

Development of Library Automation in University of Kalyani, West Bengal: a case study

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ABSTRACT

Traditional card catalogue creates problems in document search in terms of speed and accuracy. Problems also faced by KUCL in providing access to their holdings. Automation of library catalogue is the most suitable solution for these problems. Users are more interested in an automated catalogue than the existing card catalogue due to its ability for faster search and retrieval. The objectives of this paper are to know the present situation of KUCL regarding automation, to know different steps of library automation followed by KUCL and what actions they are going to take for digital library. Data have been collected through survey and search different websites. From this study it can say that this library yet not become fully automated. It is on the way of their Web OPAC by linking their OPAC with their webpage and it is partial digital which can access through any computer connected to the University LAN.

Keywords: *Digital repository, Kalyani University Central Library, Library automation, Retrospective conversion, OPAC, Web OPAC*

1. INTRODUCTION

As library is the heart to an academic institution, so is catalogue to the library. Libraries are the centers of learning and storehouse of knowledge. To ensure maximum use of the library resources library staff have to make all efforts. Therefore, it is essential to develop necessary tools to disclose all the library resources to the

users. Library catalogue has been found as one of the essential tools developed for attaining this objective. A library without a catalogue is like a town, which has been developed without a plan. Without it, it would not be possible to know what is available and where. [1]

University of Kalyani, Nadia, West Bengal has completed automation work of its Central Library with the help of SOUL software which is developed by INFLIBNET, Ahmedabad. How this library became automated library? It is the primary purpose of this paper. From this paper anyone can know the steps for automation of library.

2. OBJECTIVES

The main objectives of this paper are as follows:

- i) To know the present situation of KUCL regarding automation;
- ii) To know the procedures of automation followed by KUCL;
- iii) To know the future programme will be by the KUCL regarding digital environment.

3. LITERATURE REVIEW

Krishnamurthy [2] in his paper “ Development of computer catalogue at Indian Statistical Institute, Bangalore Centre Library”, discussed about Retrospective

Conversion steps of catalogues followed by at Indian Statistical Institute, Bangalore Centre Library.

Borse [3] in his paper "Retrospective conversion of library catalogue: a case study of Library of North Maharashtra University, Jalgaon" said the advantages of Retrospective conversion and how this university has completed their Retrospective conversion work.

4. KALYANI UNIVERSITY CENTRAL LIBRARY (KUCL) : A BRIEF PROFILE

At the initial stages after the inception of the University in the year 1961 the Central Library had no building of its own. The library was housed initially in the B.T.College building. It was thereafter shifted to a hostel building and from there to the Sociology building and lastly to the administrative building. Only in 1979 the Central Library had its own separate two storeyed building. Shortage of space and dearth of professional staff hindered its satisfactory development.

The location of the Central Library building is in between the Faculty of Science and the Faculty of Arts and Commerce and is situated at the eastern side of the administrative building. The building has an area of 19,136 sq.ft. It can accommodate 110 readers at a time.[4]

The total book repository of the library has now reached at 1, 60,000 (approx) including special and private collections and gifted books but excluding 7606 bound volume of periodicals on various subjects, 110 current journals and 2137 theses.

Separate collection of books for Directorate of Open and Distance Learning (DODL) and books for NET coaching for SC / ST students are also maintained. A collection of original letters written by Rabindranath Tagore contains 53 letters.

5. LIBRARY AUTOMATION PROGRAMME

The idea of automation of Kalyani University Central Library (KUCL) was first initiated under the auspices of INFLIBNET programme. The University of Kalyani is one of the first few libraries, which received grants for procurement of the PC/AT 386 under INFLIBNET programme with appropriate software in early 1992. By a

subsequent order in March 1995, the UGC sanctioned a special grant of Rs.6.5 lakhs under INFLIBNET programme, which included Rs.5.50 lakhs for computer system, Rs.50 thousand for site preparation including A/C of 1.5t and Rs.50 thousand for modem and telephone connections. The Automation programme was inaugurated in February 1996 by the Vice Chancellor Prof. Basudev Barman.[5]

The Central Library has procured CDS/ISIS software package, developed by UNESCO and started data entry for the first time in the middle of 1997. After installing the computer systems University Library has undertaken the following activities:

- a) Conversion of catalogue into MARC (Machine Readable Catalogue) as per CCF of UNESCO, under the direction of INFLIBNET. The MARC is ready to search on OPAC.
- b) Creation of database of periodicals and thesis papers accepted by University of Kalyani.

In view of the need and to cope with the present situation, Central Library of University of Kalyani decided to purchase appropriate software for automation of entire library. According to the decision, taken by University, software named SOUL 1.0 (Network version) was purchased in the year of 2007. This software was selected by Kalyani University for various reasons. SOUL is integrated library management software, designed and developed by the INFLIBNET Centre (funded by UGC), based on requirements of college and university libraries for their development. The software is compliant to international standards for bibliographic formats, networking and circulation protocols. The software was designed to automate all house keeping operations in library. It is UNICODE based multilingual support for Indian and foreign languages. It is user-friendly OPAC with simple and advanced search. Finally, it is available at an affordable cost with strong institutional support. After installation of MS-SQL-server 2000, SOUL has been installed in a server computer including another 15(fifteen) client computer in different sections. Initially SOUL had been applied for only Cataloguing and Circulation purpose. After few days it was applied in other sections. Now Bar Code is using for circulation of books. Now SOUL 2.0 version is using instead of SOUL 1.0. This version offer more facilities.

5.1 HARDWARE AND SOFTWARE

SOUL uses RDBMS on Windows NT operating system as back end to store and retrieve the data. However, keeping in view the trends in IT towards Linux operating system, efforts are under way also to provide SOUL to work on Linux Platform. New version of SOUL with many additional facilities (such as RFID) is SOUL 2.0, published recently and used this library successfully.

6. RETROSPECTIVE CONVERSION

Retrospective Conversion of catalogues is currently being undertaken by increasing number of libraries. According to 'The Oxford Advanced Learner's Dictionary of Current English [7] the meaning of "retrospective" is thinking about a past event or situation often with a different opinion of it. Therefore, naturally, it connotes the meaning in regard to library catalogue "the action denoting effects for back records". Retrospective catalogue conversion is often referred to as retroconversion, deals with changing of already existing catalogues from a traditional into machine-readable format. Retrospective conversion is concerned not with ongoing catalogue but with the conversion of previous manually bibliographic records, which are subject to be converted into machine-readable format. It is not an activity of cataloguing or recataloguing. The primary purpose of retrospective conversion is to create a machine readable file of the existing manual catalogue, which contains the bibliographic information of library holdings. The libraries, which were earlier using application software for library automation purposes, are going in favour of commercially available integrated library automation software like SOUL, LIBSYS, OASIS, LIBRA etc. Earlier only special / R&D Libraries were taking advantage of library automation. However, University libraries are now active in modernizing their services by computerizing their library in-house operations and bibliographical records further getting into the present stage of resource sharing. [8]

6.1 WHY OF RETRO-CONVERSION?

Since retro-conversion deals with changing already existing catalogues from a traditional into machine readable format, so KUCL has begun it to serve some purposes of both user and library. They are as follows:

- Providing easy access to a wider range of information in the most convenient

locations like different academic departments of the university and promoting their use by a broader cross-section of users;

- Facilitating efficient accomplishment of tasks in KUCL by eliminating the manual labour involved in traditional card filing, time-consuming changes in catalogue records, etc.
- Bringing together multiple copies or titles that have been scattered owing to errors in cataloguing or classification;
- Facilitating search by different parameters of the electronic database prepared by KUCL which earlier allowed one way search in the case of card catalogues;
- KUCL wants to providing a single integrated library system by eliminating the need for, and the costs involved in, maintaining multiple catalogues;
- KUCL wants to providing additional security to the library's records or bibliographic files;
- Records for older materials in KUCL can be integrated with current cataloguing, thereby improving user services and also simplifying the library's administrative processes.

6.2 STAGES OF RETRO CONVERSION

Kalyani University Central Library (KUCL) has completed the following stages during their retro conversion process.

6.2.1 FIRST STAGE

The retrospective conversion project began in two stages. In the first stage nearly 40,000 documents were entered in CDS/ISIS database. In this process, data elements and tags were assigned according to CCF and ISO 2709 format. The first part of the retrospective conversion ended in 2007. After switch over to the SOUL software these database are converted to SOUL using the retrospective option. For catalogue entry 8 areas of second level description and elements of the ISBD are used. Another element are – Language, Location, Subject

heading, Class number, Book number, Accession number, Physical medium, etc.

6.2.2 SECOND STAGE

After installation of SOUL software second stage was started. In this stage, new online records were created from old and new collections both. Edit previous records are another work in this stage. We are identifying documents which needed to be converted to the online catalogue from the shelves and the bibliographic details are entering in to the computer. About 2000 theses were entered in to the computer in this stage.

6.2.3 THIRD STAGE

In this stage, which started in 2008 Bar-coding of books are doing for circulation. Barcode are self-contained machine-readable identification and white spaces of varying widths that represent digits, and other punctuations symbols. These are readable only by a scanner. Charging and discharging of books is a time consuming process, as marking of issue dates and other data entry work have to be carried out. But in bar-coded environment, when a user goes to the circulation counter, the counter staff scans his / her Library card and activates the borrowing status. If the computer permits the borrowing facility, the document is scanned for accession number and is issued to the user.

7. ONLINE PUBLIC ACCESS CATALOGUE (OPAC)

Opening of OPAC facility in Kalyani University Central Library (KUCL) brings enormous changes. OPAC refers to online access to the complete bibliographical record of all the library holdings being the same as those in a card catalogue. This University is providing this facility to the user since 2005 through CDS/ISIS, at present through SOUL. Users can search OPAC through two computers at present. Users can search by various access points like – Title, Author, Subject, Class Number, ISBN, Publisher, Accession Number, Series, Free Text and Boolean Search.

7.1 COMPONENTS OF OPAC

- i) Database: Online catalogue of Kalyani University Central Library (KUCL) now has

nearer 65,000 records of Books and 2000 Theses. On an average 80 books are entering per day.

- ii) Access Points: The online public access catalogue has more points than the card catalogue, namely author, title, subject, call number and series.
- iii) Boolean Operator: SOUL has an added searching capability of Boolean combination of saved documents list. Those documents can be combined using a Boolean operator 'AND', 'OR', 'NOT' to retrieve documents.
- iv) Backup System: Backup can get in regular basis into Hard Disk or another disk. So if any problem made by the file / directory then data can get safely.
- v) Card removal: If you desire you can get print form of catalogue card. But in OPAC system traditional card catalogue is unessential. Kalyani University Central Library, maintained conventional card catalogue parallel to the online catalogue.

8. TOWARDS WEB CATALOGUING (WEB OPAC)

OPACs for libraries appeared in the 1980s, Web-based OPACs began to emerge in the late 1990s. Web OPACs are a natural progression in technological development and could be termed to be an advanced second generation OPAC. They are an advanced on traditional OPACs serving as a gateway to the resources not only held by the particular library but also to the holdings of other linked libraries and further to regional, national and international resources. In the near future one can eventually envisage a full-text environment for Web OPACs as links to outside sources become more common, e.g. tables, publishers, corporate sources, journal titles, tables of contents and finally full text. [9]

Kalyani University is on the way of their Web OPAC by linking their OPAC with their webpage. This University is providing OPAC service since 2005 via two client machine for its users. User can access information about bibliographic details of books and theses only. Since, University of Kalyani is a member of INFLIBNET, UGC-INFONET consortium, ERNET and going to become digital library. So availability of INTERNET connection

with the entire computers should be an essential condition. But unfortunately this facility is available only in two computers – one for digital library and another for searching E-journals. INTERNET connection is the first requirement for start Web OPAC service to entire computer in the library. This problem will be solved immediately in and they will provide Web OPAC service in near future.

9. DIGITAL LIBRARY INITIATIVE

The term “automated digital library” can be used to describe a digital library where all collections are digital objects and all tasks are carried out automatically. These tasks include selection, cataloguing and indexing, seeking for information, reference services, lending services and so on. In digital library, collection would be in digitized form and will have accessibility to external resources via internet. In India, a substantial number of libraries and information centres have initiated digital library projects including databases and e-journals, or by digitizing their own archivally-valuable collections. Hundreds of thousands of ancient books and manuscripts, scores of them still preserved in palm leaves, urgently need digitization to preserve the cultural heritage of India. [10]

Actually digital library has no such physical existence. It must be accessed through the official website of the University of Kalyani via clients connected to the University LAN. Digital library is basically the portal of the University. At first phase users may use digital library through the terminals in CIRM. Later, after the procurement of external IP one can access through any computer connected to the University LAN. This library is using GSDL software for digital library and other supporting software like Apache web server, Windows server 2003 OS, JRE for java. At the first step we incorporated following services:

9.1 CURRENT AWARENESS SERVICES

It contains scanned images of the question papers of University examinations, list of theses submitted to this University by the different scholars of different Departments and list of recently added books in the library.

9.2 E-JOURNALS

Different E-journals through consortia are to be hyper-linked here. Users may access to the E-journals those which are subscribed through this link. Besides,

subscribed journals this library has linked some free E-journals. Now this library is subscribing:

- i. E-journals access through the UGC-INFONET Consortia.
- ii. E-journals provided by SCIENCE-DIRECT.

9.3 E-BOOKS

It contains different subscribed e-books, e-books in CDs accompanying with the books, born digital purchased books and digitized books through scanning. Initially this library has just linked free e-books in the web.

9.4 E-DATABASE

Electronic bibliographic database subscribed by the university. Now it includes DELNET E-database, E-databases provided by UGC-INFONET and some free e-databases.

9.5 DIGITAL REPOSITORY

The digital repository within the digital library is an asset for any institution. Digital repository is the collection of all intellectual works of this University capturing in digital format, managing for dissemination of and preserving of services. Actually it exists as a complementary of traditional scholarly communication. Effective repository is collaboration among librarians, computer professionals, archives and record managers, faculty and university administrators and policy makers.

There are various advantages in setting up a digital repository in university. Such as:

1. Institutions around the world will gain from a more efficient and most cost-effective system of scholarly communication.
2. Digital repository also enables to publicize its research and teaching programmes by enabling access to the works of university staffs and students.
3. Digital repository will be an effective advertising way of university by unfolding its qualitative academic outputs.
4. It is an effective way of storing and making the documents accessible to authorized users.

It contains different collections shown below:

- Syllabus of UG and PG courses of University of Kalyani
- Examination Question Papers of University of Kalyani

- E-Theses & Dissertations
- E-Articles
- Students' projects

It can be said that it is difficult to make a digital repository library from a conventional library. So, it is very difficult to become a digital library in real sense is impossible to any library in a country like India. While library automation process is incomplete till today, then KUCL would be fully Digitized library is nothing but day dream to us.

10. SUGGESTIONS

Based on the situation of KUCL, some feasible suggestions are given here for further improvement.

- i) For effective use of library materials and providing pin-pointed information services to its users, library should be done automation of all house-keeping functions.
- ii) Library should be completed necessary databases of their collection maintaining authority file.
- iii) They should procure good number of online databases such as EMERALD, EBSCO, etc.
- iv) They should link their entire computers with Internet connection including LAN.
- v) Latest IT infrastructure should be implemented for better and faster services.
- vi) Library should be connected with other Institutional Networks.
- vii) Library should arrange training programme on procured software for their employees and for a good understanding.
- viii) They should also arrange user awareness programme about using library with special emphasis on OPAC.
- ix) It should be needed more number of computers for searching e-journals, e-books and OPAC.

11. CONCLUSION

Application of ICT in libraries is helpful to obtain the right information to the right hand at the right time at right cost. Library automation provides wider horizons for the proper handling, organization, retrieval and dissemination

of information, thus making library services more scientific, systematic and effective. SOUL is an state-of-the-art integrated library management software. It is user-friendly software developed to work under client-server environment. While designing this software, the international standards, bibliographic formats, networking protocols, and typical functions of all types and sizes of libraries, particularly at university and college level, have been taken into account. The first version of software i.e. SOUL 1.0 was released during CALIBER 2000. The database of the SOUL 1.0 is designed on MS-SQL and is compatible with MS-SQL Server 7.0 or higher. The latest version of the software i.e. SOUL 2.0 has been released on November 2008. The database for new version of SOUL is designed for latest versions of MS-SQL and MySQL (or any other popular RDBMS). SOUL 2.0 is compliant to international standards such as MARC 21 bibliographic format, AACR-2, MARCXML, Unicode based Universal Character Sets for multilingual bibliographic records and NCIP 2.0 protocols for RFID and for electronic surveillance and self check-out & check-in. It supports cataloguing of electronic resources and supports online copy cataloguing from MARC 21 supported bibliographic database. It supports requirements of digital library and facilitate link to full-text articles and other digital objects. In fact, KUCL has done automation only in catalogue section and circulation section only. It should be needed complete data entry of entire collection for effective and smooth services.

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