

Retrospective Conversion Tool for Academic Libraries in India:

An Initiative by INFLIBNET

By

Prem Chand

Scientist-C

INFLIBNET Centre

Near Gujarat University Guest House

Navrangpura

Ahmedabad-380009

Umesh Gohel

INFLIBNET Centre

Near Gujarat University Guest House

Navrangpura

Ahmedabad - 380009

Rajesh Chandrakar

STO- I

INFLIBNET Centre

Near Gujarat University Guest House

Navrangpura ,

Ahmedabad-380009

Email: [premachand@inflibnet.ac.in](mailto:premchand@inflibnet.ac.in)

Email: umesh@inflibnet.ac.in

Email: rajesh@inflibnet.ac.in

ABSTRACT

INFLIBNET has ambitious plan to connect libraries, scholars and student by providing resources spread across the country using latest information technology tools. Collecting the entire bibliographic sources of academic libraries and providing online access facility in the form of union catalogue of these resources is major objective of the Centre. In the past, INFLIBNET has initiated major steps in this direction. Retrospective Conversion software is another effort by INFLIBNET, which is significant tool for libraries, who are in the process of automation. This paper reveals about the tool developed recently by the INFLIBNET Centre for retrospective conversion process at local level

KEYWORDS: Retrospective Conversion; Library Automation; INFLIBNET Centre; Academic Libraries; Information technology

0. INTRODUCTION

Retrospective conversion is the process of conversion of printed catalogue of library holdings into machine-readable form, in a pre-defined format using accepted standards for making it searchable through machine. This process is a pre-requisite for library computerization. Libraries cannot begin on-line transactions of other functions such as acquisition, cataloguing, circulation, OPAC and serial control etc. unless and until retrospective conversion is not fully done. Retrospective conversion is typically accomplished by one or a combination of two basic methods: matching and extracting machine-readable records from a resource file or keying records directly into a database. The paper highlights the interface developed for matching local existing records with union catalogue of 142 university library which contains 12 lakh unique records. [1]

INFLIBNET since its inception is providing financial, technical, infrastructure and manpower development assistance to the libraries including the guidelines for retrospective conversion work of their existing resources. So far, 142 universities have been covered

under this service across the country. In the very beginning due to lack of proper house-keeping software, libraries started the retrospective conversion work with the UNESCO based CDS/ISIS bibliographic database management software. Now gradually libraries are shifting SOUL (Software for University Libraries) software, the software developed by the INFLIBNET Centre for the house-keeping work of the libraries. SOUL is a menu-driven, client-server based on RDBMS, and user friendly software supports all the functions of the libraries, particularly it fulfills the requirements of the academic libraries. Apart from these two softwares, some universities are also using different commercial softwares available at market such as LibSys, TechLib Plus, SLIM, Troodon etc. Out of these 142 universities, 75 universities are using the SOUL software, 17 are using the LibSys, 27 universities are using CDS/ISIS and other softwares. We did not receive the status from 23 universities (based on the survey done during the year 2002).

1. NEED FOR THE RETROSPECTIVE CONVERSION

With the advent of computers and their increasing usage in libraries and information centers, libraries are forced to undertake RetroCon work. The RetroCon is done in two ways i.e. local and national, the details of which are discussed below:

- Provide reliable access to document collection of libraries by creating on-line union catalogues of monographs, serials, and non-book materials (manuscripts, audio-visuals, computer media, etc.) in various libraries in India.
- Provide information resource utilization through shared cataloguing, inter-library loan service, catalogue production, cooperative collection development and to avoid duplication in acquisition to the extent possible.
- Enable the users dispersed all over the country, irrespective of location and distance, to have access to information regarding books, monographs, serials and non-book materials by locating the sources where from available and to obtain it through the facilities of new communication technologies.

Furthermore, it is estimated that 50% collection held by universities are similar, which means copies of the 50% books are available in most of the libraries and every library creates a record for these books, duplicating the effort by re-cataloguing, which is already catalogued by one of the member library. Secondly, with the existing support, it would be difficult for every library to complete the process within the five years period as the centre supports the libraries for five years period only. It is therefore, becomes necessary to have an alternative mechanism to complete this task within the prescribed time frame with supplement tools, so that duplication can be avoided and also expected level of computerization can be achieved.

2. AUTOMATION SCENARIO IN INDIAN ACADEMIC LIBRARIES

In India, most of the libraries are in the process of automation of their local holdings in machine-readable form. If we look at the status of the automation among universities funded under INFLIBNET, there are approximately 10 million documents available in 142 university libraries. Out of this collection, libraries have converted approximately fifty lakhs documents into machine-readable forms that include textbooks, reference books, Ph D Theses, Conference proceedings, serials and technical reports etc. Further, out of these fifty lakhs, it is estimated that 45% records will be duplicate. Most important part of the database of library holdings of these funded universities are being created by different library softwares, with various file structures and data structures. Apart from these, they are following different rendering styles and bibliographic formats. So detecting duplicate records from this kind of database needs efficient tools and powerful intelligent matching techniques. Somehow, after releasing SOUL this has been partially overcome and we have noticed quality and consistency in the records up to certain extent, although it's very difficult to achieve the goal of getting qualitative records.

Presently very few libraries have converted their entire collections into machine-readable form, although the Centre is helping in this area since last one decade. We find that it's very tedious to automate entire library resources of the country in short period, as the whole process of conversion of catalogues is laborious and time consuming. Also it requires extra trained manpower and financial support. Realizing this quantum of work and to overcome such laborious job, Centre initiated a project called "Retrospective Conversion of Collection in Five Major Libraries (RetroCon Project)" in July 2000. It was expected that it will avoid the duplication work at local level and will achieve the expected level of computerization within the prescribed time frame. Under this Recon Project five major university libraries of the country were selected to get the extra grants of the Rs. 10 lakhs within two years time period.

Therefore major libraries have been assigned to do the Retrospective work under different subject areas, so that maximum unique records can be created as soon as possible. These universities are:

- University of Bombay, Mumbai
- University of Madras, Chennai
- Banaras Hindu University, Varanasi
- Jawaharlal Nehru University, New Delhi
- Indian Institute of Science, Bangalore

3. STANDARDS AND FORMATS

During the establishment of the Centre, Task Force was formed to decide the formats and standards for creating the machine-readable records of the library resources. Initially fields of the Common Communication Format (CCF) were adopted with some modifications and addition of some new fields for local level use. The Task Force brought out a manual entitled "Guidelines for Data Capturing: a user manual" for books, theses and serials. Later on, INFLIBNET Centre formed Core Group for identification of MARC21 based fields for future development of the Union Catalogue. Consequent to this, Fields were selected from the MARC21 Bibliographic Formats and development of entire new tools, based on MARC 21 is under progress. The committee was formed to implement the recommendation of the Sub-Group formed by the MHRD to follow a uniform standard for data entry. The committee identified and published the selected fields in the form of "MARC21 Code for SOUL Software: identified by the MARC21 Core Group". The identified fields are available on the web <http://web.inflibnet.ac.in/info/documents.jsp>. In addition to this, the Task Force Committee constituted by INFLIBNET recommended following standards:

- AACR2R for rendering the fields
- LCSH for assigning subject headings
- Library of congress Name Authority File
- Dewey Decimal Classification for classifying the resources

4. RETROSPECTIVE CONVERSION TOOL

Keeping in view the large amount of resources spread across the country, which needs to be converted in to machine-readable form at much faster rate, for libraries to offer better and efficient services to the users, this Retrospective Conversion Tool (RCT) will be a handy & useful one. The tool has been developed during the year 2002 by Database R & D Group with the help of Database Development & Management Group, which was finally accomplished by November 2002. The tool is based on SOUL software, which runs on MS-SQL and will be available on CD ROM, which cannot be copied on other systems. It offers low cost option for converting card catalogue into qualitative machine-readable catalogue. The local library's records can be matched with INFLIBNET union catalogue of records and process the matched records which can be saved according to ISO-2709 format (CCF, MARC 21). Union Catalogue of INFLIBNET contains 12 lakhs bibliographic records of books in English language, contributed by participating libraries which is based on CDS/ISIS database management system It gives online access to the merged catalogues of university libraries. We expect that the hit rate of match could be 60 percent.

Retrospective conversion tool would reduce the time of library staff in creating library records, maintain quality and uniform records; upgrade the existing and future records of libraries and enhance the automation process of the libraries. It allows searching, editing, card (AACR 2) and spine label printing of local library collection by matching the standardized records in both stand alone and network environment. It would also help those libraries, who are in the initial stage of automation. It is proposed that this tool will be distributed in CD-ROM to the universities with the Union database of books after taking proper approval from the authority.

4.1 Software and Hardware requirement

Minimum hardware and software requirements to run the tool are listed below.

MS SQL/MSDE, Windows 95 with 32 MB RAM and with 32x CD Drive, Retrospective conversion software.

4.2 Methods

Ø How to convert local data?

Most libraries convert their records either from Shelf list or from the accession register. Here I prefer shelf list cards, which is more efficient conversion medium, since it contains most of the requisite information for bibliographic database. Before the initiative of the conversion, libraries are required to install this retrospective conversion tool. After installation of the tools, one has to create a database using MS SQL for importing of local bibliographic records. There are various procedures, which has to be followed in a systematic manner. These major steps and procedures are listed below.

4.3 Step 1

Ø Connect to Database

After installation of the software, system displays connection template. Once connection to database is establishes, it will prompt a message with Login and Password for users.

Ø Search

This options allows you to search and view records. It searches the records of Union catalogue of INFLIBNET. As shown in figure 1, when click to Search button, it prompts you to enter your search term and phrase searches can be made under all important search fields (Author, Title, Place, Publishers, Series etc). Search results are displayed in a row, which can be saved by using appropriate options.

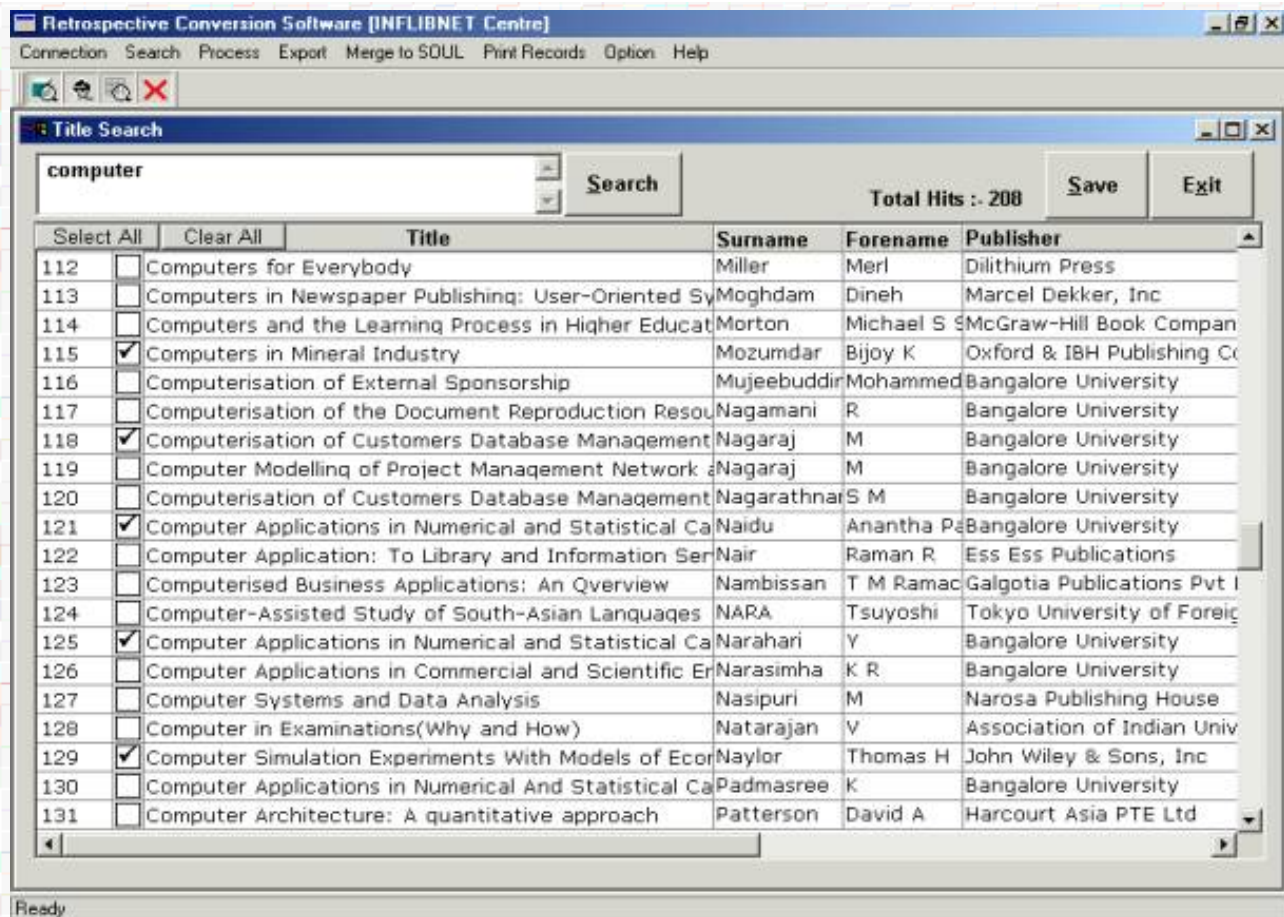


Figure 1: Search Results

4.3 Step 2

Ø Save

It allows you to view the searched and save records with more bibliographic details. These records can be viewed according to following parameters.

- Ø All selected titles
- Ø Range of records
- Ø Date wise
- Ø User wise (Who executed search)

Based on exact match, these records can be saved either in ISO format (CCF; MARC 21) or merge in to local database As shown in figure 2, unmatched records can be deleted at this stage. The facility to save the records in to ISO enables libraries to use independent software having ISO – 2709 interface. That means it can be loaded on software like Libsys, CDS/ISIS, SLIM etc. Another option here is saving the records for SOUL users. Clicking SOUL button will enable all the saved records to load automatically in to SOUL database. If click on CCF, it will open another window as shown in Figure 3, which allows to assign ISO file name for selected records. After assigning file name by clicking Export records, all the selected records will be exported according to ISO with CCF tags. Hence it serves both purposes:-saving in to ISO-2709 and loading on SOUL database.

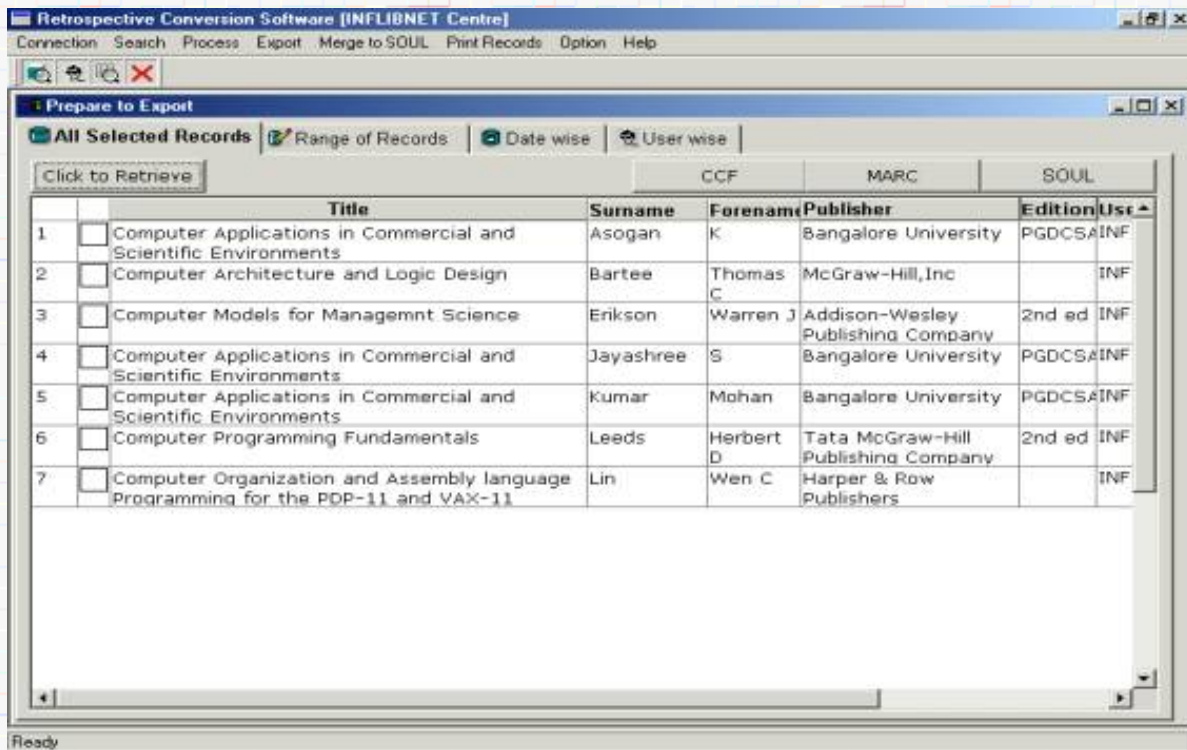


Figure 2: Saving Option

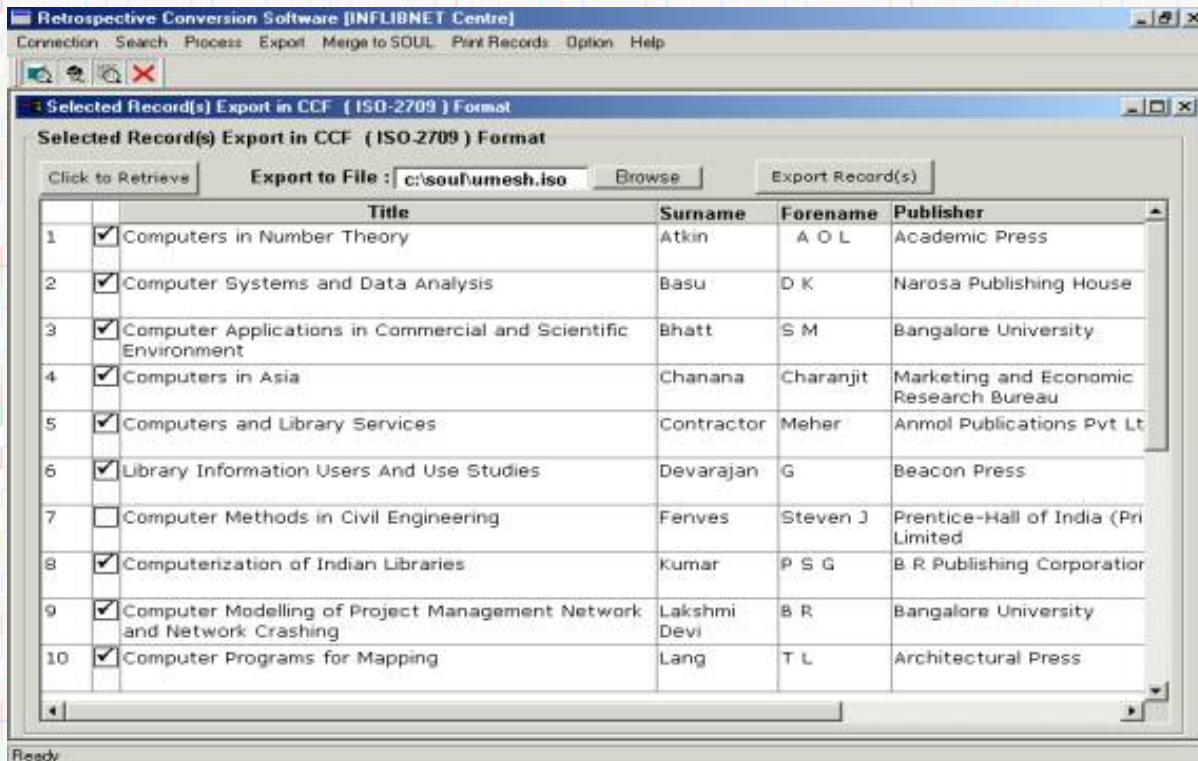


Figure 3: Export File

4.4 Step 3

Ø Entering Local Data:

This option allows customizing the exported records for merging in to local database. As given in the figure 4, it displays detailed bibliographic records for further editing. Before finally merging the records in to local database, each records can be viewed and edit according to the need. Records containing minimum fields, can further be consolidated by adding appropriate subject headings, added entries, Note, Accession No, Vendor information etc. Software has the provision to edit the call no, subject headings, note and accession no etc. Once entire fields are entered into record, it becomes ready for the final merging in to local database.

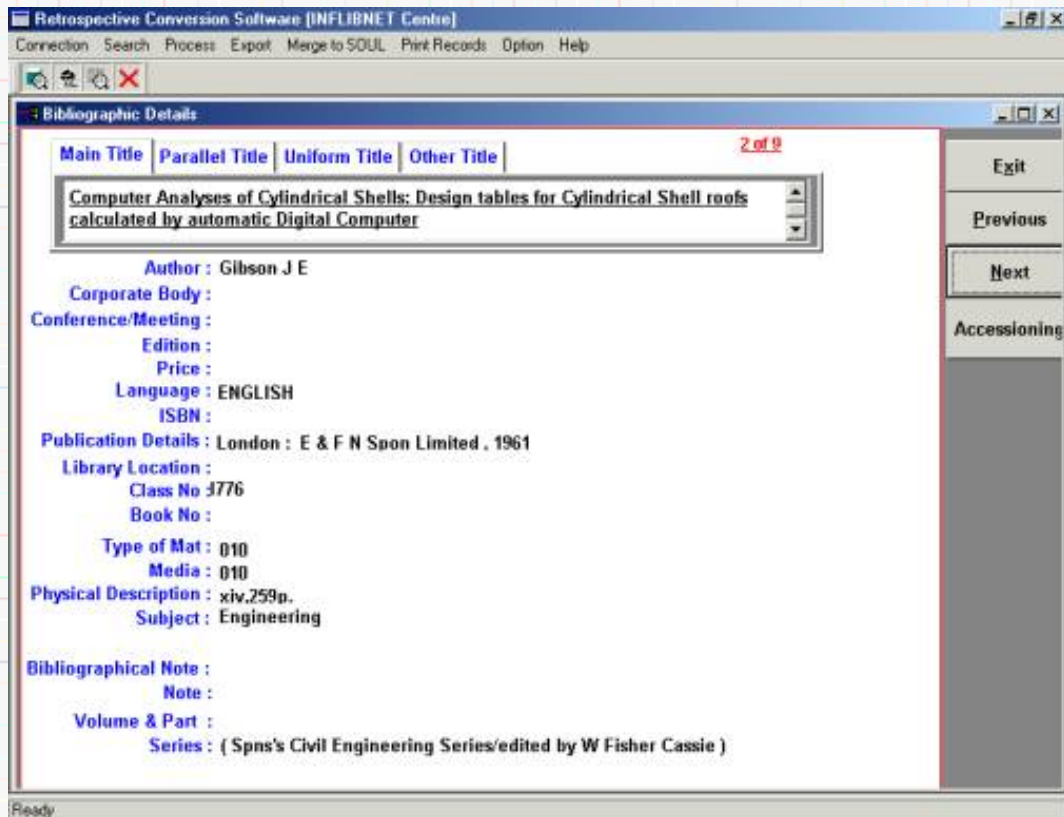


Figure 4: Full Display

When one clicks on Accessioning, it opens new window, which is shown in figure 5, where one can edit the records for providing local information.

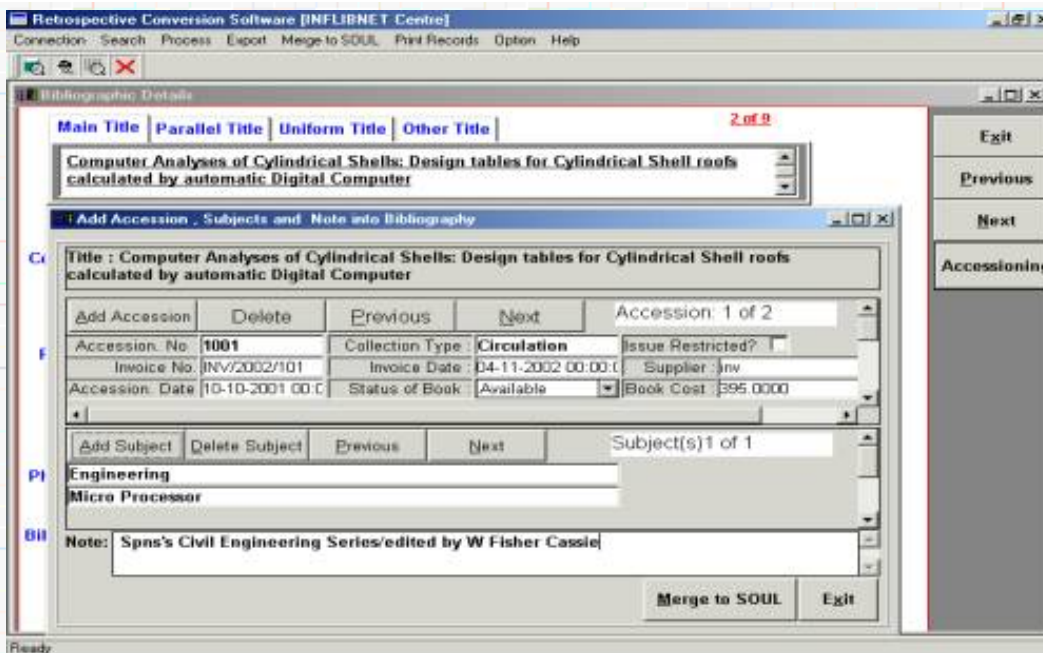


Figure 5: Edit Records

5. CONCLUSION

INFLIBNET's objective is to modernize academic libraries in India and initiate resource sharing. But without the bibliographic database resource sharing is not possible. To make it a reality, all participating libraries have to co-operate in this national endeavour. Librarians have to use technology and upgrade and professionals have to their skills. New terminologies viz. Knowledge Management, Data mining, Internet cataloguing, Copy Cataloguing, Metadata, Z39.50 Retrieval protocol, and resource sharing in context of ILL (Inter-Library Loan) are emerging and posing challenges to the professionals. But, we are still far behind in adopting these technologies. Keeping in view these challenges for Indian academic libraries, the authors are optimistic that this new tool (Retrospective Conversion) will boost the library automation in India particularly in terms of digitizing their resources and feel that it will come out as milestone for it.

ACKNOWLEDGMENTS

Authors acknowledges the deep sense of gratitude to Dr. T A V Murthy, Director, INFLIBNET, Sh. S. M Salgar, Scientist - G and Dr. T S Kumbar, Scientist D for their encouragement and guidance in developing such tools.

REFERENCE

1 Malwad, N. M: Retrospective Conversion for a large bibliographic database with reference to INFLIBNET of India. INFOTEX'93, 28 Nov, 1993- 1 December.93, Bangalore. pp 126-135.

2 Retrospective Conversion at Yale: Project Overview.

<http://www.library.yale.edu/recon/overview.htm>

- 3 Background to IV-B libraries Monographic Retrospective Conversion. IO Catalog Management Department. <http://www.indiana.edu/~libiocm/retro-backgrnd.html>
- 4 Retrospective Conversion at the NMSV library. Technical Services Department <http://libnmsu.edu/depts/libsys/recon.html>
- 5 Information and Library Network Centre <http://www.inflibnet.ac.in>
- 6 INFIBNET Centre. Proposal for Retrospective Conversion of Collection in Five Major Libraries, 1999. <Available on INFLIBNET intranet website - <http://vectra-45/recon/>>

BRIEF BIOGRAPHY OF AUTHORS



Prem Chand is currently working as Scientist – C at INFLIBNET Centre. Before joining INFLIBNET, he worked as Sr. Library and Information Assistant at LBSNAA, Mussoorie. He has over 12 years of experience in Library Automation and Networking. He has published six papers in various journals and conferences. He is handling a NISSAT funded project on Experts Database in S & T and heading the Database Development and Maintenance Group of Centre. His areas of interest are Bibliographic Standard, Library Automation, Networking, ILL and Database Management



Mr. Umesh Gohel has more than Seven years of rich experience in system analysis, design, development, testing and implementation of softwares in various hardware and software platforms as Member of Database R & D Group, INFLIBNET. He is having expertise in Web-Development environment using J2EE, WebLogic Server, PERL and Sybase Adaptive Server 11.5 and Ms-SQL Server 6.5/7.0/2000 as backend Database Server. He had efficiently led the project of Search Engine development for Union Catalogue, which is online at INFLIBNET Servers. He is responsible for administration and maintenance of Sybase Adaptive Server(s) of Union Catalogue Databases. He has also contributed substantially in the development of SOUL [Software for University Libraries], specifically in ISO-2709 to SOUL and vice versa, Circulation and OPAC Module. He has also developed many interface software based CDS/Pascal for Database Authentication



Rajesh Chandrakar is currently Scientific & Technical Officer - I at INFLIBNET Centre, where he has been working for developing Union database of books since last almost 6 years. Apart from this, he is handling the Retrospective Conversion Project running under five major universities of the Country. In addition to his involvement is with Networking and Quality Control group of the Centre. Rajesh holds bachelor degree in Science (Physics, Chemistry and Mathematics) from Govt. Model Science College of Raipur, Chhattisgarh and M.L.I.Sc. from Pt. Ravishankar Shukla University, Raipur. He also holds PGDCA from Pt. Ravishankar Shukla University, Raipur. Currently he is Convener of MARC21 Core Group of INFLIBNET Centre.