Current Trends of Library automation in Bangladesh: A study of some selected academic libraries and special libraries.

Submitted in partial fulfillment of the requirements for the degree of Masters of Arts in the Department of Information Science and Library Management, University of Dhaka.

By

Examination Roll no: 3055

Registration no: 6355

Session: 2011-12

Department of Information Science and Library Management

University of Dhaka

Dedication

Dedicated to my parents

Department of Information Science

& Library Management,

University of Dhaka

Certificate

This is to certify that the thesis entitled **"Current Trends of Library Automation in Bangladesh: A study of some selected academic libraries and special libraries"** submitted by examination roll-3055; as a partial fulfillment of the degree of Masters of Arts is a beneficial record of research done by her under my supervision and this thesis has not for the basis for the award to the candidate of any degree, diploma, fellowship or other similar title.

Supervisor

Declaration

I declare that the thesis entitled "**Current Trends of Library Automation in Bangladesh: a study of some selected academic libraries and special libraries**" is the result of investigation as a partial fulfillment of the degree of Masters of Arts in Information Science and Library Management, University of Dhaka. The entire research work has carried out by me under the guidance and supervision of my supervisor.

I further submit that thesis has not been previously submitted in partial or in full by me for any degree or diploma to any university or institution.

Dhaka
March, 2014.

Preface

The main of aim of this work on **'Current trends of library automation in Bangladesh: a study of some selected academic libraries and special libraries'** is to fulfill the partial requirements for Master's degree in Information science and library management. The researcher believes that every work of this type is inevitably the result of the collaboration of a great many helpers, otherwise continuing alone with a gigantic mass of scattered material and on the subject and their presentation in a form most coherent and consistent can out balance the patience of a feeble mind as her. For this all the available papers, relevant documents, journals and some brochures have been minutely scanned through.

This study discusses the scope, objectives, methodology adopted for collection, presentation and analysis of data for this study. It not only highlights the meaning, needs, and main components of library automation but also traces the history and growth of library automation and focuses on the areas in which automation has taken place, i.e. acquisition, processing and circulation etc.

The findings and recommendations from this study should hopefully lead to a clarification of many problems and in the formulation of planning and policymaking regarding library automation. The researcher believes that it would help the librarian, policy maker and concerned people to develop systems to accelerate library automation for the benefit of the library user.

However, the researcher made all possible investigations to collect data related to this study in order to give a complete view. It may be useful as a basic work for future investigations. If the work is found useful to the information specialists, librarians; the effort of the researcher would be successful one.

v

Acknowledgement

My praises and thanks are due to the Most High, the Almighty Allah who has provided the knowledge, strength, wisdom, help and for such a great blessing in various ways to the completion of this study. Many people were involved in the undertaking of this study. It is not possible to mention all of them by name. However, a few deserve to be mentioned here.

I would like to express my deepest sense of gratitude and greatest appreciation to my supervisor Dr. Kazi Mostak Gausul Hoq , Information Science and Library Management, University of Dhaka, for his guidance, valuable suggestions and affection as well as support that I got from him throughout the research work. Without his direction, constant encouragement, expertise, support and consideration, this work would likely not have finished.

I would like express my sincere gratitude to thank all of my teachers and classmates for their kind cooperation.

I respectfully convey my gratitude and appreciation to all the librarians and library professionals specially, Md Anisur Rahman, automation section at Dhaka University Library, Sarwoat Masuda Reza librarian of British Council Library, Fazlul Kader Chowdhury deputy librarian of BSMMU library, Md. Manjurul Islam, senior ICT officer of CARITAS library, Md. Nazimiddin, librarian of ICDDR,B library and Md. Hannan, librarian of seminar library of English department, Dhaka University who replied to my questions and show great patience during my personal interview.

Finally, I would like to express my heartiest regard to my beloved parents and for their constant inspiration, unfailing trust and support that enable me pursuing this study.

Table of Contents

List of Tables

Table no.	Table name	Page no

List of Figures

List of Abbreviations

AIC Agricultural Information Center

BSMMUL Bangabondhu Sheikh Mujib Medical University Library

BIPC Bangladesh INASP-PERY Consortium

CAS Current Awareness Service

CD Compact Disk

DUL Dhaka University Library

DULAP Dhaka University Automation Project

GLAS Graphical Library Automation System

ILS Integrated Library System

ICDDR, B International Center for Diarrhea Disease Research, Bangladesh

LISU Library and Information System Unit

LAN Local Area Network

MIS Management Information System

NHLDC National Health Library and Documentation Center

OPAC Online Public Access Catalog

RFP Request for Proposal

SDI Selective Dissemination of Information

SMS Short Message Service

SORD Storage, Organization, Retrieval, Dissemination

WHO World Health Organization

Chapter-1

Introduction

Twenty first century is the era of information explosion. Information explosion and new technologies are the hallmark of today's ever changing world scenario. Library is a growing organism. The library and information centers of today are not only storehouse of knowledge but they effectively become the central point in today's knowledge driven information society, a great multitude of socio-economic inventions are being carried out with the library and information centers as the focal point.

In the age of information explosion, libraries and information resource centers have become multimedia centers due to adoption of new technological devices and changing nature of their information storage, retrieval and services. During the last 25 years, the computers and telecommunication technologies began to build up an information society, which has crossed the geographical limitations and has provided facilities to access into global information systems. As a result, nature of modern librarianship has changed considerably with the advent of new technologies.

Digital library, virtual library, library automation are very common terms in present world. Bangladesh is not far behind regarding these applications. Countries leading academic and special libraries are running now fully or partially automation system. For issuing books, journals, CD-ROMs and other reading materials check out and check in have been introduced. Automatic prescribed request form, SMS library service through cell phone, telephonic library service and response to any queries are no more dreams now.

Though library automation has become an old topic in developed countries, it is still a new and emerging issue in our society. A few libraries have started using computers in their institutions. But the present condition of library automation in Bangladesh is still in its infancy. Many people related to this field do not have a clear concept about the term 'Library Automation'. There is also budget deficiency and lack of skilled manpower in our country in this field.

1

But today information has been considered to be the most vital and prominent heritage of mankind and the purpose and objectives of libraries and information institution has been the Storage, Organization, Retrieval and Dissemination of information (SORD). Due to explosion of knowledge and flood of information which have deluged the world. It has been quite impossible to achieve this purpose of SORD. So the present condition of library operation in our country should be changed to keep pace with the changing world and develop the educational system and standards through automated library service.

Objectives of the study

The main objective of this study is to explore the automation scenario in some selected academic libraries and special libraries in Bangladesh. Some of vital aims and objectives of present investigation of are as under:

1. To identify the present trends of library automation in Bangladesh.

2. To investigate automation procedures of some selected academic libraries and special libraries.

3. To find out the level of automation facilities and applications and services provided by these libraries.

4. To highlight the reason for automation of these libraries.

5. To identify problems encountered during automation.

6. To evaluate the status of information technology (IT) infrastructure available in these libraries.

7. To suggest means and ways for the improvement of automation procedure.

Methodology

To meet the specific objectives of the present investigation, qualitative research methodologies along with a comprehensive literature review and web analysis has been employed. Personal interview of librarians with survey and visits to selected libraries were undertaken to collect data on the extent of automation of libraries in Bangladesh. Besides personal observation, informal discussion and thorough visit of the site have helped the research to co-relate the necessary data needed for the study.

Scope of the study

Libraries and information institutions are today considered as the chief instrument for the accumulating and disseminating human intellectual challenges. In recent days the information technologies has been using in a great rate to provide the library users with faster and effective service. The present work is supposed to confirm useful to accomplish overall improvement of academic libraries and special libraries in Bangladesh. Every student has two vital constraints: the time and finance, this ultimately completes a researcher to limit the scope of his/her research for making the study more valuable, precise and time bound. The scope of the work entitled 'Current Trends of Library Automation in Bangladesh: a study of some selected academic libraries and special libraries' has been delimited to 3 academic libraries and 3 special libraries of Bangladesh in Dhaka city only.

Therefore the sample of the study is small which comprises 6 libraries only. Those are:

1. Dhaka University Library
2. BSMMU Library
3. British Council Library
4. Seminar Library of English department, Dhaka University
5. ICDDR,B Library
6. CARITAS Library

Chapter outline

Chapter-1: provide introductory information, methodology, objectives and scope.

Chapter-2: review about existing literatures about library automation.

Chapter-3: describes about history of library automation both worldwide and Bangladesh

Chapter-4: provide characteristics, types, requirements etc information about automation

Chapter-5: overview of some selected automated academic libraries and special libraries

Chapter-6: provide presentation and analysis of interview data

Chapter-7: describe some problems, recommendations toward library automation and conclusion.

Chapter-2

Literature Review

A literature review is a text written by someone to consider the critical points of current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic. **According to Bruce**-"The review forms an important chapter in a thesis where its purpose is to provide the background to and justification for the research undertaken." It is the most crucial part for conducting any research. It is secondary source and as such do not report any new or original experimental work. **According to Cooper**-"A literature review uses as its database reports of primary or original scholarship and does not report new primary scholarship itself." A literature review can be interpreted as a review of an abstract accomplishment. Its main goals are to situate the current study within the body of literature and to provide context for the particular reader.

Haravu (2004) wrote a book entitled **'Library Automation: Design, Principles and Practice'.** In which he explained the history and development of library automation systems as a background to an extensive analysis of each single methodology behind establishment library automation. He not only illustrated the automation of acquisition, cataloguing, circulation control and serials in depth, but also dedicated a chapter each on file and data structure and how to optimize critical single aspects of these individual key systems.

Riaz (1992) made a focus on **"Library Automation"** where he explained as the computer facilities began to proliferate and became cost effective, the library

administrators started thinking in term of utilizing computers to help process unprecedented flood of literature. He also identified the use of computers with different technologies in different areas of library and information centers.

Rao (1996) brought out a book entitled **"Library Automation"** where he said information technology in general and computer technology in particular has been the indication of library and information systems and services. They have helped in speeding up and precision of information collection, processing and distribution. Also the development of microcomputers coupled with telecommunication technology has helped compressed and portable development of information systems.

Aswal (2006) made a focus on **"Library Automation for 21st century"** where he assumed that library automation in the 21st century is an interrelated system, sharing resources through modern and innovative networking and makes certain impartial access to a broad range of information and users. These developments comprise the expansion of use of networks and the internet. Further assumed, library automation has modified the definition of the librarians and the library.

David (2006) focused on **"Introduction to library automation"** where he covers the basic concept of library automation. He explained that to provide the practicing librarian with the skills and knowledge needed to make intelligent decisions in automating library operations and services. He also creates awareness of factors that must be considered in planning and implementing ICT applications in libraries and information centers.

.**Bhanja and Barik (2004)** presented an article **"Library Automation: Problems and Prospect"** where they discussed about the concept of automation, its requirements and various components helps to automate library. They also discussed about several problems and their possible solutions about library automation in this article.

Onime (2008) made a focus on **"Trends in Library Automation"** where he explained the importance, levels and pre-requisites of library automation. He also focused toward library of the future and some possible issues as hardware/software maintenance, choosing of software, IT competence etc which will helps to build a fully automated library.

Ahmed, Munshi and Ahmed (1997) conducted study on **"Computerization of Libraries in Bangladesh".** The paper inspects the status of library computerization in

Bangladesh and also presents initiative taken by different organizations and institutions in the country to computerize their library operations and reveal problems faced by the libraries, which succeeded in automating some of their functions. They also provide idea as to how libraries can implement new computer technologies in order to improve their functions and services to users.

Uddin (2009) made a focus on **"Library automation: a study of the AIC, BANSDOC and the national libraries"** where he discussed about present status of those libraries and also focused about basic library operation, automation scenario and future plan of those libraries.

Uddin, Chowdhury and Islam (2004) conducted a study on **"Automation scenario of some leading agricultural libraries of Bangladesh: An overview"** where he provided an overview of application of automation in leading agricultural universities in Bangladesh. They present on tabular form of various IT tools use by these libraries and status of automation of in house function. They also highlighted the challenges faced by libraries and recommended the appropriate steps.

Munshi(2006) presented **"Library automation in Bangladesh: the Dhaka University Library experiences"** where he attempts to discuss the concept of library automation, status of library automation in Bangladesh, Dhaka University Library and their Automation project. He also presented the model of Dhaka University Library Automation Project (DULAP). He discussed the online access and internet browsing system and how to use GoPAC. He also focused the features and objectives of DULAP, requisite hardware and software, functions and activities of the program, facilities offered to users and tasks still to be accomplished.

Ratha(2009) presented an article **"Library automation: planning and implementation"** where he discussed about issues of library automation, potential tools like RFP, Hardware, software and specifications of requirements. Besides he also focused some barriers and gave essential direction about implementation of library automation.

Saeed and Rafia (2011) made a focus on **"Automation of university libraries: a comparative analysis of Islamabad and Khyber Pukhtoon Khwa, Pakistan"** where they depicts automation in public sector university libraries analysis. They covered the

areas of digital library infrastructure, status of library automation and also means and ways for their improvement.

Bansode and Periera (2007) presented an article **"A survey of library automation in academic libraries in Goa State, India"** where they tried to identify the status of library automation in academic libraries of Goa state. Beside they find out the qualification of librarians and barriers of automation and also suggest initiating automation in order to provide effective and efficient services to users.

Adegbore (2010) made a focus on **"Automation in Two Nigerian university libraries"** where he investigate automation procedures in two Nigerian university libraries and problems encountered during automation. He also identified application of information technologies in these libraries and recommends that librarians should improve their services for users.

Bavakutty et. al., (2006) presented **"Research on library computerization"** where they pinpoint the fact that the Information explosion, shrinking budgets, and rising costs, a shift in the medium of publication, and lack of adequate staff are the major reasons that necessitate dependence on latest technologies in university libraries.

Nok (2006) made a focus on **"The Challenges of Computerizing a University Library in Nigeria: The Case of Kashim Ibrahim Library, Ahmadu Bello University, and Zaria"** where he observes that the success of automation in the university library depends largely on the ability of staff to facilitate and implement the process. Proper, frequent, and regular in-house IT training is a necessity if the maximum benefit is to be gained from the automation of library services. It was further added that if the library ensures sound and quality automation of services and information resources, they need to creates new approaches to user education, pays attention to the provision of continuing education for library staff, helping them to master the new techniques required for the management of electronic and the networked information resources and services, the gains of automation are immeasurable.

Tiwari (2002). wrote a book on **"Evaluation of electronic libraries"** where he sees automation in nineties as an increasingly divergent issue, in terms of resources, skills and abilities. Over the past few years, library automation has undergone a dramatic shift in direction. Library automation began with in-house processing of traditional task and grew

to include the use of computing and telecommunication tools. Now there is a "library without walls" which uses technology to expand services, resources and relationship between libraries and resources around the world. This "virtual library" is a reality. A world of digital information is just a keystroke away claims IBM digital library. The future of library automation system will include information kiosks, where people with no computer experience can access information easily. Information scientists will create human computer interfaces and library scientists will manage the resources.

Chapter-3

Background of library automation:

It is convenient to view the history of library automation in four distinct phases—the first, during 1880, the second, during 1954-70, the third, during 1970-90, and the current phase from 1990 onward.

In a broad sense, between 1880 and today, library automation has evolved through four incremental phases—invention and use of punch card, efficiency of internal operations, access to local resources and access to resources outside the library.

The first phase: Invention and use of punch card (1880)

In 1880, Harman Hollerith invented punch card for census tabulation in U.S.A. In 1936, the punch card was first used for library circulation control work at university of Texas, U.S.A. Later in 1940, the same university used punch card for serial control. In 1942, Public Library of Montclair at New Jersey created two book exchanged management on punch card. In 1950, Library of Congress first use unit card machine for catalog processing.

The second phase: Efficiency of internal operations (1954-70)

Information retrieval: In 1954, Tillitt presented the first report on library computerization at the U.S. Naval Ordinance Test Station. In 1958, General Electric's Gas Turbine Division at Ohio, U.S.A invented a system on an IBM-704 computer that improved on the Boolean 'NOT's application. In 1960, use of computers for library's daily activities was started. In 1963, University of Ontario, Canada had taken library project which purpose was to make computerized book catalog for five university libraries of Ontario. In 1964, National Library of Medicine, U.S.A had taken 'MEDLARs' project for controlling library collection automatically. The next major

8

development of well-known online reference retrieval system called 'Dialog'. In 1961, H.P. Luhn used computers to produce a keyword-in-context index to the titles of articles in chemical abstract. He also proposed the Selective Dissemination of Information service using computers.

Library housekeeping: In 1960, catalog card was first produced. In 1961, Library of Congress began the development of MARC. In 1968, LC began the MARCII distribution. In 1969, British National Bibliography and Library of Congress began toward a U.K. MARC project for international exchange of record between U.S.A and U.K. In 1967, OCLC was established. In 1962, Information Center of Monsanto Company in St. Louis produced book form catalogs.

Circulation control: By the late 1960, visual display terminals as interactive input/output device to mainframe computer were developed. In 1966, one of the first online circulation control application was at the Ill ions State Library. In 1968, the first truly online circulation system used at the Bell Laboratories Library. In 1969, the first online system was introduced at the Laval University in Quebec, Canada.

Acquisitions: In 1968, Washing State University Library brought the first online acquisition system into operation. In 1969, the Stanford University Library put an online acquisition system.

The third phase: Access to local resources (1970-90)

Online catalog: Online catalogs first came into existence for on-use in libraries in the mid-to-late 1970s. They reached critical mass by the early 1980s, became available on LAN and by dial-up modem by the mid 1980s and were accessible via the internet by the late 1980s.

Access to resources: In 1980, important development that facilitated access to resources outside the library.

Inter-library loan: In the early1980, NLC identified the development of an automated method for transmitting inter-library loan requests. In 1991, Canadian National Standard for Inter-Library Loan messaging adopted. In 1979, OCLC introduced the Inter-Library Loan subsystem to libraries. In 1970, linked system project by Library of Congress for automated bibliographic data exchange.

Internet and software: In 1980, libraries could subscribe to CD-ROM Online Catalog appeared on the internet. The emergence of new software language C++, Database Management System, microcomputer became available in 1980. MS windows were also available. In 1985, Mainframe ISIS, Micro CDS/ISIS networking technologies appeared. In 1994 NSF Net had became so entrenched in the internet. In 1989, Tim-Burners Lee launched World Wide Web.

Fourth Phase: Access to resources outside the library (1990-onward)

In 1990, the programming language called Java was created. In 1993, Internet Browser Mosaic was appeared. In this time, library automation has undergone a transformation that reflects changing definitions of library service in general and access to resources in particular. In fact, this phase added a completely new dimension to information world.

Brief history of Library Automation in Bangladesh:

The automation of libraries and information centers in Bangladesh started in the middle of the 19th century till the concept of automation was centered on the use of computers for housekeeping operations and information services by individual libraries.

Bangladesh entered into the computer era in 1964 with the installation of an IBM 1620 machine at the Atomic Energy Center at Dhaka. Institute of Statistical Research and Training (ISRT) installed IBM 101 statistical machine in 1964. Commercial application of computer was initiated by Janata Bank with an IBM 1401 in 1967 followed by Adamjee Jute Mills, Ltd. in 1970. The Government use of computers began in 1973 with the procurement of an IBM 360/30 machine for the Bureau of Statistical. Bangladesh University of Engineering and Technology (BUET) started its computer application in 1968 by offering courses in Numerical Methods and Computer Programming, acquiring IBM 029 Data Entry Machines.

The 1980s are considered the beginning of the automation era as far as libraries and information centers in Bangladesh are concerned. The International Center for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) Library and the Agricultural

Information Center (AIC) are pioneers in creating bibliographic databases on specialized fields using micro computers.

Very recently, in view of the changing attitudes of information user in getting specific information, a number of libraries and information centers of the country have take initiative to establish a proper system for providing desired information to their user by using library software packages.

<div align="center">

Chapter-4

Basic information about library automation

</div>

Definition of Library Automation:

Mechanization of library house keeping operations, predominantly by computerization, is known as library automation. Library automation is the most sophisticated electronic device invented by human being for processing enormous amount of raw data into meaningful and useful form of information with speed, accuracy and reliability. According to **Web Star Dictionary**—"Automation is the technique of making an apparatus, a process or a system operates automatically". **Wikipedia, the free encyclopedia,** has defined—"Library automation refers to the use of computers to automate the typical procedures of libraries such as cataloging and circulation". According to **Encyclopedia of Library and Information Science**—" Library automation may be defined as the application of automatic and semi-automatic data processing machines (computers) to perform traditional library house keeping activities such as acquisition, circulation, cataloging and reference serial control". Finally, library automation is the process of performing all information operations/ activities in library with the help of computers and related information technologies.

Characteristics of Library Automation:

Library automation systems are elaborately designed and crafted computer applications that require considerable programming skills together with an extensive knowledge of the functional needs of libraries and the exacting standards that applied in such systems. Typically, they have one or more of the following characteristics:

<div align="center">

11

</div>

1. Library automation systems are used to create and maintain large bibliographic databases.
2. Library automation systems access several external databases which are called authority files to ensure consistency and accuracy in the content of databases.
3. Library automation systems are expected to provide support so as to enable records to satisfy exacting international standards for bibliographic description and data exchange between different databases.
4. Library automation systems require sophisticated algorithms to index , search and display information from the database created.
5. Software technologies used in library automation systems include database management systems, client-server architecture, search engine technology, and increasingly software used in web-based application.

Needs for Library automation:

Now a day no user has time to search the required and relevant information from the dense heap of information collection. They have no time to go shelve by shelve to pick up a book. So it necessitate for library automation. The various factors that necessitate changing a manually operated library system an automated library are as follows:

1. Information explosion has resulted in the production of a large amount of literatures in every field of knowledge. Accordingly the print documents are coming to the library in huge numbers which is not possible for a library to manage the collection manually.
2. Recording keeping activities of library can be done effectively in automated environment.
3. Issue, return and renewal of books can be performed quickly.
4. Online Public Access Catalog (OPAC) is a powerful tool of library automation.
5. Ability to handle new multimedia formats-photos, digital information-videos, movies, PDF, web, WiKi, on-line learning etc.
6. Implement international standards for the dynamic exchange of data-MARC21, EDI, NCIP, Z39.50, etc.
7. Cost effectiveness.

Types of Library Automation:

Library automation systems can broadly be categorized into two types:

1. Standalone systems

2. Integrated systems

Standalone systems: These are systems that automate a single library function, e.g. circulation control. By these systems the regular classical library implemented in a fully computerized fashion. These are usually created and used in a library with the help of local systems analysts and programming staff.

Integrated systems: An integrated library system is one in which all of the functional modules share a common bibliographic database. An important feature of integrated systems is that there is considerable data exchange taking place between the different subsystems quite transparently to the user. It is a library system that uses a common machine-readable database and has two or more subsystems operational and accessible online.

Requirements for Library automation:

The basic requirements for any library automation programs are—

1. Software,

2. Hardware,

3. Manpower, and

4. Finance.

1. **Software:** Library automation systems are application software that requires other software in order to work as designed. Some library automation software will work only under a particular operating system. Some vendors offer the same software under more than one operating system. Most high-end software structure the catalog database as a relational database under a Database Management Systems, and are sometimes tied to a specific one, e.g., Oracle or MS-SQL Server. Web-based library automation software may require specific web server (e.g. Apache) for the proper functioning of the different modules.

2. **Hardware:** Hardware is the next important elements of library automation program. Number of products and manufactures are available for this purpose. The hardware configuration mainly depends upon the software. There are two

13

types of PCs are available in the market such as – the branded PCs from reputed firms like HP, Compaq, IBM etc; the assembled PC by commercial firms.

3. **Manpower:** For running any program including library automation program, trained manpower are required. Hence the library professionals should be trained properly with requisite computer knowledge for making the automation program successful. Some software package manufactures are giving onsite training to the staff at the installation time of software. The user also needs to be trained about the OPAC system.

4. **Finance:** For any program finance is the important component. The finance of any automation program includes both installation and on going expenditures which includes maintenance, stationeries etc.
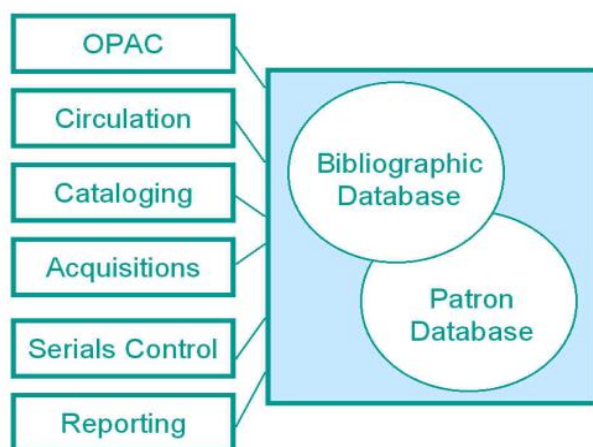
Figure-1: Automation of library functions

What to be automated:

All routine works and services of the library can be automated through library automation. Basically the following works of library are automated:

1. Acquisition related operation such as preparation of list, ordering of books, receiving, accessing, invoice processing, payment request etc.

2. Cataloging of documents such as update title, generation of library cards, generation of barcodes, authority files etc.

3. Circulation works such as membership registration/cancellation/renewal, issue/return/renewal of documents, fine collection, reminders etc.

4. Serial Control such as registration of serials, serial details, subscription details, payment details, renewal of serials section.

5. Catalog cards can be held online that is through OPAC (Online Public Access Catalog).

Pre-requisites of Library Automation:

1. Functional LAN (Local Area Network)

2. Internet access

Adequate power supply/source

4. International support

5. Funds for

-staff and user training

-Infrastructural services such as data backup, hardware, data security. *E.g. all servers must be duplicated, all data only store on RAID1 or RAID5 disks.*

Levels of Library Automation:

1. Library Users

-On-line search-able database

-Easily locate physical resource

-Simplification of the basic process of request, loan, recovery, hold/recalls, etc.

-Move from paper to paperless.

2. **Library staff and procedures**

-Implementation user procedure automation, including effecting user training.

-Software for dynamic seamless information exchange/importation

-Managing multiple locations (campuses/sites).

Activities of Library Automation:

Whether a library is introducing a system for the first time or converting from one system to another, the activities involved are essentially the same.

The following activities of library automation are as follows:

1. Problem identification and planning

2. Adoption strategies

3. Feasibility study

4. Analysis, design and system specification

5. Develop-or-buy decisions

6. Tendering

7. Implementation

8. Training and procedure manual

9. Evaluation

Chapter-5

Present scenario of library automation of some selected academic libraries and special libraries

Till now, there is not a single library or information center in Bangladesh which is literally automated except ICDDR, B library and North-South University library. It has observed that about 55 special libraries and information centres of the country have either created or are in the process of creating databases by using personal computers. Few libraries have CD-ROMs facilities but no initiative has taken to produce any indigenous information product on CDs. Some libraries have taken initiative to build own library software for automation activities. In this aspect, present automation scenario of some selected academic libraries and special libraries are discussed below:

Dhaka University Library

The Dhaka University Library started as a part of the Dhaka University on the 1st of July, 1921 with 18,000 books inherited from the libraries of the former Dhaka College and Dhaka Law College. F.C. Turner, the former principal of Dhaka College was the first librarian of the Dhaka University Library and Fakhruddin Ahmed succeeded him in the post in 1922.

Collection: At present the Dhaka University Library has 6 lacs 80 thousand books and magazines. Besides that the Library has 30,000 rare manuscript; 20,000 old and rare books and large number of Tracts (booklets, leaflets, pamphlets, and puthis). Some rare books and documents have also been collected in microform. In the same way, rare books and reports, puthis, Bengali Tracts and private collection of Buchanan on Bengal have

been acquired from the British museum.

Different section: The Dhaka University Library comprises of three buildings: The administrative building, the main library building, and the science library building. The administrative building has the administrative offices, a book acquisition section, a book processing section, a reprographic section, a book binding section, a manuscript section, and a seminar section.

Library Hours: The library reader's service is open from Saturday to Friday. The Library remains open from Saturday to Wednesday at 8 am to 9pm. On Thursday the Library remains open from 8 am to 5 pm and on Friday at 3.00 pm to 8 pm.

SERVICES OFFERED:

1. **Reading room facilities:** Dhaka University library has several reading rooms at first floor, second floor and third floor which are fully air-conditioned. There is also separate arrangement for female students at these floors.

    2.Book lending facilities: Users can lend useful books from the seminar section of library by using seminar card for fourteen days.

    3. Online public access catalogue: Users can find their required books or other reading material easily by using Online Public Access Catalog from computer. Dhaka University library provide this service by DULIS software. At present, there are three computers for OPAC search in this library.

    1. **Digital borrower's ID card**: Library users can use digital borrowers ID card to reading materials which is provided by borrowers ID card section. This card is provided for faculty members, officers and students with nominal charge.
    2. **Internet facilities:** In this library there is a well-decorated cyber centre which provides internet service for library users. Users can search, browse, download important files, e-mail check by using this facility.
    3. **Reference services:** Users get reference service from reference section of Dhaka University library. There are approximately 25,000 reference collections which consist of comprehensive reference and research materials in the field of

humanities, especially language, religion, literature, as well as in dictionaries, encyclopedias, journals, glossaries, maps, and atlas.

4. **Journals:** Library users can read bound journals on various subjects at ground floor and current journals in mezzanine floor. There are 22,000 journals which are published quarterly, monthly and yearly.

5. **Online journals:** Dhaka University library is a member of INASP-PERY consortium. By this, the library can subscribe journals from forty publishers. JSTORE, HINARY, AGORA, EBSCO, BANGLA-JOL etc are renowned source of downloading of online journal in this library. Users can use this facility by using library's website.

6. **News paper facilities:** Users can read current newspapers and also old newspapers from newspaper reading section which is located at ground floor of Dhaka University library

7. **Reprographic facilities like photocopy, microfilm and CD:** These services are available for academic purposes only, subject to the payment of a nominal fee. The money collected goes to University accounts. In the reprographic Section users can also get access to audio-visual materials e.g. a microfilm camera, a Microfilm reader, a microfilm printer and a microfiche reader. There are no charges for these services.

8. **Resource center for sight savers**: This modern resource centre was established in 2007 for visually impaired students. There are twenty-three Brail books (642 volumes) which are purchased from U.S.A, three modern computers with special type of software (talking software) and Brail printers in this resource center. In this centre, there is well-equipped sitting arrangement for blind students.

Library Automation: To provide better and faster user service in a convenient way, the Dhaka University Library has decided to automate its operations and services. In 1998, the library started its automation program named as 'Dhaka University Library Automation Project' (DULIP), funded by UNDP and UGC. The library had installed proven library software 'GLAS' (Graphical Library Automation System) equipped with a network server and a number of PCs distributed in a LAN (Local Area network). This

automation project was stopped at halfway in 2000 for database capacity maintenance problem. Then in 2008, DULIB software was initialized by the help of Computer Science Department of Dhaka University. In 2013, a new software 'DULIS' (Dhaka University Library Integrated System) is developed .This software is better than 'DULIB'. It is customized software which is online based and worked by LAN. It has three modules— acquisition, circulation and processing. Moreover, new arrival collections of this library are displayed in this system, which is helpful for any kind of users.

DULIS software: Dhaka University Integrated system is initialized in 2013. This software is developed by computer science department of Dhaka University. It is better than DULIB software and users get get efficient service by it.

Features:

1. It is a integrated automated software
2. Online Public Access Catalog (OPAC) terminals are available at all service points of library.
3. Work stations terminals are put at acquisition department, cataloging and serials controls units in both central and science library.
4. Management Information System (MIS) is loaded among designated computers under the network system.
5. New arrival materials are displayed for users.

Basic modules of DULIS software:

1. Acquisition module
2. Processing module
3. Circulation module
4. Book renew module
5. Book status module
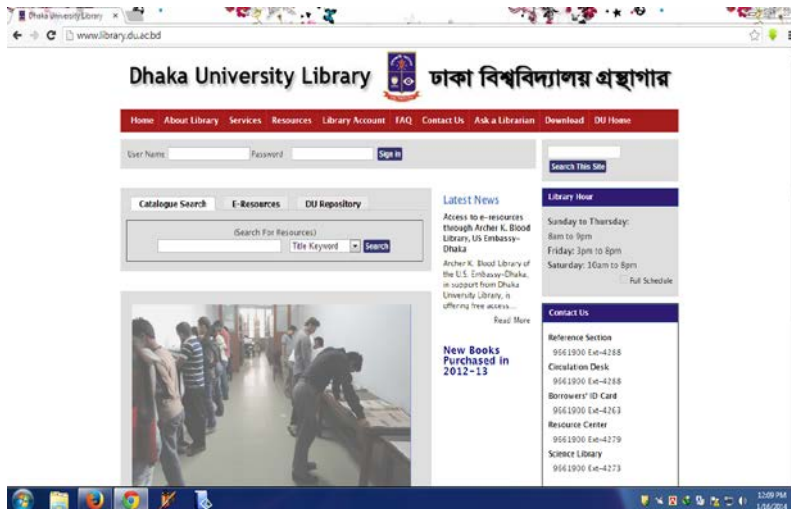
Figure-2: user login page

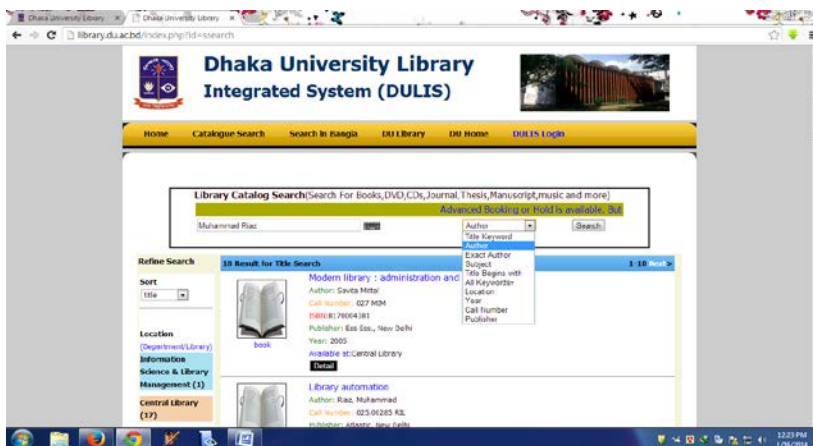Figure-3: OPAC search page

figure-4: search by title

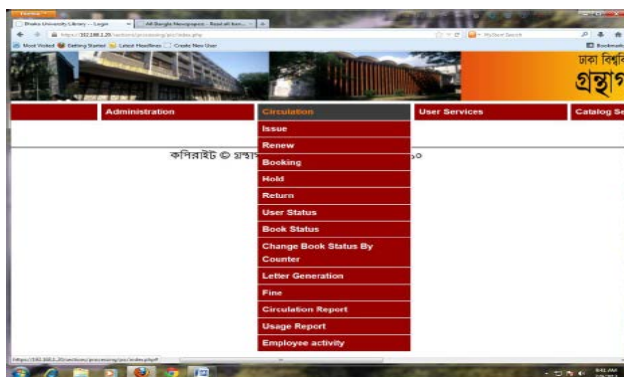figure-5: search by author

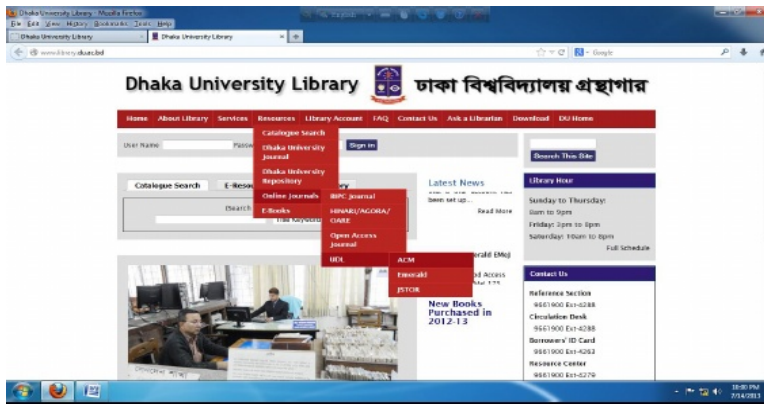figure-6: circulation module

figure-7: journal search page

ICDDRB Library

ICDDR,B was established in 1978 as successor to the Cholera Research Laboratory created in 1960 to study the epidemiology, treatment, and prevention of cholera. The Centre is an independent, international, non-profit organization for research, education, training, clinical services, and information dissemination. The Centre is the only truly international health research institution based in a developing country. The results of research conducted over the years at the Centre provide guidelines for policy-makers, implementing agencies, and health professionals in Bangladesh and around the globe. Researchers at the Centre have made major scientific achievements in diarrhoeal disease control, maternal and child health, nutrition, and population sciences. These significant contributions have been recognized worldwide.

The broad aims and objectives of LISU are to: (a) collect, process, store, and disseminate information, (b) encourage use and flow of information, (c) help promote appropriate research work, and reduce duplication, and (d) optimalize the application of improved practices for information storage, retrieval, publication, and dissemination--all concerned with the issues relating to health, nutrition, and population. The mission of LISU is to make available findings and results of global health, nutrition and population research for solving the common health, nutrition and population problems, especially in the context of the developing world.

Within its broad aims, objectives and mission and with the support of 6 staff members, LISU has actively been pursuing to develop and offer effective and efficient information services, disseminate the Centre research findings, to improve the information-support system.

LISU maintains a modern library and information centre equipped with the most advanced tools of the new information technology and equipment for the storage, retrieval, and dissemination of information. LISU disseminates the Centre's research findings and other outputs through print and electronic media.

Information resources

The library has a collection of over 45,500 volumes of bound journals and books (journals nearly 75%), over 15,000 reprints and documents, and about 375 current journals hard copies and around 20,000 online journals and databases facilities. The library also receives a good number of newsletters. The library collection is growing at a rate of about 1,000-1200 volumes of books and bound journals per year. The items cover mainly the subjects of the Centre's research interests.

** Book collection: The Book Collection generally consists of books, monographs, institutional reports, conference proceedings, etc. which are arranged according to a classification system (National Library of Medicine and Library of Congress Classification Schemes), so that items on the same or related subjects can generally be found together.

** **Reference collection:** The Reference Collection consists mainly of important textbooks, dictionaries, manuals, handbooks, directories, encyclopaedias, etc., and can only be used in the Library.

** **Journal Collection:** The Journal Collection consists of current journals arranged alphabetically by title on the display shelves and bound journals arranged alphabetically by title on the shelves of the Journal Section.

** **Online collection:** The online collection consists of subscribed with hard copy of journals, JSTOR , Bangladesh, INASP PERI consortium, ISI web of knowledge, Travex and mutual agreement with HINARI , AGORA, OARE, etc. All of these resources website links are displayed in the Centre Intranet website.

** Reprints and documents collection: The Reprints and Documents Collection consists of reprints, documents, reports, book chapters, etc. which is arranged by accession numbers and stored in the file cabinets.

** Old issues of journals: Old issues of journals @ NHLDC (National Health Library and Documentation Centre) in 2007 hard copies of selected old journals before 1995 has been transferred to the Nakhalpara to save more space in the main library reading room. In 2008, a national collaboration programme with National Health Library and Documentation Centre (NHLDC), Mohakhali, all journals has been shifted from Nahkalpara to National Health Library. The list of these issues of journals are available in the Circulation Desk.

****Digital repository:** Digiltal platform of ICDDR,B library, digital resources of ICDDR,B library are available in the Centre Intranet site (http://www.icddrb.net.bd)

In addition, the library has been developing the digital repository of ICDDR,B using DSpcae software. Research projects/protocols of ICDDR,B, manuscript and published articles in other international journals, book chapters, conference papers, etc are being uploaded in this systems. (http://dspace.icddrb.org/dspace/)

Library and Information Services

Borrowing and circulation services

Only fixed-term ICDDR, B staffs are entitled to borrow books, journals, and other reading materials from the library for their own use. Library materials cannot be borrowed for use, and on behalf, of others.

Photocopying services

Only single copies of work-related materials may be made if permitted under the national and international copyright laws, rules, and regulations. All photocopying requests are treated as personal requests and are charged to the requester. The Centre does not bear the cost of reprints for personal collections or personal reprint files.

Institutional requests from outside the Centre should include a cover letter in this regard. The cover letter should clearly indicate the mode of payment and procedures for handling photocopy requests and payment thereof. Pre-arrangement is necessary.

To get photocopies, a photo duplication request form has to be completed, mentioning the details of the items, whether it is personal or institutional. The photo duplication form must be signed by the requester. In case of a personal request, the cost is charged in cash at a rate of TK 2.25 per page. Current members of the library are charged at the rate of TK 1.50 per page.

Reprint services

In response to specific requests, the library may arrange to procure from outside sources photocopies of articles that are not available at the library. If the requested articles are not available in the BMA Library (Nuffield Library), UK, the procurement cost has to be borne by the requester. The cost of an article may vary from US$ 10.00 to US$ 25.00. The normal time taken for procuring such photocopies is 5 working days, but may take longer.

Current awareness services

The library maintains interest profiles for members of ICDDR, B's scientific staff only. The service may be extended to outside researchers and teachers on a limited basis. Please contact the Head of LISU for the service.

Reference and bibliographic services

The members of the library staff may assist in locating information, answer on-the-spot queries, guide and provide instruction in the use of the card catalogue, databases, resources, indexes, and abstracts whenever needed. In response to specific requests from users, the members of the library staff may provide literature searches from the databases available at the library on a payment basis and may arrange to obtain reprints of papers from outside sources not available in the library.

Internet services

The library offers services from the Internet. Access to international databases can be made through the Internet. The charge for literature searching from the database (CD-ROM and Internet) is: TK 5.00 for each printed page.

The cost for downloading of information is also charged as per the above rules. All database search requesters are, however, required to complete a literature search request form before undertaking or proceeding for a literature search.

Library users are encouraged to undertake literature searching them from the Internet. The library organizes occasionally demonstrations on how to use the databases and library resources and facilities.

Online Collection: The online collection consists of subscribed with hard copy of journals, JSTOR, Bangladesh, INASP PERY consortium, IST web of knowledge, Travex and mutual agreement with HINARI, AGORA, OARE etc. All of these resources website links are displayed in the Center Intranet website. Digital platform of ICDDR,B library, digital resources of ICDDR,B library are available in the Center Intranet site (http://www.icddrb.net.bd) .

In-house databases

The library maintains the following databases, using the library management software named Alice for Windows, which can be searched for information on desired material:

a. Monographs
b. Documents/Reprints
c. ICDDR,B publications
d. ICDDR,B research projects
e. Bound journals
f. Loose journals
g. CD-ROMs

Inter library loans service

The library has informal and formal relationships with some major libraries in Dhaka city to facilitate inter-library loans of books and other library materials. Under this relationship, the Centre's library can borrow books, journals, and other library materials from some libraries and vice versa. The period of loan is very short, usually 3 days. Inter-library loans are a privilege extended by other libraries, provided particular care is taken

of material obtained on inter-library loan and provided the borrowed items are used only within the library premises.

When you cannot find what you want on the shelves Check on the status of the item at the Circulation Desk. Items already on loan may be held for you when returned or recalled from the person who has borrowed the item. A search may be undertaken for an item that is missing or misplaced. You will be notified when the item is available.

Library automation: ICDDRB Library is the first pioneer of library automation in Bangladesh. This library is known as 'Library and Information Service Unit' (LISU). In 1985, this library was automated by 'In Magic Library Management Software'. After some short break, in 1989; this library tried again to automation by CDS/ISIS software. The library installed computers in 1990 for word processing, Windows version Win Isis of CDS/ISIS was started in 1993. This library was connected to the internet in 1999. Then in 2004, it also started using Alice for windows with Win Isis. This software has brought new dimension of reader service. The user can access OPAC of ICDDR, B from any where from it.

Alice for Windows: This integrated software was originally developed in Australia and is now marketed in Europe and South-Asia. Alice is windows based library automation software for small-based medium sized library. Alice is an application for Microsoft Windows that can be run by a single person, or in a multi-user environment. It is modular software that comes with everything most libraries will need, with additional modules available for more specialized applications.

Features of Alice:
1. Web Searchable OPAC
2. Easy to operate
3. More appropriate for small-medium sized libraries
4. Useful for multi user-environment
5. Innovative search and discover methods-Search and Quick Search
6. Book Cover Images and icons identify resources
7. Multimedia capabilities
8. Book reviews
9. Easy cataloging

10. Scan and go with rapid retro

Basic modules of Alice:

- Acquisition

- Circulation

- Core OPAC

- CD-ROM record import

- Advance booking

- Journal indexing

- Serial management

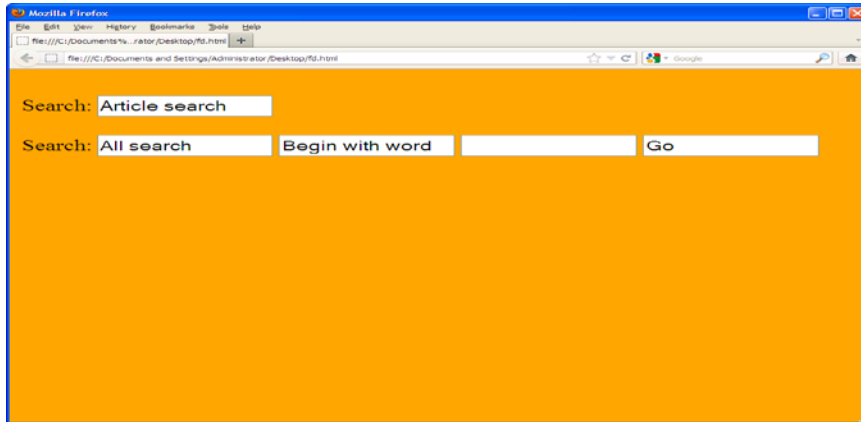Figure-8: Cataloging management by Alice

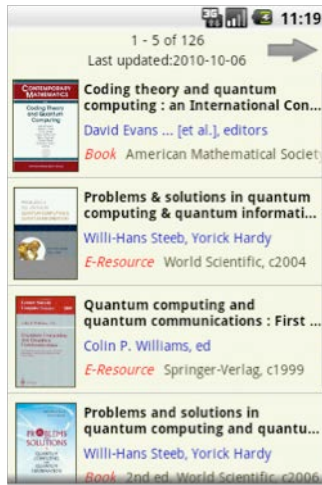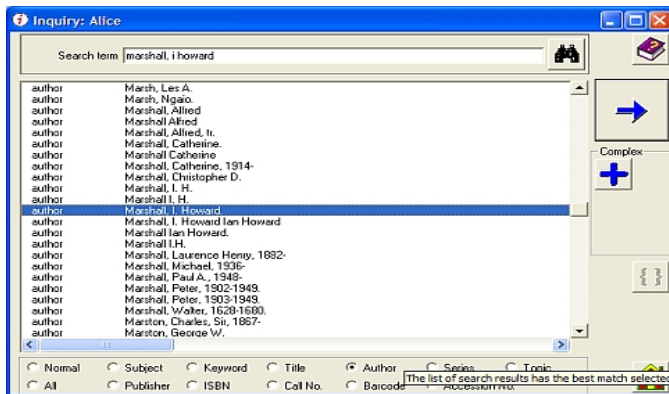Figure-9: OPAC search page of Alice
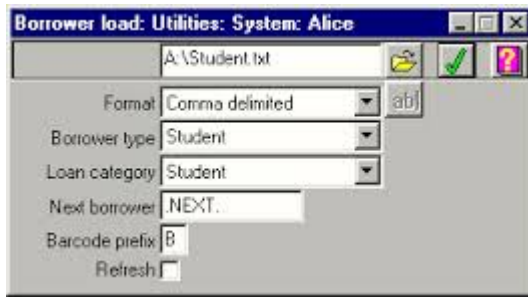

Figure-10: Search by title

Figure-11: Search by author
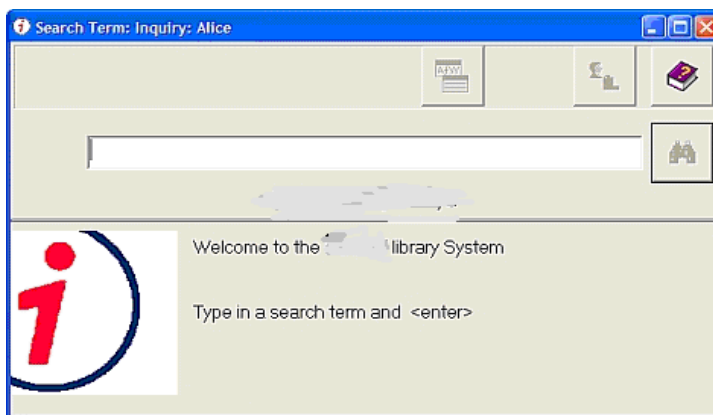
Figure-12: borrower system by alice

Figure-13: search term inquiryof alice

BSMMU Central Library

Bangabandhu Sheikh Mujib Medical University (BSMMU) has a well equipped modern academic library known as Central Library. The Central Library can accommodate over 750 users at a time in its well furnished reading area. On an average 1200 doctors/ members/ teachers use the library every day.

Library Hours: Saturday-Thursday :

a) Reading section # 8:00 am - 10:00 pm

b) Reference & Journal section# 8:00 am - 8:00 pm

Collections: BSMMU library has 23,929 volumes of books on health and allied disciplines, 5,273 volumes of Bound Journals along with 77 local and current 137 foreign periodicals, 2,205 copies of theses, 1011 copies of reports, 336 CDs, 137 Audio-Visual Materials. Recently introduced Digital Library has 17 computers, 3 printers, 2 scanners with internet browsing facilities.

Database management: This library uses Computerized Library Management System for its database management system. It has 23,929 volumes of books on health and allied disciplines, 5,273 volumes of Bound Journals along with 77 local and current 137 foreign periodicals, 2,205 copies of theses, 1011 copies of reports, 336 CDs, 137 Audio-Visual Materials. Recently introduced Digital Library has 17 computers, 3 printers, 2 scanners with internet browsing facilities. The Library also supports 3,500 online full-text biomedical journal's using HINARI web site, about 1200 different types of journals using AGORA (Access to Global Online Research in Agriculture) online database. This library provides online services from 2007 joined the 'Bangladesh INASP-PERI Consortium (BIPC)' for getting access to journals articles, abstracts and bibliographical information of different publishers on different disciplines using website: www.inasp.info/peri. Bangladesh Academy of Sciences (BAS) is acting as the coordinating body of this consortium in Bangladesh. Through University Local Area Network (LAN) all departments has access (more than 150 connections) with the Central Library. This library is the depository library of the World Health Organization (WHO) Publications. One can obtain library information and browsing database records by using website: www.bsmmu.org.

Digital Library : Bangabandhu Sheikh Mujib Medical University (BSMMU) also has a modern electronic library known as Digital Library. Which is located at the 5th floor of "A" block. The fully air-conditioned BSMMU Digital Library remains open every day of the week except on Friday and government holiday. Its' users can use library facilities from 8.15 am to 4.45 pm from Saturday to Thursday. At present the digital library has 86

new DELL brand computers with internet browsing facilities. Dspace software is used for building digital libraries or institutional repositories. Their internet and e-mail facility uses 10 Mbps dedicated bandwidth. Chairman of every department and senior administrators have personal LAN connection from server room for internet use .
Other faculty members, students & staffs of BSMMU can use the following services provided by digital library.

\# Internet browsing, e-mail check.

\# Medical e-journal & e-books search through many publishers like as HINARI, PERI, Medline/Pubmed, Blackwell, Springerlink, Wiley inter sciences and many more.

\# We have laser printer, scanner and CD/DVD writing facilities.

Digital Library arrange some training program such as:

1. Basic Computer Fundamental, Microsoft Office (Word, Power point, Excel etc.) and Internet Browsing for section officers.

2. Online Journal surfing & e-Books browsing techniques for faculty members.

3. KOHA, MARC 21 & Ubuntu for library professonals.

Services: The following services are offered by BSMMU library—

1. Borrowing and circulation service
2. OPAC search
3. Photocopy service
4. Reference service
5. Internet and e-mail facilities
6. Digital library service
7. Online journal facilities
8. Current awareness service

Library automation: Before automation, the library was operated manually .But day by day, when its collection was increasing to fulfill user needs, it was difficult for librarians to manage this library. Then BSMMU library was automated by using

32

KOHA software in 2007 to solve this problem. It is a open source software. Currently this software is used for catalog searching and circulation service in this library.

Koha is an open source Integrated Library System (ILS), used world-wide by public, school and special libraries. The name comes from a Māori term for a gift or donation. Koha is web-based ILS, with a SQL database (MySQL preferred) backend with cataloguing data stored in MARC and accessible via Z39.50 or SRU. The user interface is very configurable and adaptable and has been translated into many languages.[2] Koha. A full-featured open-source ILS developed by Katipo Communications Ltd in New Zealand. It has attracted the most developers to its fold. It is currently maintained by IT staff from around the globe. It is used in pilot libraries around the world. It has the potential to become a universal ILS. Technical support is provided through email and discussion lists. The system operates under Linux or Windows, on any web server, any SQL database system, and with Perl modules.

Featurs of Koha software:

Koha has most of the features that would be expected in an ILS, including:

- Simple, clear interface for librarians and members (patrons)
- Various Web 2.0 facilities like tagging, comment, Social sharing and RSS feeds
- Union catalog facility
- Customizable search
- Circulation and borrower management
- Full acquisitions system including budgets and pricing information (including supplier and currency conversion)
- Simple acquisitions system for the smaller library
- Ability to cope with any number of branches, patrons, patron categories, item categories, items, currencies and other data
- Serials system for magazines or newspapers
- Reporting
- Reading lists for members

Basic modules of KOHA:

1. Cataloging module

2. Serial module

3. Circulation module

4. Patron management model

5. Search module

6. OPAC module

Figure-14: user login page of KOHA

Figure-15: acquisition page of KOHA
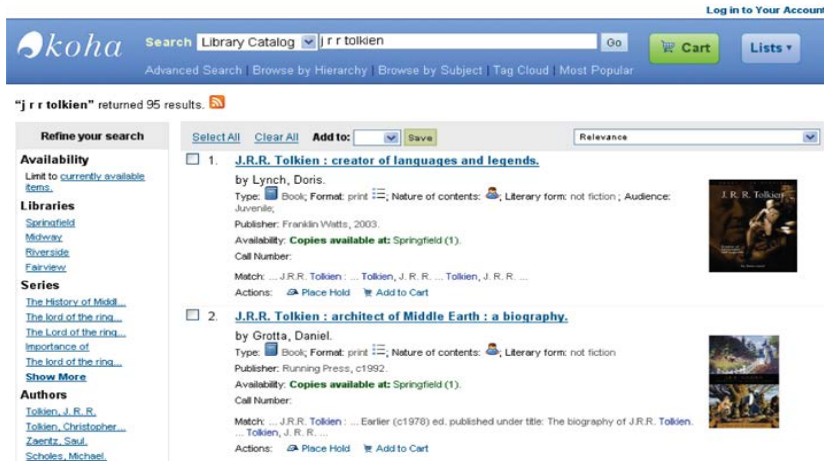
Figure-16: OPAC search by KOHA

Figure-17: Circulation page of KOHA

British Council library

British Council has a rich library which is called 'Resource Center', is especially important for students and professionals. It was established in 1953. The name of librarian of this library is Sarwat Masuda Reza.

Collection: The library has 25,000 extensive collections of learning resources and contemporary literatures which consist of books, periodicals, newspapers, English language learning materials, videos. It has on-line resources to help users gather the information as needed. The library is divided by various zones like Lifestyle zone-covering sport, food, fashion etc; Business , Management and IT zone-covering banking, accountancy, computing ; Learning zone-covering law, economics, medicine, science as well as essential O and A level text books; young learners zone-covering story books, CD and DVD of computer games.

Cyber center: This library has a cyber center where library members can access the internet and discover a lot of on-line learning resources and information using contemporary technology,

Services: The following services are offered by British Council Library for users—

1. Photocopy service,

2. Reservation service,

3. Book lending service,

4. Searching and browsing by internet,

5. E-mail service,

6. Printing facilities,

7. OPAC searching, etc.

Library Automation: This library was automated in 1997 by using Libsis software. Libsys is very active for integrated library automation. This software has acquisition, cataloging, circulation, OPAC, serials/periodicals set up and facilities, material collection to reference service activities. In future, KOHA system will be developed for automation activities. JSTORE is the only online subscriber of British Council library.

LibSys software: LibSys software is integrated multi-user library management software that caters to the needs of an advanced library and information professionals. It provides a tree structure system with each system comprising of several sub-systems having

36

unmatchable depth in functionality. It has a powerful and user-friendly WEB-OPAC along with Windows-based OPAC.It runs on various platforms such as WINDOWS (95/98/NT/2000/XP), UNIX (various flavors), LINUXM, etc. Further, it adheres to standards such as MARC and Z39.50 that makes it suitable for cooperative networking and resource sharing.

Features of Libsys software:

1. User friendly
2. Support web-OPAC system
3. Multidimensional library system
4. Standard quality
5. Unicode support
6. Digital library implementation
7. Multimedia files and electronic resources

The basic module of Libsys:

- Acquisition System
- Cataloguing System
- Circulation System
- Serial System
- Article Indexing System
- OPAC System
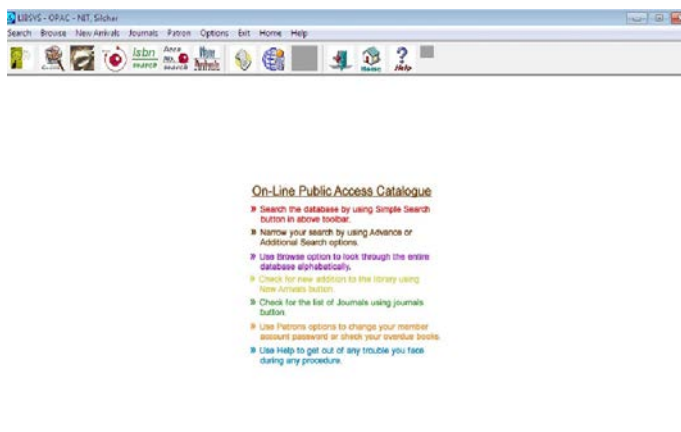
Figure-18: opac search of libsis
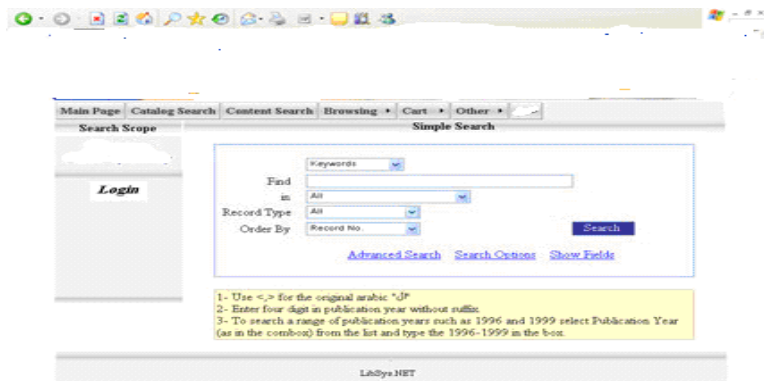
Figure-19: login page of libsis
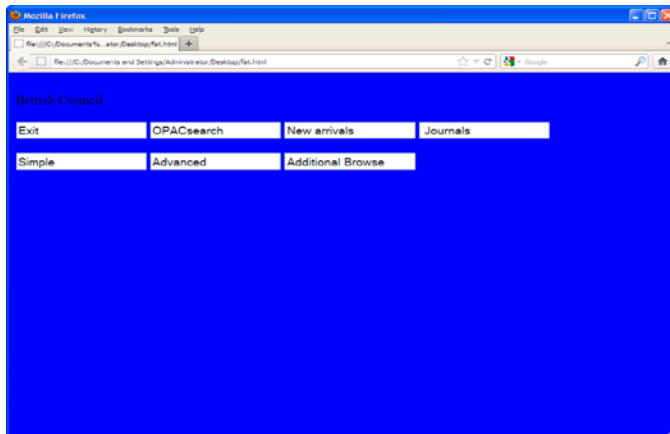
figure-20: Simple search page of libsis
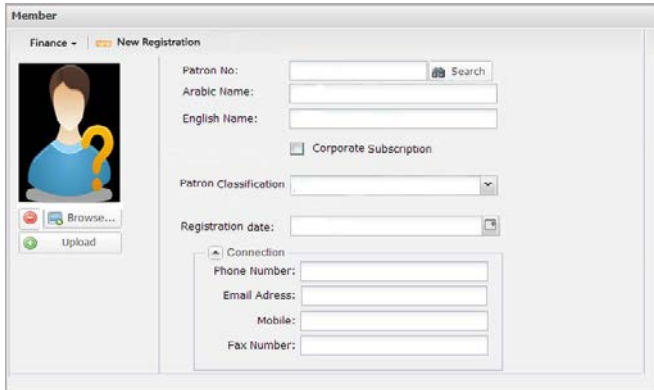
Figure-21: reservation module of libsys

Figure-22: RFID service by libsys

CARITAS Library

CARITAS Development Institute has a modern and rich library which is situated at outer circular road, Shantibagh. It was established in 1983. The name of the librarian of this library is Pushpo Veronica Palma.

Collection: It has approximately 20,000 collections of books which are subject training and research based, journals, newspapers, magazines, periodicals, documents, news

clippings on 51 development and related issues regularly. Beside this, it has about 250 collections of Audio-Visual materials like CD-ROM and DVDs. The library is developed as multimedia information and dissemination center.

User: CDI library is one of the members of United Nations Library Network in Bangladesh. Development practitioners, trainers, researchers, academicians, students and other interested persons can use library facilities.

Service: The library provides following facilities and services-------

1. Inter-network library services,

2. Fully air conditioned web based library services,

3. Online Public Access Catalog,

4. Open shelf access system,

5. Direct access,

6. Manual of searching technique,

3. Current Awareness Service,

4. Selective Dissemination of Information,

5. Reference and Referral service,

6. Photocopy service,

7. News clipping services on important subject,

8. Computer, printer, internet and e-mail facilities.

9. Borrowing of CD-ROMs, Audio-CD, and Video CD/DVD beside book.

Library Automation: CARITAS library is now fully automated by using Autolib Software. The library was automated in 2008. But it has no institutional repository and online subscriber. Before automation the library was maintained its database by Microsoft Access. In future, this library will use KOHA software for automation activities.

Autolib software: This software was developed at Chennai in India. Autolib is fully integrated multi user software on windows environment which is designed to automate various activities of libraries. It can handle vast amount of records. It is module based complete solution for library automation.

Features of Autolib software:

1.   User friendly

2. Graphical User Interface environment

3. Based on client server architecture

4. Z39.50 protocol support

5. Export/import of data in ISO 2709 format

6. Cataloging of digital library resources

7. Implementation of AACR, CCF, Dublin Core

8. Web based report

9. User ID and password protection

10. Module level security

Basic modules of Autolib software:

1. Advance or simple OPAC search

2. Circulation management

3. Acquisition control

4. Journal and serial control

5. Report management

6. Article indexing

7. Digital library
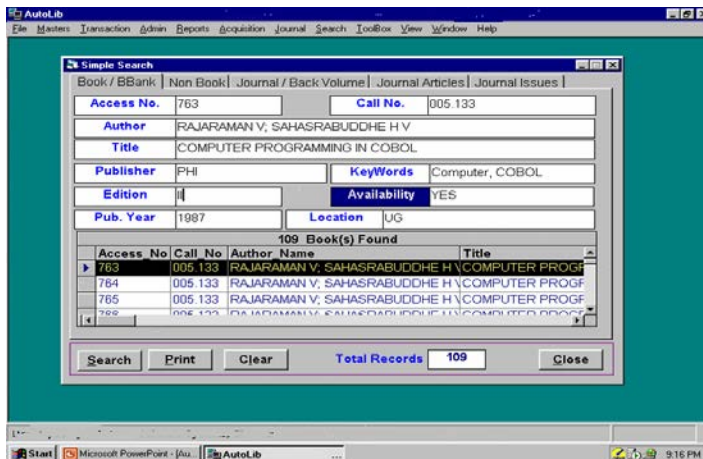
8. Web OPAC module

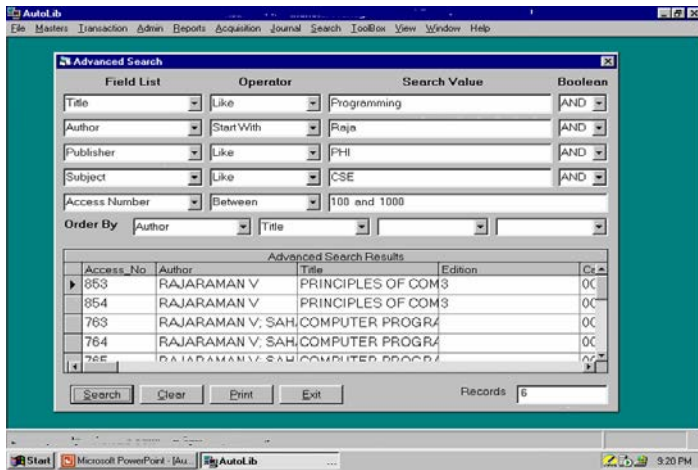Figure-23: simple search page of autolib
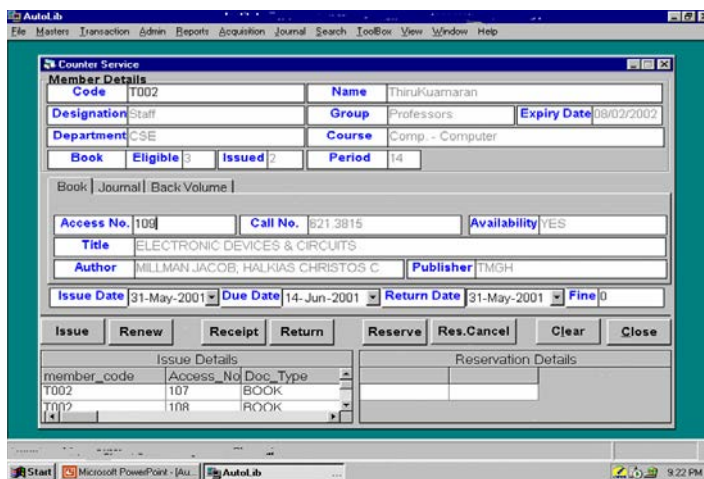
Figure-24: Advance search page
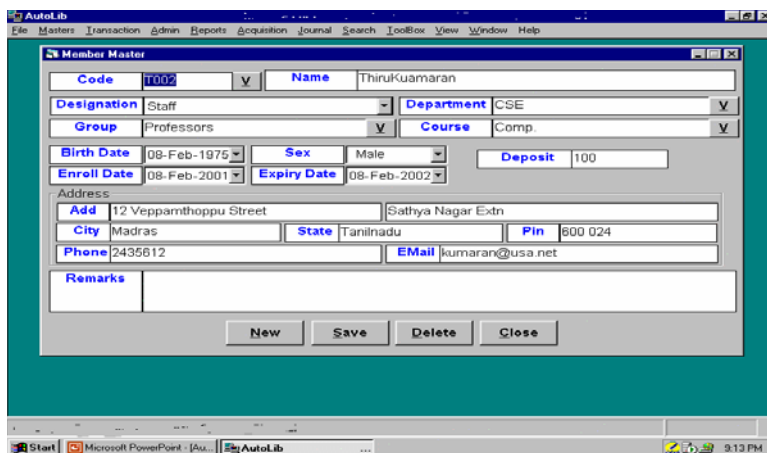

Figure-25: Circulation page of autolib

Figure-26 : member search page of autolib

Seminar library of department of English, Dhaka University

The English department of Dhaka University was established in 1921. It has a rich seminar library which is automated in 2013. The name of the librarian is Abdul Hannan.

Description: The department has two seminar libraries. One named after two martyred teachers, Dr. Jyotirmoy Guhathakurta and Mr. Rashidul Hasan, which is the Literature library. The other is named after Dr. Abi Md. Nizamul Huq, which is the Language library and contains books on English language and linguistics.

Access: Students have to pay a membership fee for access to the seminar facilities. Both the libraries have been automated recently. There is a financial aid program for meritorious as well as needy students. A number of trusts and awards have been instituted by different donors. Besides, there are also a limited number of stipends available from Alumni donations.

Collections: The total collection of this library is approximately 6,300 among these 4,500 are literature and 1,800 are linguistics.

Users: Users of this library are generally students and teachers of English department.

Services: Users can get the following services------

1. Printing service,

2. Photocopy service,

3. Lending service and

4. E-mail service.

5. Download of e-book

 But Digital card system is not established till now.

Automation: This seminar library is automated in 2013. In this library, KOHA open source software is used for automation. Cataloging and circulation services are given by automation system. In this library, there are five computers, two printers. It is WiFi connected. It is also linked with Library of Congress.

Koha software: It is an open source Integrated Library System (ILS), used world-wide by public, school and special libraries. The name comes from a Māori term for a gift or

donation. Koha is web-based ILS, with a SQL database (MySQL preferred) backend with cataloguing data stored in MARC and accessible via Z39.50 or SRU. The user interface is very configurable and adaptable and has been translated into many languages.[2] Koha. A full-featured open-source ILS developed by Katipo Communications Ltd in New Zealand. It has attracted the most developers to its fold. It is currently maintained by IT staff from around the globe. It is used in pilot libraries around the world. It has the potential to become a universal ILS. Technical support is provided through email and discussion lists. The system operates under Linux or Windows, on any web server, any SQL database system, and with Perl modules.

Featurs of Koha software:

Koha has most of the features that would be expected in an ILS, including:

- Simple, clear interface for librarians and members (patrons)
- Various Web 2.0 facilities like tagging, comment, Social sharing and RSS feeds
- Union catalog facility
- Customizable search
- Circulation and borrower management
- Full acquisitions system including budgets and pricing information (including supplier and currency conversion)
- Simple acquisitions system for the smaller library
- Ability to cope with any number of branches, patrons, patron categories, item categories, items, currencies and other data
- Serials system for magazines or newspapers
- Reporting
- Reading lists for members

Basic modules of KOHA:

1. Cataloging module

2. Serial module

3. Circulation module

4. Patron management model

5. Search module

6. OPAC search module
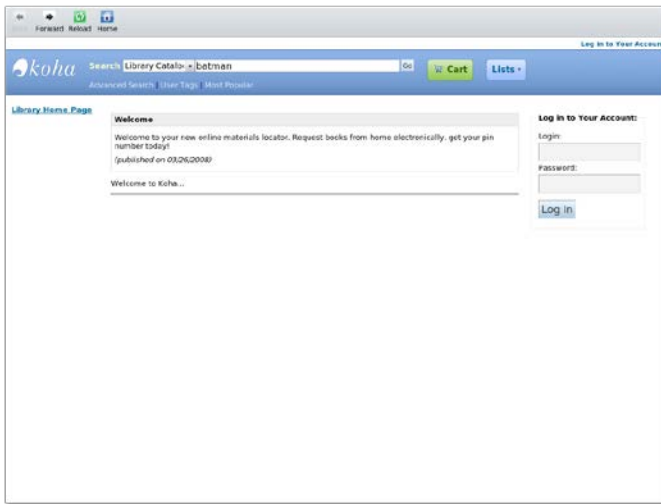
Figure-27: user login by Koha software
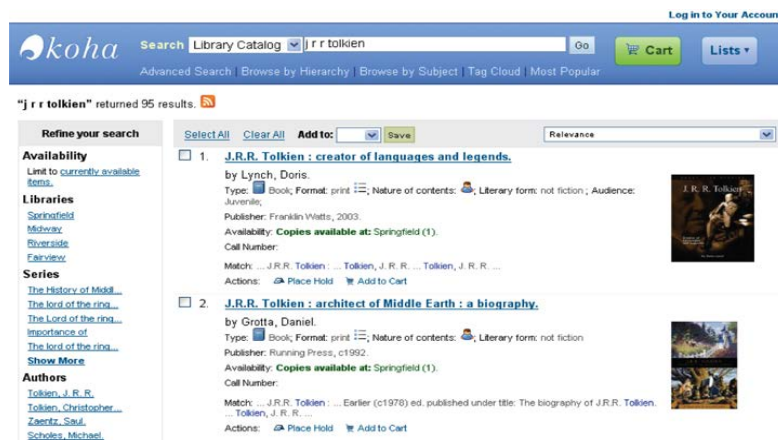
Figure-28: Online catalog search

Figure-29: Acquisition module

Figure-30: Circulation module

.

Chapter-6

Analysis and interpretation of the study

By analyzing the above data of these six libraries, it is viewed that special libraries and academic libraries are using computers to meet their user's demands. But special libraries are in better position of automation or using sophisticated ICT facilities for their library users.

Present trends of library automation: At present, most of the libraries of Bangladesh are using open source software for automation. By analyzing of these six libraries also indicates that the librarians are trying to provide better automated library service for users by developed software. Most of the librarians have given opinion that in future they will install KOHA open source software for library automation, though some libraries are already using this software. KOHA software can freely download from internet and its different features easily can attract library users. It is easy to use both for librarians and users. So, it can be said that trends of library automation is going towards KOHA software for its lots facilities in Bangladesh.

Table-1: Basic information about the libraries

Name of the Library	Establishing Year	Types of library	Location	Library Hours
DUL	1921	Academic	Shahbagh, Dhaka	8.00 am-9.00 pm
BSMMUL	1965	Academic	Shahbagh, Dhaka	8.00 am-10.00 pm
British Council Library	1951	Special	Fullar road-Polashy, Dhaka	10 am-9.00 pm
Seminary library, English dept, DU	1921	Academic	1st floor of Arts faculty, English dept, DU.	10.00 am-5.00 pm
ICDDR,B Library	1978	Special	Mohakhali, Dhaka.	8.00 am-5.00 pm
CARITAS Library	1984	Special	Outer circular road-Shantibagh, Dhaka	10.00 am-8.30 pm

Table-1 shows that most of the selected libraries are established between 1921-1984, this table also indicates that the location of four libraries is in Shahbagh and rest of these are in Mohakhali and Shantibagh. and Library hours of these libraries are almost same.

Table-2: Total collections of libraries

Name of Library	Total Collections
Dhaka University Library	6,30000
Seminar library of English dept, DU	6,300
BSMMU Library	29,000
British Council Library	25,000
CARITAS Library	20,000
ICDDR,B Library	45,000

Table-2 shows that majority of the libraries have less than or equal to 25,000 collections. Only one library has less than 7,000 learning resources.

Table-3: Types of user

Name of Library	Types of user
DUL	Students, teachers, researchers
BSMMUL	Students, teachers, professionals
British Council Library	Students, teachers
Seminar library of English dept, DU	Students, teachers
ICDDR,B Library	Students, professionals
CARITAS Library	Researchers, trainers

Table-3 shows that the users of these libraries are students, teachers and researchers while the users of two libraries are also trainers and professionals.

49

Table-4: General services offered for users

General services	DUL	BSMMUL	British Council Library	Seminar Library, eng dept, DU	ICDDR,B Library	CARITAS Library
Reader service	Yes	Yes	Yes	Yes	Yes	Yes
Book lending service	Yes	Yes	Yes	Yes	Yes	No
Reference service	Yes	Yes	Yes	Yes	Yes	Yes
Photocopy service	Yes	Yes	Yes	No	Yes	Yes
Internet	Yes	Yes	Yes	Yes	Yes	Yes
Printing service	No	Yes	Yes	Yes	Yes	Yes
CAS	Yes	Yes	Yes	No	Yes	Yes
SDI	No	No	No	No	Yes	Yes
Inter-library Loan	No	No	No	No	Yes	No

It is seen from table 4 that majority of the libraries offer reader services, reference services, book lending service, internet and Current Awareness Services and photocopying services. A few of them offer SDI and interlibrary loan.

Table-5: Year of automation

Year of Automation	Name of Library
2004	Dhaka University Library
2013	Seminar library of English dept., DU
2007	BSMMU Library
1997	British Council Library
1985	ICDDR,B Library
2008	CARITAS Library

Table-4 shows that library automation largely commenced after year 2000. It is found that two of these libraries were automated before year 2000.

Table-6: Software for automation

Name of Library	Use of Software for automation
Dhaka University Library	Dhaka University Library Integrated Systems
BSMMU Library	KOHA
British Council Library	LIBSYS
Seminar library, English dept, DU	KOHA
ICDDR,B Library	Alice for Windows
CARITAS Library	Autolib

The analysis of the Table 5 exhibits that the libraries under study are using different software for library automation. While among them two libraries use same software and four libraries use four different software for automation activities.

51

Table-7: Areas of library automation

Areas of automation	DUL	BSMMUL	British Council Library	Seminar library, English dept, DU	ICDDR,B Library	CARITAS Library
Acquisition	No	No	No	No	No	No
Cataloguing	Yes	Yes	Yes	Yes	Yes	Yes
Circulation	Yes	Yes	Yes	Yes	Yes	Yes
Serial control	Yes	Yes	Yes	No	Yes	No
Budget	No	No	No	No	No	No
Administration	No	No	No	No	No	No
OPAC	Yes	Yes	Yes	Yes	Yes	Yes

Table-6 shows that most of the libraries offer automated service like OPAC, cataloging and circulation while some libraries offer serial control but any library does not offer automated acquisition, budget and administration services.

Table-8: Number of stuff for library automation

Name of Library	Number of stuff
DUL	3
BSMMUL	4
British Council Library	4
Seminar library, English dept, DU	2
ICDDR,B Library	5
CARITAS Library	2

The number stuff depends upon the size of library. Table-8 shows that the six libraries have minimum 2-5 stuff for library automation task.

Table-9: Online subscriber of libraries

Name of Library	Online Subscriber
Dhaka University Library	JSOTRE, HINARI, AGORA, EBSCO-HOST
BSMMU Library	HINARI, PERY, MEDLINE, PUBMRD, Blackwell, SPRINGER
British Council Library	JSTORE
Seminar library, English dept, DU	yet not initiated
CARITAS Library	yet not initiated
ICDDR,B Library	JSORE, HINARI, INAS-PERI, OARE.

Table-9 shows that most of the libraries have more than two online subscribers like JSTORE, HINARI, etc. but two libraries do not have any online subscriber.

<div align="center">

Chapter-7

</div>

Problems of Library Automation in Bangladesh

Bangladesh is one of the few countries of the world which began to adopt library automation, but it is still its infancy. Most of the libraries are still in the darkness about the automation concept. They do not have any clear idea about library automation. Berceuses most of the libraries of are still not automated, few libraries only taken library automation attempts and these libraries are proceed in manual system at every means. A number of problems contribute to this situation:

1. **Lack of Technically Trained Staff:** Library personnel in Bangladesh, in general, have inadequate knowledge about computers and their usages in libraries. They are not able to make themselves compatible with using such type of devices which results in the low progress of getting benefits from technology usage in the libraries of Bangladesh.

2. **Lack of funds:** Lack of funds is the most common cited problem and reflects the difficult financial problems of the country in general and the libraries in particular. Consequently the most chronic problem which libraries face is the constant shortage of funds as well as libraries are often excluded in the process of financing for automation.

3. Lack of proper planning: This indicates a need to educate planners and decision makers as to the role that libraries can and should play in the effective development of any organization in the present "Information age." It also implies a failing on the part of librarians in libraries fully to integrate the library within the parent organization and effectively to promote it, is an important structural element for the provision of essential information to both managerial and technical staff.

    4. Lack of power supply: Bangladesh is a developing country where uninterrupted power supply is a crucial need. Library automation process is fully dependent on computer and computer can not run without electricity. Inadequate power supply hinders the activities of library automation.

5. **Lack of co operation among libraries:** There is not mutual cooperation among libraries of Bangladesh about automation. Especially the different organization of librarians does not taking any initiative to development of library.

6. Lack of standards: Libraries of Bangladesh do not maintain any sort of standard and here is no competitions among the libraries to better Libraries of Bangladesh do not maintain any sort of standard and here is no competition among the libraries to better serve the user. It has no national models or standards for the libraries to follow. Some systems have been created without the essential infrastructure and without due regard to interlibrary compatibility.

7. Lack of uniformity of using library software packages: One library is distinct from another by using different software. Some libraries use open source software and others use ready made or in-house software which is often difficult for users. There is not uniformity among libraries of using software package.

8. Short coming in information education: Public attitude toward information in Bangladesh is that a few literary and research communities are dependent on information. The concept of library and information education and service is not clear to the general public even to many literary persons let alone technology based systems. Frequently the library staff operates these facilities on behalf of the user. From the statistics it is evident that the user groups are not so much aware of the advanced level information education.

9. The attitude of information professionals toward information technology is not encouraging: The attitude of professionals toward information technology is not so encouraging. We have an acute lack of computer staff was a common dialogue of most the librarian when we wanted to know the progress of computerization. But little initiatives have been taken or shown their willingness to turn existing library staff to computer expert. In some cases administration and management of the library are vested upon such non-professions who have no professional qualifications, experience or idea.

10. **Lack of international cooperation:** Different international library organization does not co-operate our country about library automation. They often organize unnecessary conference, seminars but they do not fund or organize any training

program which is helpful for library automation. This is another important problem of library automation.

11. Administrative problems: Administrators, Policymakers and Government executives are not fully aware of the importance of the usage of IT in libraries. Lack of awareness by these key individuals of the role, capacity, and capabilities of computers impedes their use in libraries which could benefit from using computer technology.

12. Lack of government supports, both political and monetary: It is a common problem of the developing country that is suffering from anarchy in the different sectors of the Government, and Bangladesh is no exception of it. It's because of lack of proper understanding among the major political parties. One doesn't have any attitude to pick the positive issue from another's scheme. This type of attitude greatly hinders the smooth implementation of any activities of the Government. The library sector is also not out of its scope.

13. Lack of infrastructure support: As a whole the available infrastructural facilities of the libraries of Bangladesh are not in the satisfactory level. This kind of infrastructural facilities slows down the rate of automation. Inadequate physical facilities hamper the growth of library automation.

14. Lack of dynamic and creative leadership: A good leader can manage his organization by his creative thinking and initiative. Without dynamic and creative leadership the library automation project can not run successfully. So, it is another important problem of library automation.

15. Psychological obstacles: It is acknowledged that there is resistance from the library personnel because they are not aware of library automation. The reluctance of library personnel to accept new technologies hinders the development of automated libraries. Their resistance to change and their fear and inability to face a new reality in the form of information technologies are the important psychological problems in implementing automation in those libraries.

Recommendations for improvement

To promote library automation in Bangladesh, the following recommendations can be taken into considerations:

1. The government of Bangladesh should allocate sufficient funds to allocate sufficient funds to develop indigenous library software packages for automation of libraries in Bangladesh.

2. Library and Information Science teaching and training institutions should introduce different types of training programs.

3. The library association of Bangladesh should organize seminars, workshop, etc. to create awareness among the librarians about current automation.

4. The government should encourage and commission new library and information science department in different government and private universities and college to train more efficient library professionals.

5. Proper rules and regulations should be formulated as soon as possible.

6. International cooperation is a must in the library fields.

7. The ranks and status of librarians and information professionals should be evaluated.

8. To develop a complete and comprehensive range of library software packages.

9. Exhaustive survey should be carried out.

10. The facility of online searching should be added.

11. Government and concerned authorities should cooperate with each other for the development of library automation in Bangladesh.

12. Library authorities should be aware of the changes of ICT throughout the world.

13. The government can introduced a pilot project to provide a free library software package over the country for automation purposes.

14. Proper planning is a must.

15. The indigenous software developers should maintain the standards like Z39.50.

16. All sorts of library should be taken under Information Communication Technology.

17. Librarians should influence administrator, for automation of their concerned librarians.

Conclusion

Library automation has become a burning issue amongst librarians throughout the world. It is clear that library automation is extremely necessary to achieve or implement e-library concept. Automated libraries can not function at their full strength if necessary tools and accessories are not incorporated for appropriate applications. Computerization of library processes is the only way of ensuring that the library will be able to perform its task efficiently and improve its services to the faculty members and perspective users, both nationally and internationally. Now library authorities are realizing that there is no way to escape library automation. They are finding various ways to finance their library automation project. It is expected that the findings of the planners and policy makers to realize the importance of library automation so that a scientific need based library and information services would be provided by libraries in Bangladesh. It is recognized fact that the coming century is going to rely heavily upon information. The libraries will therefore have to play an increasingly important role in functioning as information servers. To play this role more effectively and efficiently in order to meet challenges of the 21st century, automation must be introduced in their services without any delay.

References

1. Haravu, L.J. (2004) Library automation: design, principles and practice, New Delhi: Allied Publishers.

2. Rajput, P.S. & Gautam, J.N. (2010). Automation and problems in their implementation: an investigation of special libraries in Indore, India. International Journal of Library and Information Science, 2(7), 143-147.

3. Zabed, S.M. et.al. (1997). Computerization of libraries in Bangladesh. Malaysian Journal of Library & Information Science, 2(2), 37-43.

4.Hanif Uddin, Md. (1998). Library Automation:A study of the AIC, BANSDOC and the National Libraries of Bangladesh. Bangladesh Journal of Library & Information Science, Vol.1(1); 65-75p.

5. Adegbore, A. M. (2010). Automation in two Nigerain university libraries. Library Philosophy and Practice. (September).

6. David, Lourdes T. (2006). Introduction to library automation. Bangkok: UNESCO

7. Munshi, M. Nasiruddin. (2006) Library automation in Bangladesh: The Dhaka university library experience. Information Science Today.

8. Jan, Saeed Ullah (2011) Automation of university libraries: A comparative analysis of Islamabad and Khyber Pukhton Khwa, Pakistan. Library Philosophy and Practice.

9. Uddin, Hanif, et.al (2004) Automation scenario of some leading agricultural libraries of Bangladesh: An overview. CALIBER

10. Ranganathan, S.R. (1965). Academic library system: Fourth plan period, Library Science with a slant*Documentation 2*(4): 293-347.

11. Kumar, P.S.G. (1987).*Computerization of Indian libraries*. New Delhi: B.R. Publishing Corporation.

12. Harinarayana, N.S. (1991). Concept of library automation. *Herald of Library Science 30* (3-4): 176-177 .http://www.kiikm.org/Newgenlib_Installations.htm accessed on Mohammadi, HR. (1998).

13. Nok, Grace (2006) The Challenges of Computerizing a University Library in Nigeria: The Case of Kashim Ibrahim Library, Ahmadu Bello University, and Zaria. *Library Philosophy and Practice (e-journal),* vol.2 No.8 pp.6-8

14. Bavakutty, M, Muhammad Salih T.K., et.al. (2006). Research on library computerization. New Delhi: Ess Ess publication. P.6-9.

15. Bansode, Sadanand Y. & Shamin Periera (2008). A survey of library automation: College libraries in Goa State, India. *Library Philosophy and Practice*. 2008 Annual Volume.

16. Fatoki, O. (2004). Library automation in Nigeria: The Kenneth Dike library experience. *Lagos Journal of Library and Information Science, LAJLIS 2*(2).

17. Moulton, L. (1998). *Leading the library automation project*. Comstow: Information Services Inc..

18. Onime,Clement.(2008).Trends in Library Automation. ICTP & Library.

19. Bhanja, Monalisha & Barik, Nilaranjan.(2009). Library Automation: problems and prospect. National Convention of MANLIBNET.

20. Tiwari, Aravind. (2002). Evaluation of electronic libraries. New Delhi: APH Publishing Corporation.