongly entered, it can be modified by this function.

(c) *Update history status* : This is used to update the history status of a serial to any of the following :

- o Discontinued/ceased,
- o Continued as,
- o Deleted,
- o Merged with, and
- o Succeeding title.

(d) *Vendor's record*: This function is used to enter the details of the new vendor like name, address, contact person, fax, telephone number, etc. If there is any change in these details, one has to make necessary changes in this function. It may be noted that the system doesn't allow duplicate vendor ID.

(e) *Budget head*: Records of new budget heads can be added through this function. It also provides for modification of budget head, name and removal of a budget head from the database.

(f) *Currencies*: Various currencies can be defined and subsequently updated through this function. For each and every currency, its code has to be defined against it. It may be noted that the system doesn't allow duplicate currency code.

Currency code    Name

\$	Dollar
STR	Pound

(g) *Exchange rate updates*: Exchange rates can be entered and subsequently updated every month for different periods for each currency according to GOC (Good Offices Committee). While processing an invoice, the exchange rates applicable for the period are automatically picked up for processing.

(h) *Budget updates* : Year-wise budget amounts can be entered and subsequently updated through this function.



(i) *Languages* : This option is used to add one or more new languages in the system other than English.

(j) *Serial types* : This function is used to add new serial types received, i.e., periodicity of the journal.

(k) *Types of bindery* : This function is used to add new bindery types, e.g., leather binding, rexine binding, etc.

(l) *Subscription modes* : This function is used to add new subscription modes, e.g., subscribed serials, serial received free or on exchange or by membership, etc. List is also generated for serials received against subscription, etc.

(m) *Report text updates* : The text to be included in various reports can be entered and subsequently updated through this function. The following reports are generated on different functions:

- Approval form,
- New order,
- Order renewal,
- Additional order,
- Overdue notice,
- Payment request notice,
- Cheque delivery notice,
- Bindery order,
- Request specimen copy, and
- Supply order.

## 5.4 System Set Up

### 5.4.1 Default Values

There is a facility to define the default values of the following items which is taken automatically wherever data are not entered:

- Vendor ID

- Currency

- Budget head

- Discount

- Subscription mode

- Mode of delivery

- Approval authority

- Overdue grace period

- Reminders interval

- Issue period.

### 5.4.2 Control Options

There is facility to have the following control numbers either user defined or system generated:

- Specimen request number
- Approval number
- Order number
- Payment sanction number
- Bindery number.

For system generated option, all the above mentioned numbers are automatically assigned. It is ensured that duplicate numbers are not assigned under this option. For user defined option, duplicate numbers are not accepted in the system.

## 5.5. House-Keeping

The following house-keeping functions are provided for serial systems:

(a) *Redevelop receipt file*: On the basis of ageing, the records in the database can be flushed out periodically to optimise the use of storage space.

(b) *Remove invoice records*: Duplicate invoice records entered by mistake and on which no further processing has been done can be removed from the system through this function.



(c) *Procedure for establishing serial:* For selecting a serial, enter one of the following and press 'Enter' Key:

Alpha code or CODEN or

Serial title (as many letters as known) or

ISSN

Alpha code is generated by the system itself by using the first letter of each word in the serial name. In case there are more than one serial having same code, these are listed out for further selection of a specific code.

## 6. PROBLEMS

Though the 'Serials Control' is quite integrated and has covered almost all related activities, we practically experienced that certain functions supported in the software 'LIBSYS' requires modification and updation. They are as follows.

(a) Holdings of periodicals as per the standard format is not generated.

(b) The procedure for subscription renewal of the periodicals is very lengthy. We do not require approval from the Director every year, but while processing renewal through this software, we have to undergo the lengthy process. It is not possible to place an order directly, without approval.

(c) There is no provision for 'credit note', received from the vendor/publisher.

(d) In the case of receipt of combined issues, there is provision for entry of only one issue, e.g., if the journal is for March-April, it will accept only one month, i.e., either March or April.

(e) Towards sharing of resources, one of the important library service is sending the contents pages of serials to various libraries. There is no facility by which, while receiving the issue, it shows that 'contents pages are to

be sent', so we have to keep a track manually.

Some problems with 'report generation' function are listed below.

- There is no provision for generating reminders for new orders or renewals of the journals.
- Payment request notice and cheque delivery notice should cover name of the journal and periodicity.
- Mid-year subscription creates problems for generating reminders for non-receipt of issues.
- Generation of vendor-wise list of journals is not possible.
- Reminders should cover payment details, e.g., invoice number, date, cheque/draft number, etc.
- For resubscribing the journal which has been already discontinued, separate entry is required.

## 7. CONCLUSION

Computerisation has made an impact on all the main functions of the library. It can process information much faster than human beings and permits better work. Computer-based information system saves the time and efforts of the library staff involved in producing the information products. From the user's point of view, the system saves searching time and information can be made available faster. There is complete access to information in the record from all possible angles.

Most of the programmes used in Indian libraries were written locally. However, some of the institutions did take advantage of the commercially available packages. But, many of the institutions using ready-made packages feel that the available packages were neither suitable to their specific needs nor economical. They are of the opinion



that 'tailor-made' programmes suitable to their needs will be more efficient and economical.

The 'Serials Control' system of LIBSYS, comprehends almost all activities connected with procurement, recording and dissemination of information except a few. It saves the time and efforts of library personnel involved in checking, typing and reproducing various kinds of reports. It is a menu-driven and integrated system which can help in generating various kinds of reports.

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