Abstract
This paper deals with the automation of library functions with special reference to the circulation system as the other software packages are either too costly or do not meet all the requirements. However, the several library automation projects have been embarked in recent years, as the librarians could not ignore the value of the library automation in order to meet up with the rest of the world in the trend of information management and dissemination. This paper reviews the success of the automation project of the library of the B G S Institute of Technology, B G Nagara with the special focus on automating the circulation of library materials using NewGenLib the integrated library management software package.

Key Terms: Automation of Library Function; Circulation System; B G S Institute of Technology; NewGenLib.

Introduction
Libraries cannot escape from the revolution in information technology, which has revolutionized the way of working of the entire society. University libraries are under ever-increasing pressure to maximize our technological capabilities in order to keep up with academic demands. We also have a strong obligation towards the nation as the country's frontline sector of libraries, the hardware in the form of computers, printers, scanners etc., and software systems are the two basic requirements of automating any set of functions. It has never been easy for librarians in the developing countries to convince their authorities on the importance of computerizing the libraries. That is why the computers took long time to step into the libraries in this part of the world.
The module has many built-in controls and settable parameters to enable a library to ensure that library patrons are provided equitable access to the collection and that the library has a report that will enable it to take meaningful decisions about collection building, maintaining, weeding and use of its collection. Support for the Radio Frequency protocol is also available with NewGenLib but is provided specifically on payment to those libraries that need this. The rest of this chapter covers the basic circulation module’s features.

**B G S Institute of Technology**

B G S Institute of Technology established in the year 2005. Presently the library of institute has more than 28000 books in all the departments. Bound Volume of Journals, periodicals, CDs and DVDs etc. A library has also subscribed VTU Consortium and it includes seven e-databases. College purchased NewGenLib library automation management software in October 2009 and upgraded the NewGenLib 2.0 by NewGenLib 3.1.2.

**Automation of Circulation System: NewGenLib Library Experience**

- **Check Out Issue of Items**

The checkout function is a basic one in any circulation control module and is to ensure that items held by the library are securely and accurately checked out or issued out to library patrons. The check-out ensures that the patron’s privileges in respect of different types of library materials are respected, e.g., that user is entitled to borrow the material which has brought to the circulation desk; that the borrowers loan limits are not overdrawn, etc. To invoke the check-out function, click the circulation main menu option and then click the check-out (issue) menu option. This will bring up the screen shown below.

There are three tabs in the screen that open when the Checkout option is invoked. By default the ‘Patron’ tab is selected. The other two tabs: ILL Requesting Library and ILL Requesting Patron may be selected if needed by clicking these tabs.

The steps in the check-out transaction are given below:

The Patron’s ID card is first scanned/read by a bar code reader. No sooner this is done, details of the patron get populated in the text boxes for Department and Patron Name and if the patron’s photograph has been stored in the database, a picture of the patron will be seen at the right-hand corner of the screen. In case the library does not have a bar code reader, the patron Id can be entered via the keyboard but this is error-prone and so care has to be taken in entering patron Ids by hand. Place the cursor in the text box labeled Barcode and scan/read the barcode of the item to be checked out. If you do not have a barcode reader, enter the item barcode by hand but take care to enter it accurately. Once the item bar code is entered or read, details of the item are retrieved from the library’s catalogue database and this is populated in the table shown on the screen. It is also possible for the patron/library staff to quickly make a check of existing loans that are outstanding with the patron whose name and Id is displayed. To do this click the Items Held button in the checkout window. To delete an item that was ready for check out, select that item by clicking the row for that item in the table and then click the Delete icon. Once all items for a particular patron are scanned, all these can be checked out by clicking the button labeled ‘Check Out’ at the bottom of the screen. You will now a Task successful message. Click OK in this.

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<table>
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**Fig. 2: Checkouts in Circulation**
Check In or Return of Items
The check in function enables the library to accurately record the return of items previously loaned to patrons. The function discharges the patron of the loan of the item but maintains useful statistics that is later possible to be analyzed in making decisions concerning acquisitions, weeding out of stock, loss of books, etc., mainly the check in function does not need the patron to be present, only the item is required.

When you click the Check-in menu option you will see the screen shown below:

As can be seen in the figure shown, it contains a text box labeled Item Barcode. Place your cursor in this text box and scan/read the item barcode being returned. You will soon see details of the item are populated in the text boxes for Title, Author, Publisher, Volume, etc., in the lower half of the screen. You will also see the patron name, checked out date, due date, overdue if any, overdue paid. Next to the text box overdue is an icon for overriding overdue payments. Only authorized library staff members are allowed to override overdue charges. Once, the details are verified, click the ‘OK’ button to commit the check in transaction.

Reservations of Items
Patrons can place reservation from the OPAC. However, it is also possible for circulation staff to place reservations on behalf of patrons. Click circulation in the main menu and then place your cursor on the reservations menu option. You will see the sub-options shown in the figure below.

Click the Search Catalogue button to begin a search for the item to be reserved. Once this is retrieved, click the OK button in the search results display screen. The details of the item are then populated in the place reservation window as shown above. If more than one patron reserves the same title, a reservations queue is formed and the user is sent an email and/or instant message about his reservations and the queue number of his reservation.

Update Reservation Queue
At times, it becomes necessary for library staff to be able to modify the reservation queue for an item because one patron who is lower down in the queue may need the book more urgently than those who are higher up in the queue. For instance, in an academic institution, a teacher may need a title urgently for a course he is teaching. He may have placed a reservation for the title but finds that he is fourth or fifth in the queue. He could then request librarian to push his queue position up so that he receives the title in advance of others. In such a situation, the librarian can use the update reservation queue option.
When library staff is called upon to place reservations on behalf of patrons, this is done by clicking the place reservations menu sub-option. The screen is shown below then opens.
• **Cancel Reservations**

Library staff may also need to cancel the reservation of an item for a particular patron if required under circumstances. For instance, a patron may have been marked as delinquent because he has not responded to recall notices and or reminders to return overdue loans. In such a case, it may be decided to cancel all reservations for such a patron. Similarly, a user himself may request the cancellation of his reservation for an item. However, it is possible for a user to cancel his reservation for an item directly from the OPAC.

In order to cancel the reservation for an item for a particular patron, Click the Cancel reservation menu option. Scan or enter the patron ID. Select the item for which the reservation is to be canceled. Click the OK button.

• **Recall Document**

Sometimes it is necessary for the library to recall an item on loan before the expiry of the loan period. For instance, a faculty member may urgently want to place a document on the reserve collection or textbook collection. The recall document function enables library staff to first identify one or more patrons with whom a needed item is on loan and then to send out recall notices to them.

In order to recall loaned documents before the expiry of the loan period do as follows:

The screen that opens (shown below) when you invoke the recall document option has a 'Search Catalogue' button which you must first click to begin the search of the catalogue to identify the item you wish to recall. When you find the item, click the 'OK' button in the search results view page of the search catalogue. This will populate the details of the item in the second panel of the Recall document screen.

Now click the 'View check out details' button to see the patron ID, name, when checked out and when due details of the patron or patrons who have/has checked-out the item.

Click the 'OK' to initiate the recall process, i.e., invoke the print/email/instant message component which will either allow you to send an email, instant message or printed recall notice immediately or postpone it to an end-of-day process.

• **Collection Over Dues**

The collection overdue function enables library staff to accept partial or full overdue payments from a patron and ensure that all such recoveries made and balances due are properly recorded for reference whenever needed, e.g., when the patron requires a no-dues certificate.

To collect over dues from a patron do as follows:

The screen that opens (shown below) when you invoke the collect overdue option has a text box labeled Patron Id followed by a green Go button. Place your cursor in the text box and scan or enter the patron ID and click the Go button.

You will soon get the name of the patron, department, and overall due if any populated in the text boxes provided for these. There is also a text box for you to enter the actual amount of overdue being paid in the text box labeled ‘Overdue Being Paid’. The balance of payment, if any, is automatically calculated and shown in the text box labeled ‘Overdue Balance’.

Click the ‘OK’ button to confirm the transaction and posting to the database.

![Recall Document Screen](image-url)
Weeding Out of Items from the Library

Make a place for new items and ensure that items which are no longer in use because they are outdated, e.g., an older edition when a new edition is added or when ephemeral items such as a pamphlet which has outlasted its utility, or removes damaged books and other items from shelves.

The screen that appears when you click the Weed out menu option under the Circulation main menu is shown below.

![Fig. 7: Collection over Dues](image)

![Fig. 8: Weeding Out Process](image)
The first step in the weeding out process is to identify items that are potentially ready to be weeded out. This is done by clicking the Identify Items ready for weeding. The screen shot shown opens.

Enter the barcode (or accession number) to be weeded out in the text box provided and click the go button. This will populate the table with brief details of the item. This step can be repeated as many times as required to add to the list of items ready to be weeded out.

Click the Process approved weeds option to see the following screen:
If the item is approved, select the checkbox labeled "approve." In the screen shown above otherwise, check the box for "Reject" and click the OK button. This completes the process to weed out items. The catalogue record for the item is updated and the record status is shown as "Weeded out when searched for in the OPAC.

- **Process Reported Loss of Item**

It is quite common for patrons to lose books or other items borrowed by them. Such losses when reported need to be handled, i.e., information about the item's loss should be reflected in the library's catalogue database, and depending on the policy of the library, the patron should be charged the cost of the item, over dues on the borrowed item, and any service charges that accrue because the library has to replace the lost item.

In order to process reported loss of an item scan or enter the barcode of the item that is reported as lost by the patron who reports the loss. If the patron does not know or remember the item’s barcode, click the Search icon. An embedded window appears in which you enter the patron's ID. You will then see all items which are out on loan with the patron in question. Ask the patron to identify the item he has lost in the table of items shown. Select the item reported as lost in the table and click the OK button in the embedded window. You will now see the item and patron details populated in different text boxes as shown in the figure above. You will see the cost of the book as entered when it was acquired (or entered when the item was cataloged), overdue charges if any and the service charges that are levied as per the policy of the library. The service charge is levied for a lost item is one of the General set up parameters. Click the OK button to commit the transaction to the database. The amount due to the loss of the item, overdue and service charges are accumulated in the patron's account statement and he is also intimated of such dues. The catalogue record for the items will show its status as Lost. This is seen also in the OPAC when a user retrieves the record for the item.

**Conclusion**

This study is a novel approach in the field of library and information science in engineering college libraries. It was not easy for us to implement the automated circulation section. We had all sort of difficulties, problems and limitations such as network problems, power fluctuations, system failures, lack of funds, hardware/software problems, fear of retrospective conversion, lack of manpower, fear of staff etc. The situation becomes calm gradually once the staff and users became familiar to the system, strengthened the infrastructure, identified and treated the shortcomings in the software/hardware solutions etc. A few improvements have been done recently by the library to enhance the quality and efficiency of the circulation process. The members who browse the BGSIT catalogue via the internet can reserve materials that he/she wishes. In addition, the membership cards are being processed in-house and issued over the desk since the acquiring of laminating machine. The BGSIT library has several future plans in respect to enhancing the quality and the efficiency of circulation and dissemination of information such as introduce Selective Dissemination of Information service (the module has been already purchased), activate online registration, conduct series of user training and staff training sessions. Our ultimate goal is to introduce a self-circulation system based on the Radio...
Frequency Identification technology to provide the full potential of complete library automation to our clientele disperse all over the island.

REFERENCES