Library Management System Development Using Java Swing on Eclipse Platform

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ABSTRACT

Library is a fast growing sector. The existing system for maintaining library transactions is not very efficient. For quick retrieval and storage of data is required. An appropriately computerized library will help its users with quick and prompt services. Library automation refers to mechanization of library housekeeping operations largely by computerization. Library Management System (LMS) is an automated system that can be useful to Librarians and the users of a library in any functional organization. Library Management System gives the facility to define the tasks of the librarians and also allows its users to manage their activities to and from the library. A report generation facility is supported in LMS that allow its users to keep an account of their transactions in the library. This tool can help librarians to effectively save time and carry out other important works of the library rather than just looking out after the issuing and returning. This project aims at creation of a Library Log. This project will be accessible to all users of the library and its facility allows librarians to maintain a hassle free database while letting its users to themselves manage their own transactions individually thereby solving all major issues of having a huge database in the form of hard material.

Keywords: Automation, Library Management System, Maintenance.

I. INTRODUCTION

Library Management System is software that is used to manage the transactions and operations that are generally performed in a library.[1] It helps in keeping a note of all the books borrowed or returned by the user. The LMS application offers trails to:

- Keep record of the complete information regarding a particular book, journal, magazine.
- Maintaining records for all the books, magazines and journals borrowed
- Maintain an event calendar to store the date and details of borrowed books.
- Maintain an event calendar to store the date and details of the returned books.[2]
- Renew the book borrowed period.
- Add books into the library.
- Add and delete librarians.

II. PROPOSED THEORY

Our existing library system involves performing library related transactions manually by being physically present at the library with the help of employed librarians. This makes it a time taking process to borrow and return journals, books from the library.[3]Hence the automated LMS is introduced to minimize the effort of the borrower as well as the librarians as they do not have to write down all the transactions by hand. The LMS creates a computerized system with a database to store and retrieve data easily. This makes it easy to the user to add books, borrow books, return books and renew books from anywhere using this application.

Our proposed system has the subsequent benefits:

- User friendly graphical user interface

- Effortless access to stored data in the database.
- Minimizes the human errors.
- Fast and efficient way to retrieve information.
- Creates an alternative for physical records of data.

Admin: This module has the entire access to all other modules, admin creates the project, manages the students, teachers and guest entries, can add and remove any users if required. Basically this module has access to every part of the system, from creation of the project to any kind of updating.

Librarian: This module is for the Librarian to log in. Librarians can add or remove any entries to and from the library. They can also, if required view their entry as well. A student/faculty can act as a librarian if needed.

III. RESULTS AND ANALYSIS

A. Main Login Form:

This form provides the display buttons to log into Admin or Librarian portals.
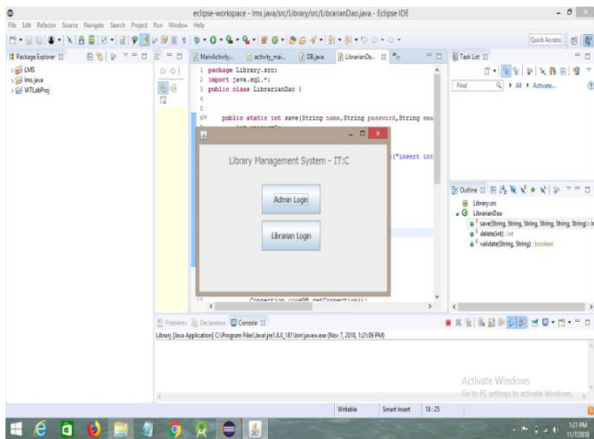
Fig.1- Main Login Form

B. Admin Login Form:

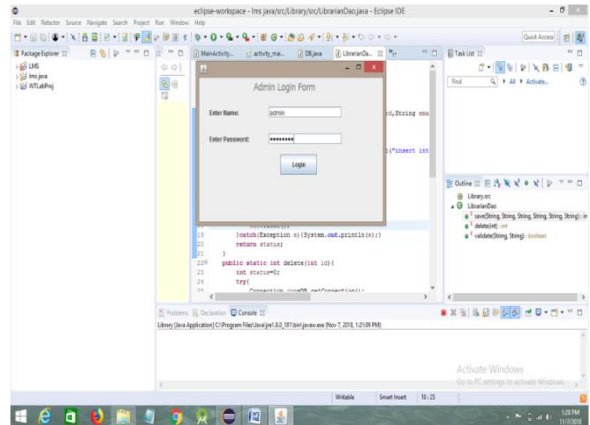This form provides a login form for ADMIN section with responsibilities like adding, deleting a librarian.

Fig.2- Admin Login Form

C. Add Librarian:

Form consists of fields like name, password, and email id, address and contact number to register a librarian i.e., adding a librarian to the system.
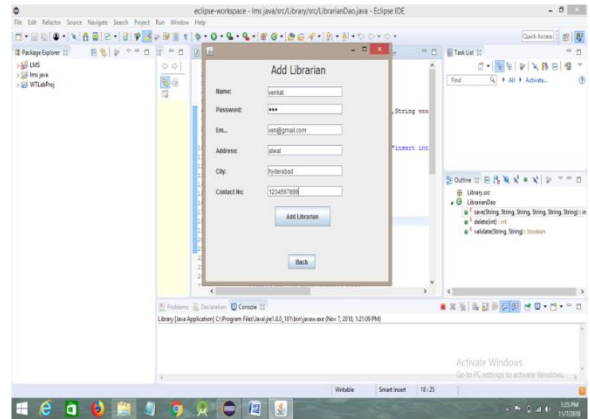

Fig.3-Librarian Registration Form

D. Librarian Login:

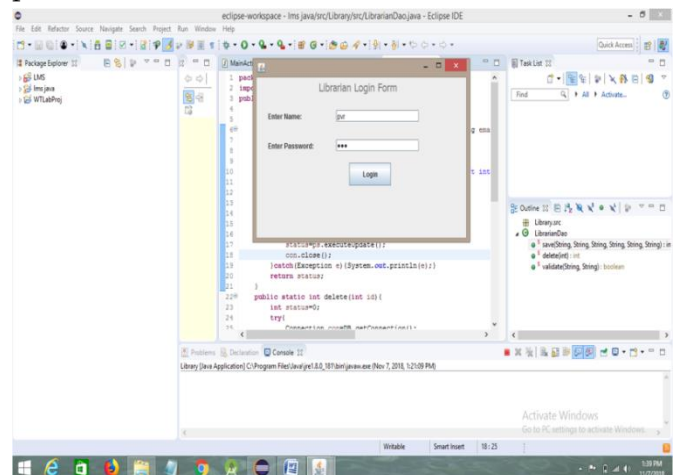Login form for librarian with mandatory name and password fields.

Fig.4-Librarian Login Form

E. Add Books:

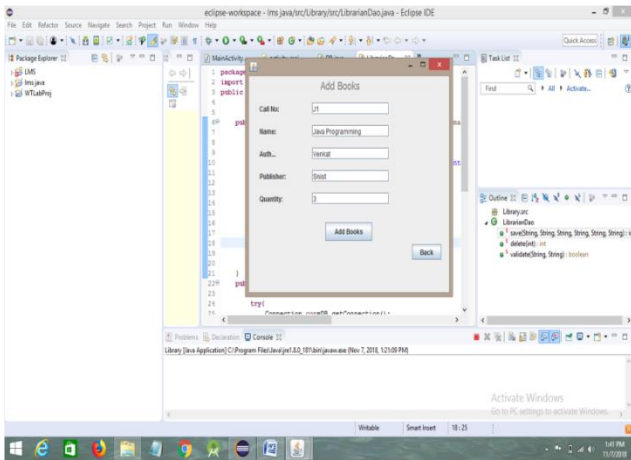The add books form is used to add books into the library with the mandatory fields as shown below.

Fig.5-Add Books Form

F. View Books:

This is a display table that utilizes java GUI to create a window to display the books currently available in the library.
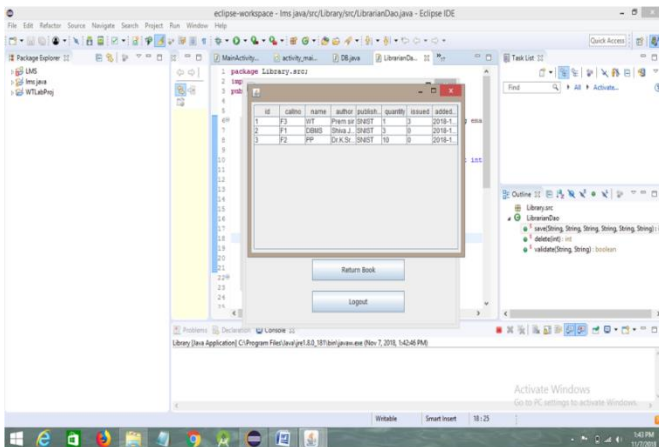

Fig.6-Books Display

G. Issue Books:

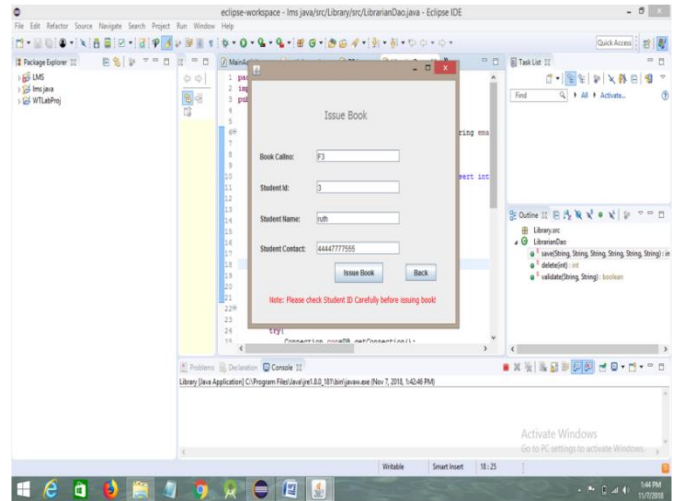This form contains fields for the book call number and personal information of the borrower.

Fig.7-Issue Books Form

H. Issue Success:

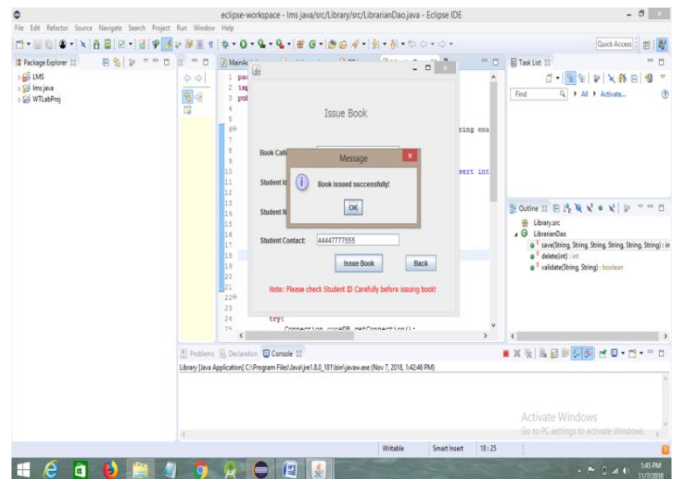A message box will be displayed on successful issue of books as shown below.

Fig.8-Issue Success Message

I. Return Book:

A return book form contains fields for book call-number and borrower id who wants to return the book borrowed.

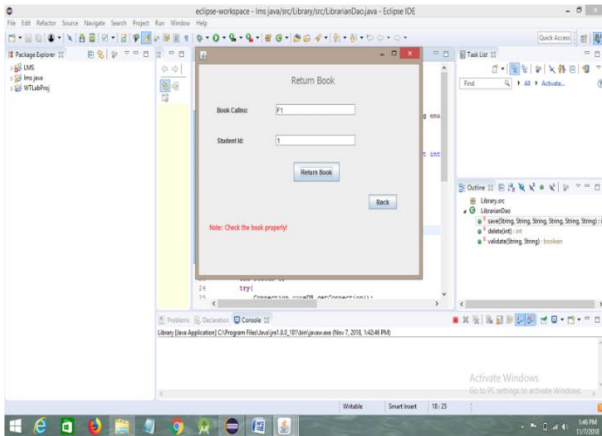Fig.9-Return Book Form

J. Librarian Logout:

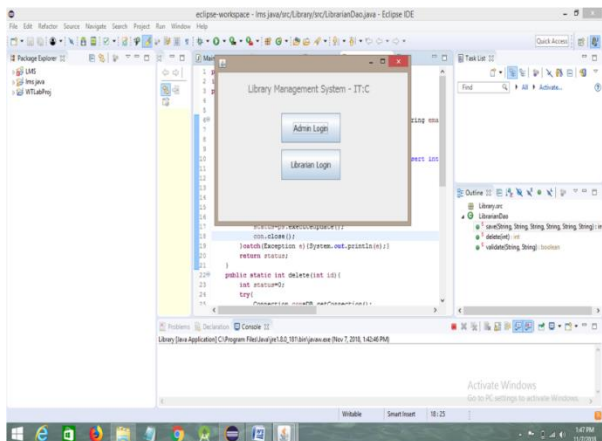A logout button used to log the librarian out of the system.

Fig.10-Librarian Logout

IV.CONCLUSION

After we have finished the task we are certain the issues in the current framework would survive. The "LIBRARY MANAGEMENT SYSTEM" process made mechanized to lessen human blunders and to build the effectiveness. The primary task is to minimize human effort needed to manage library transactions. The automated LMS makes it easier for the user to access the data from the database easily and at a faster rate when compared to physical records. The user needs to provide the required information I need the fields to avail the facilities of the application in seconds. In future this application can be further being produced by utilizing different databases and

Integrated Development conditions yet to come. This would bring about having a superior and easier to understand interface between the library and its clients. Thus, we can foresee that this base model will be an establishment for the up and coming changes of this application sooner rather than later.

V. ACKNOWLEDGEMENT

VI. REFERENCES

[1]. Sharma, C.K.Singh, Kiran, in the book "Library Management", 2005.

[2]. Wellish, Hans H,"Dewey Decimal Classification, Universal Decimal Classification, and the Broad System Ordering: The Evolution of Universal Ordering Systems" at College of Library and Information Sciences, University of Maryland.

[3]. Neelakandan.B, Duraisekar. S, Balasubramani.R, Srinivasa Ragavan.S at "Implementation of Automated Library Management System" in Department of library & Information science, Bharathidasan, University Tiruchirappalli – 620 024, India,2010.