

Library Automation in Bangladesh: The Dhaka University Library Experiences

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ABSTRACT

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This article attempts to discuss the concept of library automation, status of library automation in Bangladesh, Dhaka University Library and their Automation Project. The paper also presents the model of Dhaka University Library Automation Project (DULAP). Further, it discusses the online access and internet browsing system and how to use GoPAC. The study also has discussed 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.

KEYWORDS: Library automation, Dhaka University Library, DULAP (Dhaka University Library automation Practice), GoPAC OPAC, GLAS (Graphical Library Automation System)

0. INTRODUCTION

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 computer 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. In fact, 'automation' is an indispensable part of modern library's information systems development, organization, management and services. In the present 'age of

information', automation has been making tremendous impact on different sectors of the libraries and information centers. In view of complex and multi-faceted user requirements, this results in numerous specialization and flow of non-stop information, decreasing comprehensive acquisition of documents for libraries, growing demands of information, increasing number of users, etc. Automation has been playing a vital role in improving the capabilities of libraries/information centres towards attaining satisfaction of their users (Munshi, 1998).

1. 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. 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, cataloguing and reference and serial control (Int. Lib. Rev., 1989). Finally, library automation is the process of performing all information operations/ activities in library with the help of computers and related information technologies.

2. STATUS OF LIBRARY AUTOMATION IN BANGLADESH

Bangladesh entered into the computer world in 1964 with the installation of an IBM 1620 machine at the Atomic Energy Centre and IBM 101 Statistical Machine at the Institute of Statistical Research and Training (ISRT) at Dhaka (Ahmed, 1998). The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) Documentation and Information Centre and Agricultural Information Centre (AIC) are the pioneers in creating bibliographic databases on specialized fields using microcomputers (Khan, 1989). Some other libraries and information centres working with computers and some related technologies are at the initial stage of 'automation process' and 'networking'. Till now, there is not a single library or information centre in Bangladesh which is literally automated except ICDDR, B Library and North South University Library. It is 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. Most of the libraries and information centres use computers as stand alone devices. These libraries have installed microcomputers mainly for creation and maintenance of bibliographic databases and some word processing activities. Few libraries have CD-ROMs facilities, but no initiative has been taken to produce any indigenous information product on CDs. Some libraries have online connection and are providing external resource sharing facilities to a limited scale. Only a few specialized libraries and information centres have started networking and resource sharing or use telecommunication systems for inter-site data transfer (Alam, 1998). It is a fact that there is no formal study on how many libraries and information centres have bought computers for initiation of automation. Approximately 82 (24 public & private university, 2 national, 1 public and 55 special) libraries and information centres (covering research, health, agriculture, science and technology, departmental, ministries, missions, etc.) use computers in their operations and most of these are concentrated in Dhaka, the capital of the country (Munshi & Ahmed, 2000). The application areas are not so much different than that of other general libraries.

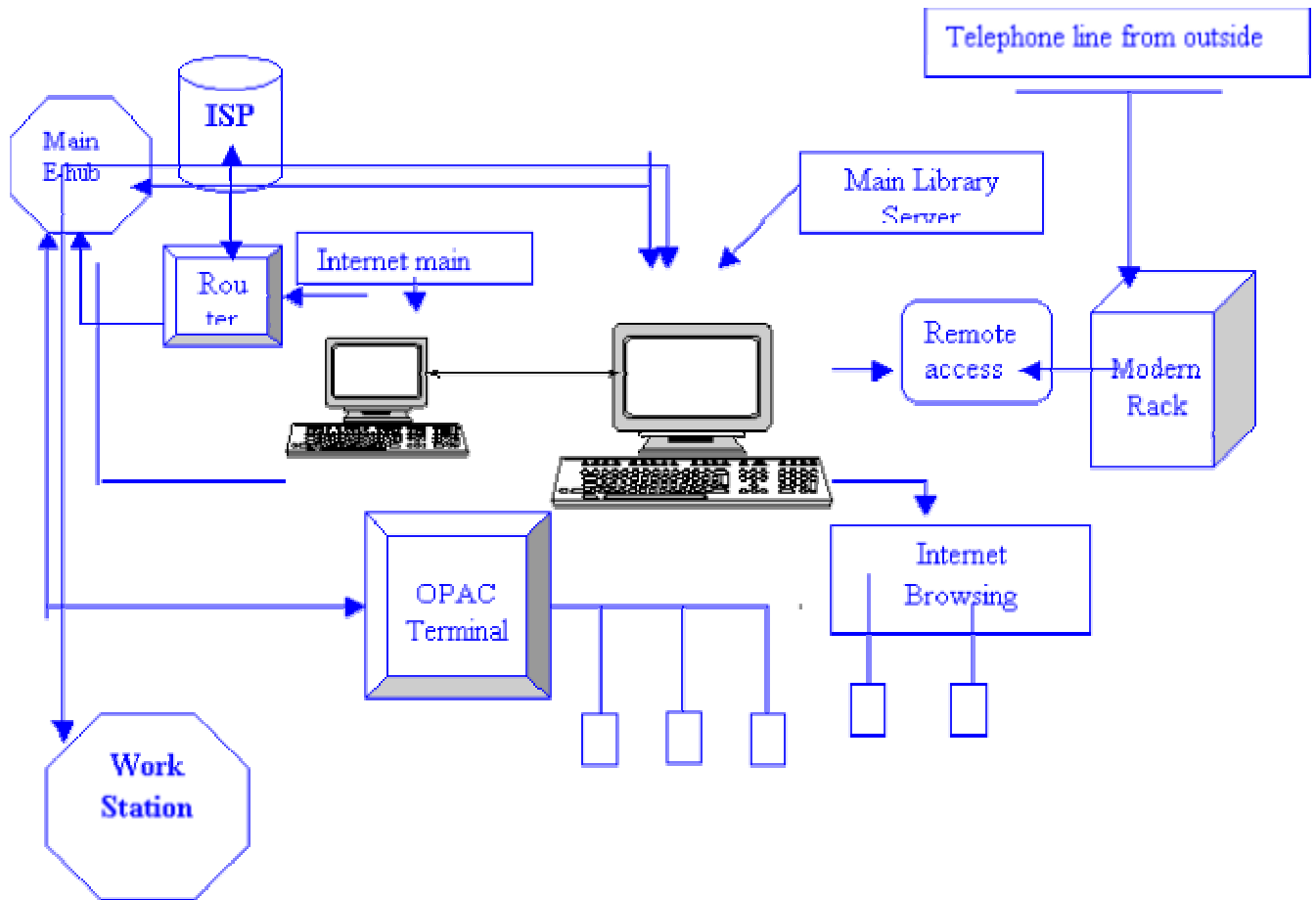
3. DHAKA UNIVERSITY LIBRARY

Dhaka University is acquainted by its name and it is the oldest and most famous university in this Sub-continent established in 1921. Dhaka University Library, also established in 1921 with its parent organization, is the largest academic library of the country holding over half a million items of monographs, books, manuscripts, periodicals, microforms, rare books and different types of special collections. This collection is the great achievement of the library; because it reflects our literature, culture, and heritage and world history. Although the library has its own largest collection but the organization, arrangement and services are traditional in nature and the library is not able to provide user services quite satisfactorily.

4. DHAKA UNIVERSITY LIBRARY AUTOMATION PRACTICE

To provide better and faster user services 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 (DULAP), funded by UNDP and UGC (University Grants Commission). The Dhaka University Library has installed a proven library software GLAS (Graphical Library Automation System) equipped with a network server and a number of PCs distributed in a local area network (LAN) within the different sectors of the library and faculty buildings of the university. The system is being used for creating bibliographic data bases, controlling acquisition, cataloguing and serials, effecting bar-coded circulation, reservation and recall systems, current awareness services (CAS), selective dissemination of information (SDI) services and online literature searches of the national and international data bases through CD-ROMs and also via internet (Alam,1996).

Dhaka University Library Automation Model



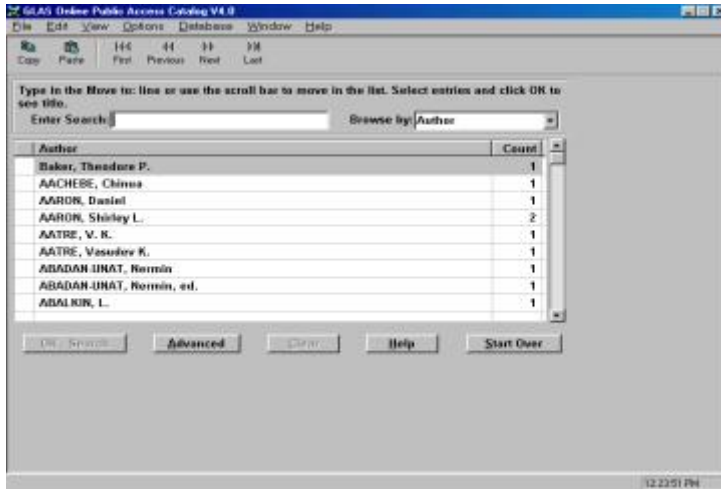
Online access and Internet Browsing

The Internet browsing facilities are provided by DULAP for users. One can also browse the Dhaka University Library catalogue from the following address:

<http://www.univdhaka.edu>



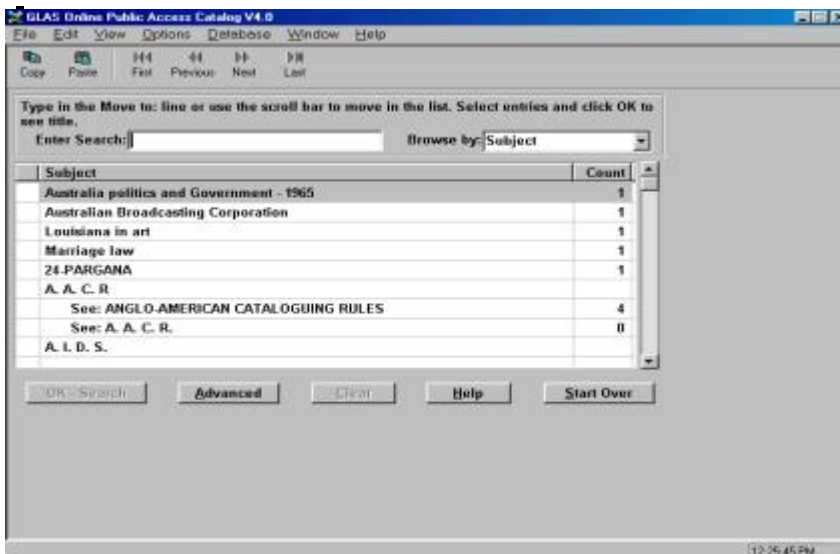
Front View of GLAS OPAC



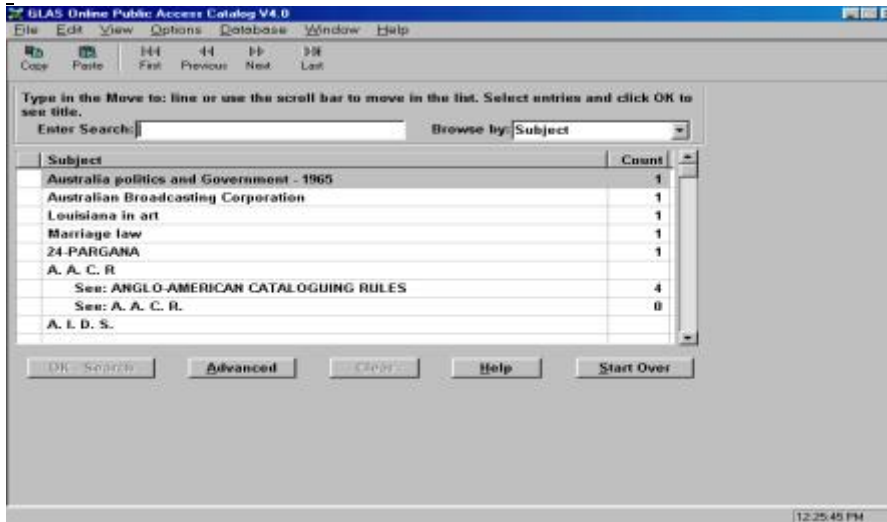
Search by Author page



Search by Title page



Search by Subject page



Advance Search Page

Advance Search page – Here one can browse by *Any word, Accession No, Added Entry, Author, Call No, Series, Subject, Title*; Also by using the Boolean logics such as *AND, OR, NOT*; Also using the Range =, >, >=, <, <=, !=;

How to Use GoPAC

This section contains a quick guide to GoPAC. For more assistance browsing or searching, refer to "How to Browse" or "How to Search" topics in Chapter 3 of this user manual (or select Contents from the Help menu).

Browsing: Click on the Author, Title, or Subject icons to browse the related index.

Quick Search: Type your search directly into the Quick Search field.

Advanced Search: All the components necessary to create a complex search phrase are available for selection by clicking on the Advanced Search button. Once the window is displayed, simply point and click to build your search.

Tips: Need a reminder? Get quick hints for building a strategy by clicking on the Tips button.

Features of the System

1. Dhaka University Library Automation Project (DULAP) is a Relational Data Base Management System (RDBMS);
2. Online Public Access Catalogue (OPAC) terminals are available at all service points of the main library, administrative sections, science library, all departments and institutions;
3. Work stations terminals are put at acquisition department, cataloguing 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. Educational internet connections and providing service facilities for both students and faculty of the university; and
6. Multimedia inter-active CD-ROM capacity.

Objectives of DULAP

RDBMS will have all the files in single storage, and all service points will reach this central storage to retrieve requisite file and/or document. This would facilitate the work, speed up searches, and enable the librarian to take correct decision. The main objectives are:

- a) a) The ordering department will be able to check from their PC screens whether the item chosen for ordering has any previous copies or editions;
- b) b) Book ordering will be made easy, reminders letter issue automatic, arithmetical calculations automatic, reporting automatic. This file also will be available to all work stations users and as a result, an item not found can be checked if it has been on order;
- c) c) CD-MARC (Compact Disk-Machine Readable Catalogue) searches will enable all processing work to speed up cataloguing, classification, and indexing by importing the required records in Dhaka University Library files. The same system will generate thesaurus search, authority file creation, etc.;
- d) d) Only one catalogue entry for each title will be made in the new system and this would cater for all minimum extra entries and in addition to conventional entries, further ones, such as for ISBN (International Standard Book Number) search;
- e) e) Some major publisher catalogues are now available on Internet 'Free of Charge'. All departments will be able to use the up-to-date publication list of the important western publishers, along with date of publication, editions, collation and price, ISBN etc.
- f) f) The book circulation system will use Bar-Code system with bar-coded labels on the books and also on the borrower's cards. This would enable the book issue and discharge system, as well as to know the status of the borrowers quickly and efficiently;
- g) g) The OPAC terminals would allow the users to check whether items required are on loan, and if so, their date of returns;
- h) h) Borrowers will be able to renew books in their possessions over telephone and they would be informed if another borrowers were waiting for the same items, in which case they may not be renewed;
- i) i) Serials list subscriptions control is different form book ordering system. For this reason a separate program module will control such serial list subscriptions with automatic reporting, reminders to supply, prepare want list at predetermined intervals, produce budgetary and management information and make whole serials holdings list available for the OPAC users;
- j) j) The Internet connections will be provided at the main library and science library where the designated users will be able to make necessary searches etc.;
- k) k) All management statistics will be accurate, budgetary control simplified, news letter, SDI, etc. easy to produce. These would enhance transparency and accountability;
- l) l) The manuscript catalogue, which is now published in parts, can be produced in cumulative form and used worldwide;
- m) m) Other academic libraries will be able to participate in a resource-sharing project and will be able to check Dhaka University Library catalogue via Internet.

Hardware and Software Support

Hardware:

Processor	IBM – 09 Whiz – 10
Monitor	IBM – 09 Philips – 17
Printer	NEC – 01 Dot Metrics – 02

	Laser – 01
	Bar Code – 01
Scanner	Mustek – 01
UPS	Online – 01
	Offline – 23
Modem	Rack – 01
	Web-ramp – 01
Hub	24 port – 01
	16 port – 01

Software:

The Dhaka University Library has purchased the proven software for automation project from an American Software Company. The name of the software is GLAS (Graphical Library Automation System). The library software has also been equipped with a network server and a number of PCs distributed in a local area network (LAN) within the different sectors of the library and faculty buildings of the university. Several versions of GLAS are now available in the market and Dhaka University Library has used GLAS – 4.0 version. GLAS – 4.5 versions, the latest one is now also in the market, but the Dhaka University authority has not updated their system yet. The branch office of the company is in Singapore and they are committed to solve any kind of problems which may arise. The company also updates the software every year and supplies it to the Dhaka University Library against payment. Actually the price of the software is TK. 4 (Four) millions. The storage capacity of the software is half a million of records.

Activities and Functions

Since the inception of the automation programme, the DULAP has performed the following functions and activities by the target dates:

1. 1. Procurement of requisite hardware for the purpose of installing Dhaka University Library Automation Project;
2. 2. Procurement of internationally recognised library base software;
3. 3. Establishing a Local Area Network (LAN) among the different sections of the Main Library and the Science Library;
4. 4. Providing CD-ROM reading facilities for users;
5. 5. Creation of databases with
 - • Catalogue entries of books with 1980 plus imprint dates.
 - • Catalogue inputs of recommended readings (as supplied by the departments).
 - • Catalogue entries of books with ISBN (irrespective of publication dates).
 - • Catalogue entries of Rare Books.
6. 6. Making the database available at various points throughout the two libraries; and
7. 7. Offering full Internet facilities by
 - • Developing Dhaka university web page.
 - • Offering Internet facilities for Research & Development to faculty members, researchers, students and staff.
 - • Enabling the Dhaka University Library Catalogue to become Online, as the catalogues of Library of Congress, British Library and many others are.

Facilities Offering for Users

The Dhaka University Library has been offering some service facilities for their users through DULAP. But at the present time, the users are being facilitated in some limited extent. Following are the facilities:

- a) a) Facilities for catalogue browsing from the OPAC (Online Public Access Catalogue) by author, joint author, editor, publisher, subject, corporate names, series, accession number, ISBN, date and so on;
- b) b) Providing facilities for browsing catalogues of the above mentioned information from any PC in any part of the world if it has the network connection with Internet;
- c) c) Preparing Dhaka University Library for offering CD-ROM reading facilities, as the trend now is to publish electronically in digitised formats;
- d) d) Becoming ready for disseminating information about Dhaka University Library's special collections worldwide;
- e) e) Becoming ready for storage and retrieval of rare manuscripts in digitised formats;
- f) f) Issuing one single identity and borrower's card in digitised format for students, researchers, faculty members and staff; and
- g) g) Opening up new horizon for information exchange among the academic and special libraries nationally and internationally.

Tasks Still to Accomplish

As the project ends, the following are the tasks still to be accomplished:

- • Bar coding of lending stocks;
- • Current and pre -1980s catalogue entries input and added copies to existing catalogue entries;
- • Borrowers information updating;
- • Journal lists;
- • Complete manuscripts lists;
- • Renovating book-ordering system through acquisition module of the new software;
- • Maintaining book budget automatically in the main server and administration PC; and
- • The library will accomplish many such details as the automation program now belongs to the library.

5. CONCLUSION

In modern times, any developing nation cannot afford to neglect the existence and advancement of Information Technology. New technological developments in the form of computers, telecommunications, electronics, reprography and micrographs have been adopted in libraries bringing new concept to library systems. They have incorporated all new techniques, which were suitable and useful for them in improving and making library services effective to the user community. Some of the big industrial organisations are using the computer network using communication satellite for resource sharing purposes, which enables participating library to obtain not only bibliographic details from other library's collection but also makes it possible to obtain full list in the form of indexes, abstracts, of the required articles and even facsimile copies of the required page of the document by using computer terminal attached to the system (Misra & Phadke, 1995:23).

Dhaka University Library, also established in 1921 with its parent organization, is the largest academic library of the country holding over half a million of records in different disciplines with special collections. To provide better and faster user services the library has started its automation program named as Dhaka University Library Automation Project (DULAP) since 1998, which is funded by UNDP and Bangladesh University Grants Commission. Actually the project is still ongoing and it's a very good initiative by the Dhaka University authority. The Library has installed a proven library software GLAS (Graphical Library Automation System) equipped with a network server and a number of PCs distributed in a local area network (LAN) within the different sectors of the library and faculty buildings of the university. Consequently, this program will bring a greater benefit for students, researchers, faculty members and staff as well as the whole nation.

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Appendixes

A comparative listing of the advantages of automated system over the manual system:
Activity Area: Searches Perform Ability, Catalogue Entry Production, and Copy Linking

<u>Activities</u>	<u>Manual System</u>	<u>Automated System</u>
Searches:		
Catalogue Search locations	Possible at only one location in the library	Possible at many in the library
Within an Entry:		
⇒ ISBN	Not possible directly	directly possible
⇒ Bibliographic search	restricted search made	full search made
⇒ Publishers' catalogue search	limited	unlimited approach
⇒ Previous entry/edition search	limited	unlimited approach
⇒ Subject heading search	limited	unlimited approach
⇒ Key work search	not possible	always possible
⇒ Book no./call no. search	not possible	always possible

Perform Ability

⇒ Order list production copies	manually produced copies	automated	produced
⇒ Budgetary control	manually calculated	automatically	
⇒ Checking receipts	manual	computed	
⇒ Reminder to book-sellers	manual	manual & automatic	
⇒ Reminder to users	manual	automatic	
⇒ Rejections	manually handled	automatic	
⇒ Re-ordering	manually handled	automatic	
⇒ Cancelling orders	manually handled	automatic	
⇒ Report preparation	manual	automatic	
⇒ Statistic preparation	manually calculated	automatically computed	

Catalogue Entry Production

⇒ ISBN search	not undertaken	always undertaken
⇒ LC card no. comparison	not undertaken	always undertaken
⇒ BL entry comparison	not undertaken	always undertaken
⇒ CIP details	not undertaken	always undertaken
Copy Linking	manually search	automatic

Activity Area: Acquisition and Cataloguing

<u>Activities</u>	<u>Manual System</u>	<u>Automated System</u>
⇒ Authors/editors/title/contributors	5 – 10 typed and individually produced as many required	one entry will generate
⇒ Sub title: alternative title	not offered	will be offered
⇒ Publisher search	not offered	will be offered
⇒ Series	not always offered	will be offered
⇒ Date of publication	not searchable item	searchable item
⇒ ISBN/ISSN	not searchable item	searchable item
⇒ Entering bibliographic details	manually entered	automatic via MARC
⇒ Order origin	manual	automatic
⇒ Cataloguing, classification, and subject heading	manually assigned of AACR, DEWEY and SEARS	automatic assistance in assigning

Activity Area: Circulation

<u>Activities</u>	<u>Manual System</u>	<u>Automated System</u>
⇒ Book issue	Book card/borrowers card filling pockets, right on 3 cards	system automatic
⇒ Reminders	manual	automatic
⇒ Reservation of loan items	not done	automatic
⇒ Discharge	manually	automatic
⇒ Fine collection and accounts	manually	automatic