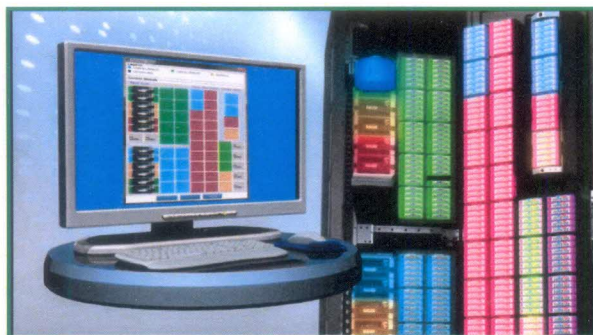# Library Automation Project using e-G3: Case Study of SVBCP Library

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ABSTRACT

Library is a fast growing organism. The ancient methods of maintaining it are no longer dynamic and efficient. For expeditious retrieval and dissemination of information and better service for the clientele, application of modern techniques has become absolutely indispensable. A properly computerized library will help its users with quick and prompt services. Library automation refers to mechanization of library housekeeping operations predominantly by computerization. eG3 is an integrated software system with all the required models for small to very large libraries. It is found that this automation projects will serve as a model for any library. Being an open source, any Library wanted to go for automation for their library housekeeping operations can make use of this software.

Keywords: e-Granthalaya, Open source software, library management, Library automation

1. INTRODUCTION

Library is a fast growing organism. The ancient methods of maintaining it are no longer dynamic and efficient. For expeditious retrieval and dissemination of information and better service for the clientele, application of modern techniques has become absolutely indispensable. A properly computerized library will help its users with quick and prompt services. Library automation refers to mechanization of library housekeeping operations predominantly by computerization. The most commonly known housekeeping operations are acquisition control, serials control, cataloguing, and classification and circulation control. Library automation or Integrated Library System (ILS) is an enterprise resource planning systems for a library, used to tracks items owned, order made, bills paid etc.

1.1. Aim and objectives of the Study
The following are the objectives of this study.

1. To develop and updated database of Books and other Resources of the Library.
2. To implement automated system using eG3 Library Integrated Open Source Software.
3. To carryout the charging and discharging functions of the circulation section more effectively.
4. To provide various search options to know the availability of books in the Library.
5. To generate the list of books due by a particular member and also the overdue charges.

1.2. Methodology

Commercial Software: LibSys, SOUL and SLIM
Free and Open Source Software: e-G3, NewGenLib and Koha.

Sr. No.	Core services	LibSys	SOUL	SLIM	Koha	NewGenLib	eG3
01	Acquisition	Yes	Yes	Yes	Yes	Yes	Yes
02	Cataloguing	Yes	Yes	Yes	Yes	Yes	Yes
03	Circulation	Yes	Yes	Yes	Yes	Yes	Yes
04	Web/OPAC	Yes	Yes	Yes	Yes	Yes	Yes
05	Serials	Yes	Yes	Yes	Yes	Yes	Yes
06	Data exchange	Yes	Yes	Yes	Yes	Yes	Yes
07	Standards	Yes	Yes	Yes	Yes	Yes	Yes
08	Cost(Approx.)	3.5 lacs	80,000	4.5 lacs	Open Source	Open Source	Open Source

1.3. Statement of Problem

The present study aims to Implementation of Library Automation for the SVBCP Library using eG3 Open Source Software.

Saraswathi Vidya Bhavan`s College of Pharmacy, is one of the professional establishment, affiliated to University of Mumbai and is functioning since 1993, located in the semi urban areas on the outskirts of Mumbai with an excellent infrastructure. It is recognized by the All India Council of Technical Education (AICTE) and approved Pharmacy Council of India (PCI), ISO 9001:2000 certified and NAAC (National Assessment and Accreditation Council) accreditated institute.

A number of free software available on internet were also tried, but were not effective. Neither proper trouble shooting nor people were available to solve problems. Finally in 2010, The National Informatics Centre, New Delhi was consulted to adopt the e-Granthalaya.

2. WHY e-GRANTHALAYA?

It is a reliable and all time access for search and manages databases on a simple computer configuration. The services are free and quality oriented alternative. All that the site requires are computers with Internet browsers enabled. National Informatics Centre (NIC), New Delhi will provide absolutely free database.

e-Granthalaya is a library automation software from National Informatics Centre, Department of Electronics & Information Technology, Ministry of Communications and

Information Technology, Government of India. The software has been designed by a team of experts from software as well as Library and Information Science discipline. Using this software the libraries can automate in-house activities as well as user services.

2.1 History

e-Granthalaya was started as an in-house project at 'Karnataka State Centre of NIC, Bangalore' and first version of the software was designed for the Public Libraries in the State. Later, NIC HQs 'Library and Informatics Services Division' took over the designing of the software where library professionals were involved in the designing process and, thus, improved the software with enhanced user interface and simplify the work-flow of library functions so that it can suit all kinds of libraries. Following table shows the release of various versions of the software:

Technology/Platform used	Version	Year	DBMS
Visual Basic 6/ASP/HTML	1.0	2003	MS SQL Server 7
Visual Basic 6/ASP/HTML	2.0	2005	MS SQL Server 2000
VB.NET/ASP.NET 2.0	3.0	2007	MS SQL Server 2005
ASP.NET 4.0/AJAX/SilverLight (Hosted in NIC Server in Cloud Computing Environment) (*Under Development)	4.0	2014	MS SQL Server 2008R2/ PostGresSQL

2.2 System Requirements

For Stand-Alone Mode (All the Components to be installed on a Single PC):
Hardware: Pentium or above with backup device, Min 1 GB RAM, 40GB HDD
OS: Windows XP(SP2)/Vista/win 7/8
DBMS: MS SQL Server 2005/2008/R2/2012 (Express Ed) - FREE
Connectivity: LAN/Internet Connectivity
For Client-Server Mode:
Hardware: A Server Pc with Min 4GB RAM, 80GB HDD
OS: Windows Client OS (Win 7/8) or Windows Server 2008/R2 (Standard/Enterprise Edition)
RDBMS: MS SQL Server 2005/2008/R2/2012 (Express Edition)
Connectivity: LAN/Internet Connectivity
BarCode Printer (Any Model/Make) with Barcode Reader

2.3 How to get the Software

The e-Granthalaya software can be get from any District/State Centres of NIC or from NIC Headquarter, New Delhi by sending one official letter on letter head duly signed by Authority along with duly filled request form. The Request Form can be downloaded from the site.

2.4 Features @ a Glance

- Runs on Windows Platform Only (Win XP/vista/7/8/Server 2003/2008)
- Provides Local/LAN/WAN based Data Entry Solution

- UNICODE Compliant, supports data entry in local language
- Module - Wise Permission to the software Users
- Retro-Conversion as well as Full Cataloging Modes of Data Entry
- Authority Files/ Master tables for Authors, Publishers, Subjects, etc
- Download Catalog Records from Internet
- Z39.50 Client Search Built-in
- Exhaustive Reports for Print
- Export Records in CSV/Text File/MARC 21/MARC XML/ISO:2709/MS ACCESS/EXCEL formats
- Print Accession Register
- Search Module built-in with basic/advance/Boolean parameters
- Library Statistics Reports
- CAS/SDI Services and Documentation Bulletin
- Compact/Summary/Detailed Reports Option
- Generate Bibliography
- Data Entry Statistics Built-In
- News Clipping Services Built-in
- Digital Library integration with uploading / downloading of pdf/html, etc documents in Micro-Documents Manger (Articles/Chapter Indexing)
- SERIALS Control System for Subscription with Auto-Generate Schedule
- Budget Modules with Bill Register Generation, manages Multi-Budget Head
- Import Data from any structured Source
- Well exhaustive Web Based OPAC Interface with separate Membership module

2.5. Plan of Action

One of the most important planning tools involves collecting basic statistical information on the library and its operations. The following are examples of commonly needed data:

- Number of titles and volumes in the collection, current and projected;
- Number of borrowers, current and projected;
- Number of materials circulated, current and projected;
- Number of new materials acquired, current and projected;
- Subject List should be prepared;
- Parent Organization, library details, address, rules, services, timing etc.

Table 1: Total number of Titles/Volumes in the library

Sr. No.	Subject	No. of Titles			No. of Volumes		
		B.Pharm	M.Pharm	Total	B.Pharm	M.Pharm	Total
1	Pharmaceutics	312	59	371	1626	72	1698
2	Pharmacology	102	13	115	538	12	550
3	Pharmacognosy	68	35	103	442	64	506
4	Pharm. Chem.	243	24	267	1333	27	1360
5	Pharm. Analysis	178	17	195	948	22	970
6	General Ref.	121	00	121	348	4	352
7	EVS	05	00	05	05	00	05
8	Literature	02	00	02	39	00	39

		1031	148	**1179**	5279	201	**5480**
	TOTAL						

Table 2: Number of Borrowers

Sr. No.	Course	Students	Faculty	Staff
1	B.Pharm	216	19	27
2	M.Pharm (Pharmacognosy & Phytochemistry)	08	03	04

3. DESIGN AND IMPLEMENTATION OF e-G3 SOFTWARE @ SVBCP LIBRARY
3.1. Home Page of eG3

Home page of eG3 software, so the all modules are available on this front page admin, Books Acquisition, Cataloguing, Circulation, Serials, Micro Documents, Budets and Search. This software is basically divided into two section Monographs and Serials. Monograph is used to enter books, reports, reprints etc. and the Serials section is used to enter the journal details.
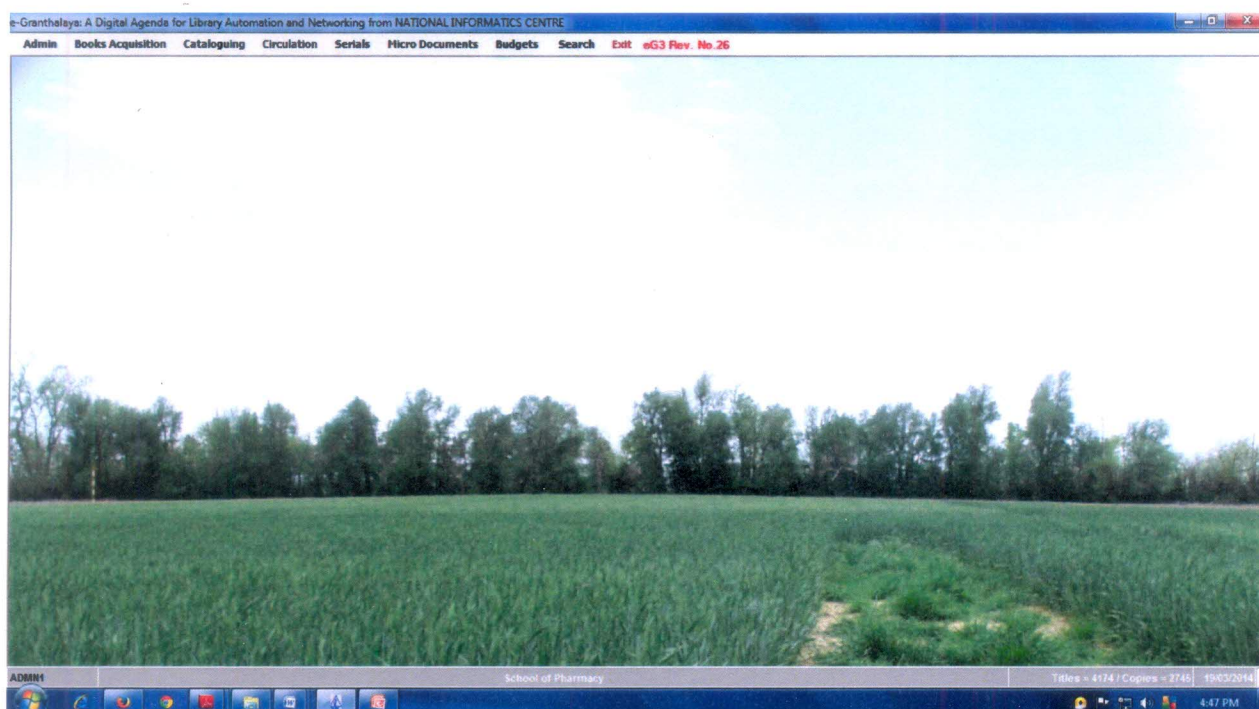
Figure 1: Home page of eG3 module

3.2 e-Granthalaya Modules:
The document can be entered in different modules of the e-granthalaya software.

3.2.1 Admin Module
Admin module is used for making users, setting their permissions, making entry of the default
values in the master tables and then using such values in the subsequent modules.
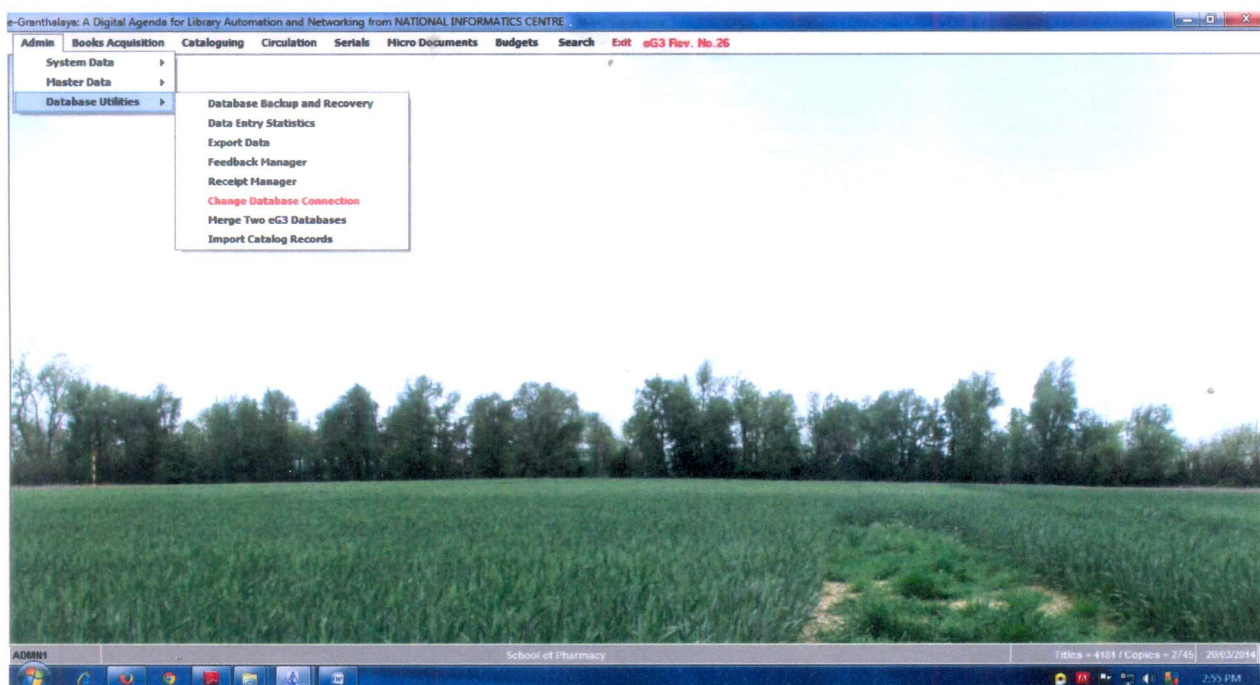
It Provides space for adding/editing/deleting:
Users who will operate software
- Bibliographic level/document type
- Acquisition modes / Copy Status
- Countries / Types of binding
- Currency Codes
- Publishers Details / Vendor Details
- Journal Frequencies / Languages
- Messages and Text for reports/letter
- Sections/Subjects/Library committees

3.2.2. ACQUISITION MODULE

This module is used for *acquisition / purchasing of the documents (books and monographs, standards, manuals, patents, etc.)* in the library. **For each purchasing, a Purchasing Record / Acquisition Record is created.**
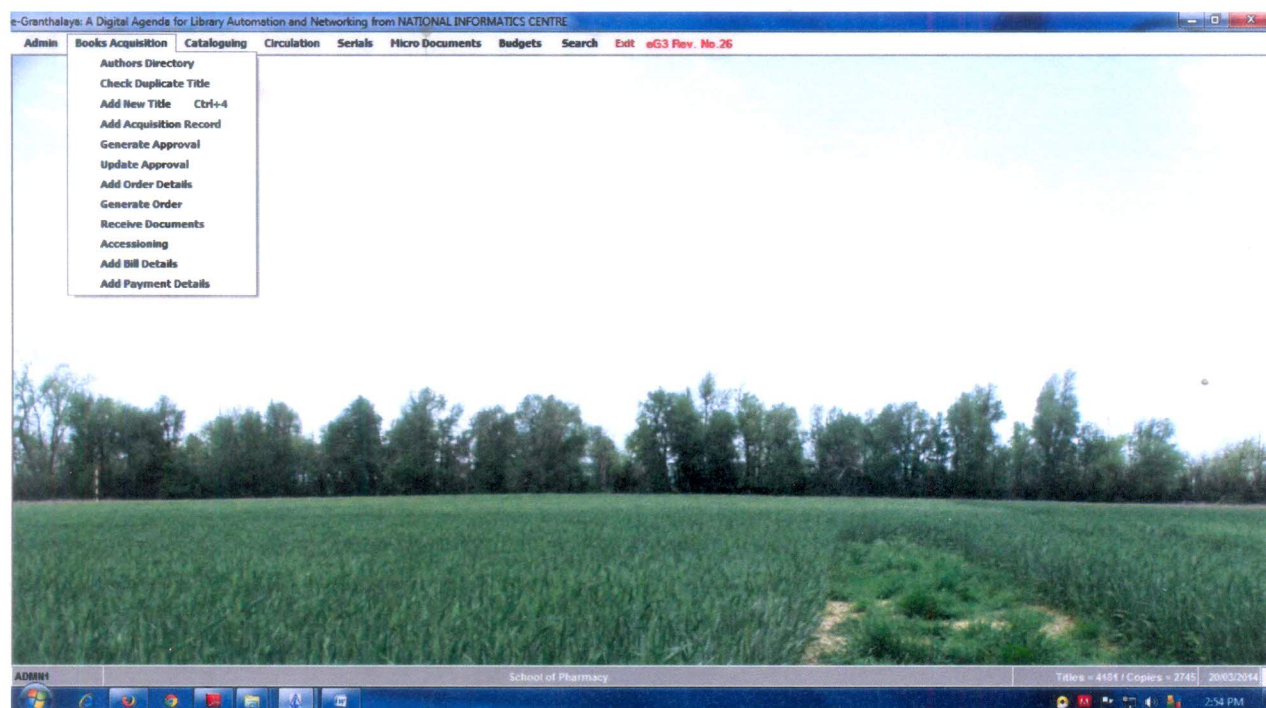
The *process of purchasing* starts from checking the Duplicate documents (if any) to the following steps:-

1. Checking duplicate
2. Adding New Title with minimum fields
3. Add New Acquisition Record (Purchasing Record)
4. Generating Approval List (Sending the list of books to approval authority)
5. Updating the Approval List (Selected / Rejected)
6. Add Order Info
7. Generating Order
8. Receive Documents
9. Accessioning of the received documents
10. Adding Billing Info
11. Adding Payment Info

3.2.3 CATALOGUING MODULE

This module is used to add rest of the data elements in the cataloging records to generate full catalog records.
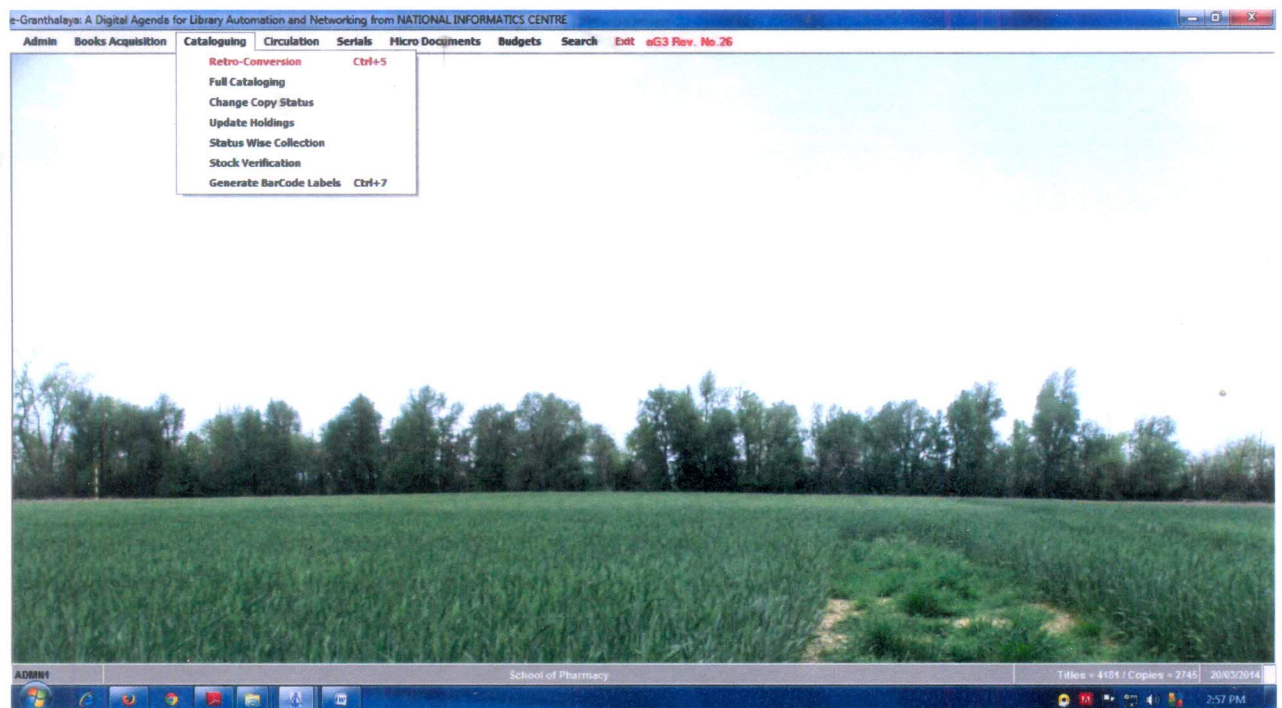
This module consists of the following menu:-

1. **Retro Conversion** - Used to enter the data of existing collection of the library direct / short-cut method (no provision of cost of books)
2. **Full Catalog** - Used to add additional data elements in the records
3. **Change Copy Status** - Used to change the status of the Copy of a title
4. **Update Holding Info**- Used to update/modify the Holding Records
5. **Status Wise Collection**- Used to view the status wise collection of the library
6. **Stock Verification** - Stock Verification Process
7. **Bar Code Labels** - Generate Bar Code labels

3.2.4 CIRCULATION MODULE

This module is used to automate the Circulation Desk activities and services such as making membership, issue and return of the documents, renew of the documents, view circulation transactions, generating overdue reminders, etc.
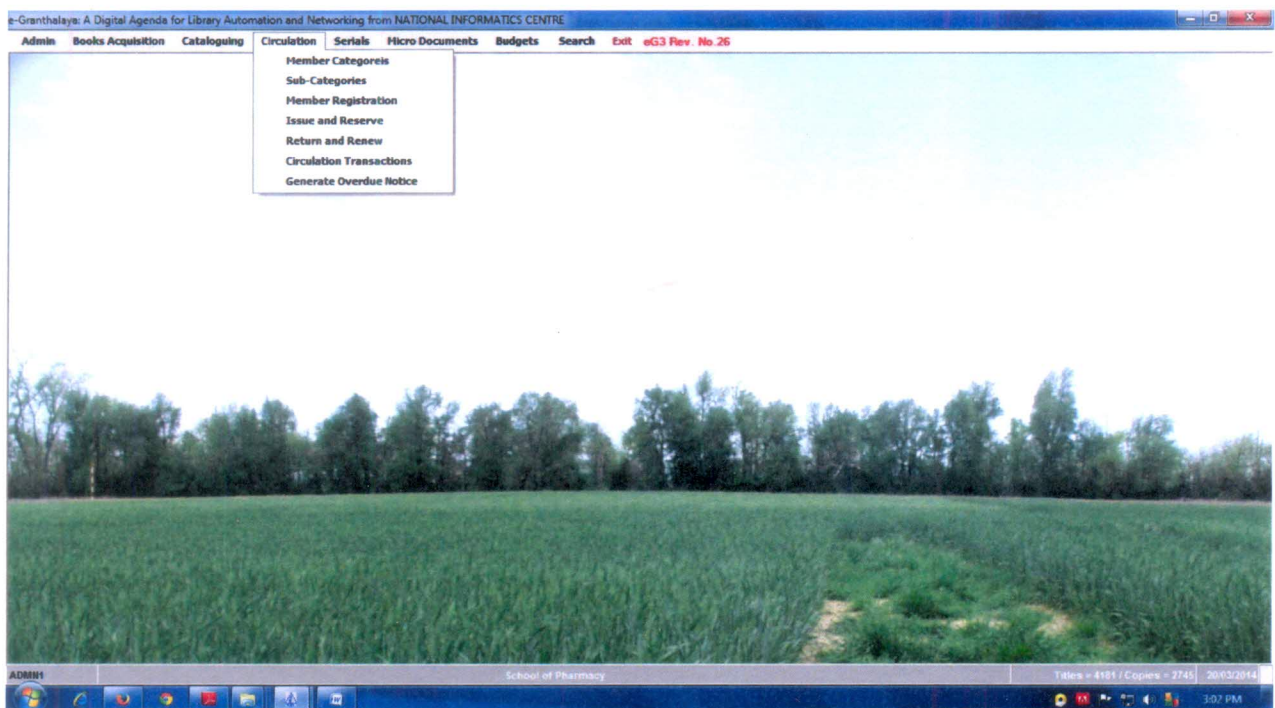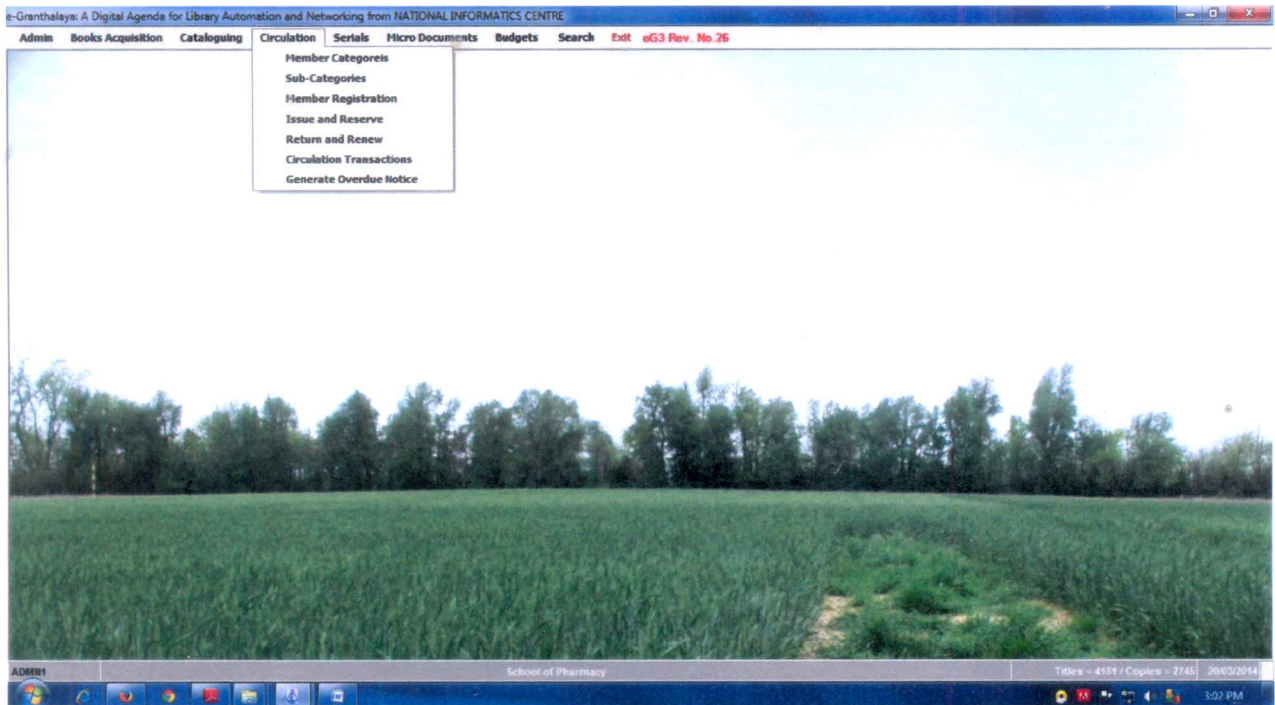
3.2.5 SERIALS MODULES

This module is used for managing the "*Subscription to the Journals, Magazines and Newspapers*" in the Library. The process of subscribing is slightly different from purchasing the books in the Library.
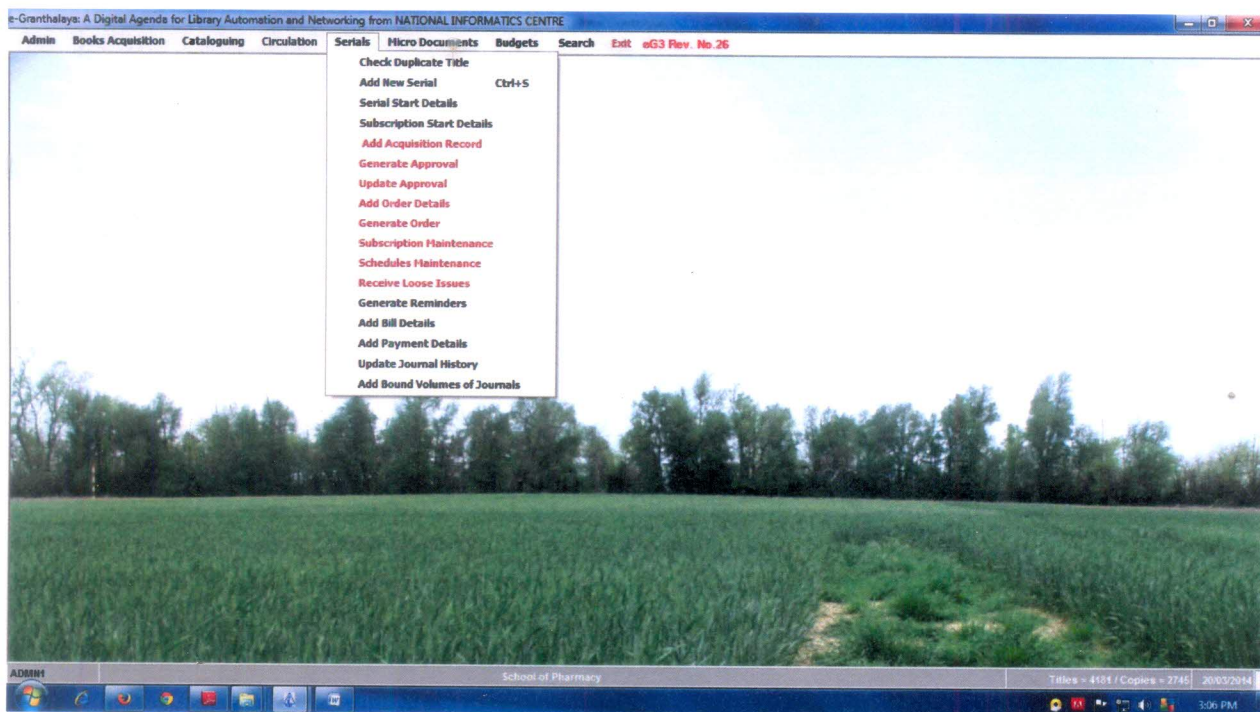
While using this module, users are advised to follow the step by step process to complete the subscription, no menu should be skipped.

### 3.2.6 MICRO DOCUMENTS MODULE

This module is used to manage the Articles Indexing Bibliographic Service provided by the libraries. Under this service, the important articles from journals and chapters from books and news items from newspapers are indexed in the database and provided through Web OPAC of the e-Granthalaya software. Besides, Module is used to upload full text files (pdf, doc, etc) in the record which are accessed using OPAC, thus, libraries can build their institutional repositories of micro-documents
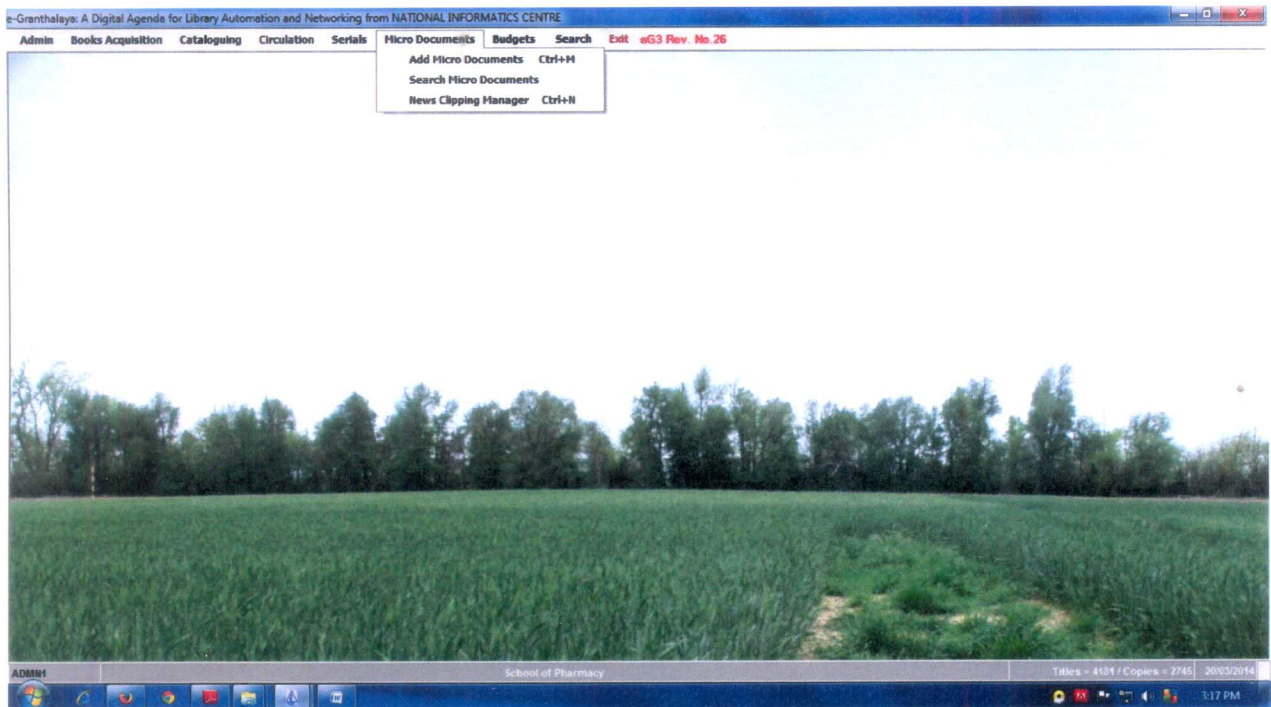
3.2.7 BUDGET MODULE

This module is used for the following functions:-

1. To add budget info on yearly basis
2. Processing of the Invoice
3. Generating Payment Request to be sent to the Accounts Section
4. Updating Payment Request / Cheque delivery to the Vendors, etc
5. Budget Analysis
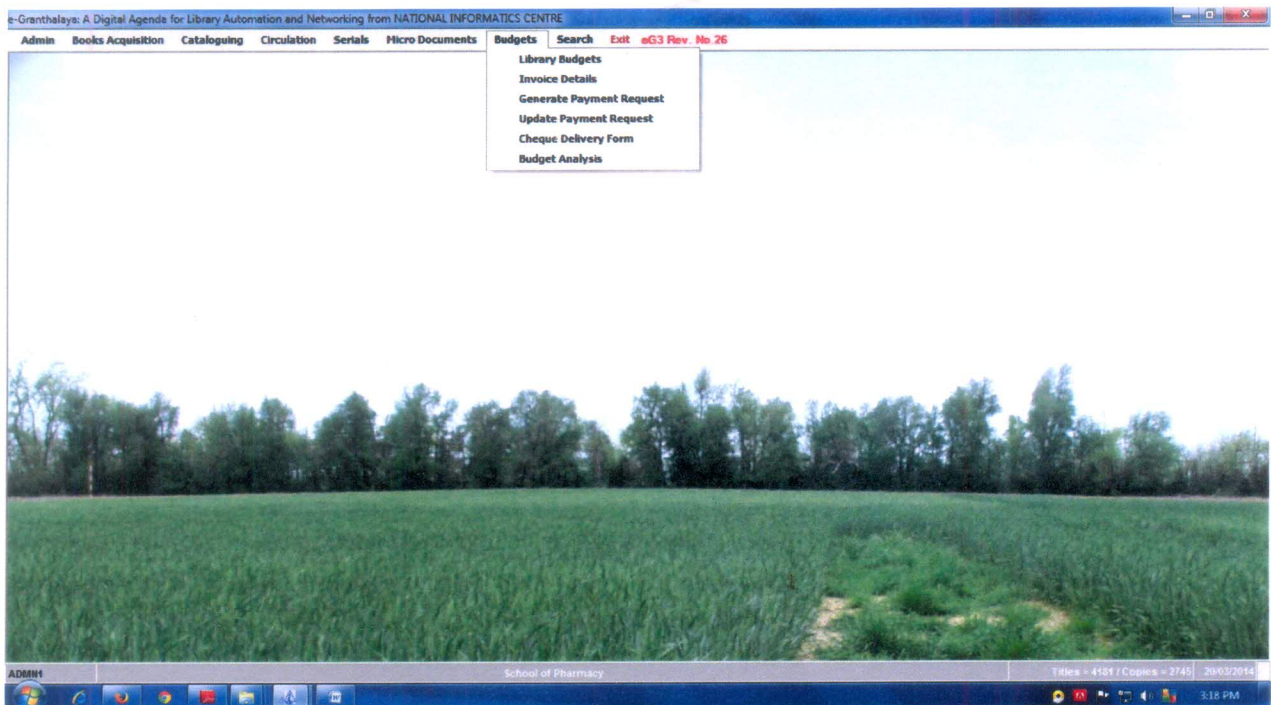
4. WEB OPAC SEARCH INTERFACE

The powerful Web OPAC search provides internet/intranet search services, search library catalog, which involves full text, audio, video and given links to various e-journals. The reports, research articles and technical reports are made available in the search.
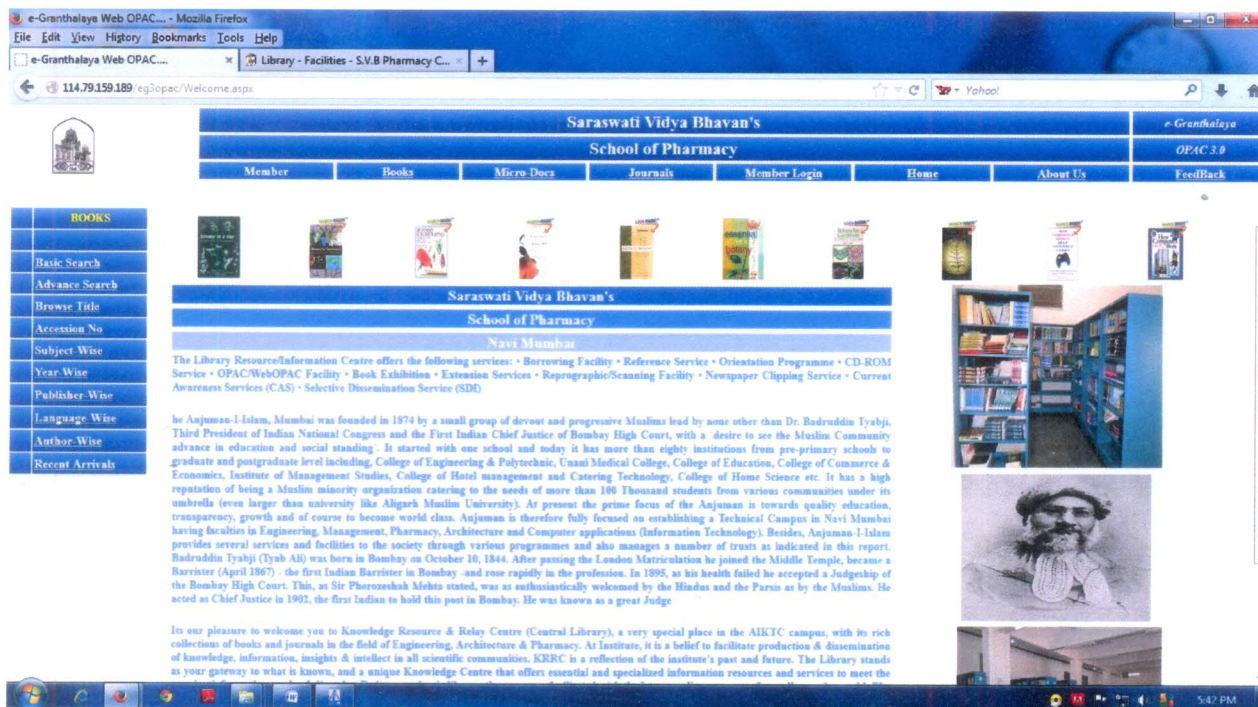
5. SUMMARY & CONCLUSION:

In this research work, a sincere attempt has been made towards finding out ways and means for automating activities in the SVBCP Library. The objective of this study is to use the e-G3 Open Source software system for the automation of the major day to day activities of the various section of the SVBCP Library, which is tiresome and cumbersome. After the investigation, the researchers have found that e-G3 Software is more suitable for the library Automation. This project had the basic objective of designing a bibliographic database for the SVBCP library, with which the automation of circulation routines is carried out. From this point of view it may be concluded that e-G3 is a useful package for the creation of a database and for information retrieval. This set of Manuals for the automation of circulation section is tested with the database created from the collection of M.Pharm. A sample database for a few thousand works and a database of the users/borrowers are created. With that test sample the Manuals for each function of the circulation section is tested with the available computer system.

e-G3 is an integrated software system with all the required models for small to very large libraries. It is found that this automation projects will serve as a model for any library. Being an open source, any Library wanted to go for automation for their library house keeping operations can make use of this software. The following problems faced in implementation of automated library management system in the SVBCP library.

I.   Lack of Infrastructure facility
II.   Lack of Environment support
III.   Lack of Financial Resources

I. Lack of Infrastructure facility

The Problems relating to infrastructure could be studied from the following angles - Lack of Hardware, Lack of Software, Lack of Network facility, Lack of Financial Resources etc.

II. Lack of Environment support

To environment problem are to be taken seriously by SVBCP Library. But this problem can be divided in to two categories: External and internal. Internal problem can be solved by the institution, but it may difficult to solve the external problem.

The library is also on of the targets for environment problem. The problem can be identified related to environmental are Power fluctuation.

III. Lack of Financial Resources

The management support for library department to be allocated in books and racks only, but they are not to allot any fund for Automation software package, so free open software to be implementation in library.

Hence we are recommending that if required libraries can go for automation without spending single money to get their library to automate all their operations and to meet the present and future technological trends. To conclude the researcher had explained in identify the issues, opportunities, challenges perfect to automate small libraries. If is found that e-G3 enable in systematic designing and examination of all library operations in automated environment. All the documents details and the member details of the SVBCP has been completed.

Many institutions might spend lot of money on computer hardware and software but even the most expensive system is totally dependent on the quality of the database/catalog. If the catalogue entries are substandard or improperly made, users will have to face several problems in the retrieval system.

A service oriented professional's life of librarianship to understand service quality better and its linkages to user satisfaction and evolve organization predispositions that strive for service excellence.

SVBCP library has, limited its staff and all other resources, and trained and retrained to adapt to new challenges, but with all eyes focused on the same goal and high spirit of service, success will not be that far.

6. FUTURE PLAN

- To adopt multimedia system and more audio/video clippings for the library users
- Recorded lectures from the class should be included
- To be add student interaction matters
- To adopt higher end Server for maintain large Database
- To adopt higher version of e-granthalaya

7. REFERENCE

1. Matoria, Ramkumar, 2007. e-Granthalaya, version 3, User manual, NIC, New Delhi
2. http://egranthalaya.nic.in

Indian Streams Reserch Journal

Title : Library Automation Project using e-G3: Case Study of SVBCP Library

Author : Ansari Shaheen N., Amrite Trupti O. & Gaonkar Rupesh C.

Department : Librarian

ABSTRACT :

The title accuratly said what the study was about. The abstract is effectively summarize the manuscript. Keywords helps reader to find the article.

INTRODUCTION :

The introduction introduced ideally. It explains the background very well enough that researcheres outside understand curent knowledge.

METHODS & MATERIALS :

Tables / boxes / diagrams and images are used to explain specific points or background information.

RESULTS :

Conclusion of this paper clearly supported results.

DISCUSSIONS :

Our goal is to help the author improve this and future manuscripts.

REFERENCES :

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Introduce new regular for contents and communication.

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CHECKLIST :

	Very High	High	Average	Low	Very Low
1. Interest of the topic to the readers	✓				
2. Originality and novelty of the ideas		✓			
3. Importance of the proposed ideas		✓			
4. Timeliness			✓		
5. Sufficient information to support the assertions made and conclusions drawn		✓			
6. Quality of writing(Organization, clarity, accuracy, grammar)		✓			
7. References and citation (up-to-date, appropriate, sufficient)	✓				

Rajani Kota
Review Editor

Happy Writting...