

Rizvi College of Engineering

Department of Computer Engineering

SKL-OOP (JAVA) Mini Project Report

on

Library management system

**Submitted**

by

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# Abstract

Now a day, through the advancement of modern technology, there are a lot of fast and reliable alternatives for research. However, library still pays a vital role on the students and researcher’s life. Library is still considered the most accurate place for information. Undeniably, people especially those who are not having internet connections, and even electricity, rely solely on books. Libraries also supply information not found on World Wide Web. Library still remain the cheapest and the most accessible place for research. Gathering of information still plays a very important role when it comes to gathering of information.

This system is being conceptualized in order for the librarian to access all the books that was barrowed by the student in the school. And we also know that now days in this generation we are used to live with technology and we implement this system.

The Library Management System is an application forassisting a librarian in managing a book library in auniversity. The system would provide basic set of features to add/update members, add/update books, and manage check in specifications for the systems based on the client’s statement of need.

Library management system is a typical management Information system (MIS), its Development include the establishment and maintenance of back-end database and front-end application development aspects. For the former require the establishment of data consistency and integrity of the strong data security and good libraries. As for the latter requires the application fully functional, easy to use and so on.

***Certificate***

This is to certify that the mini project report entitled “Library management system” has been submitted by Danish Khan, Utsav Kuntalwad, Mayur Kyatham under the guidance of Prof. Shaikh Mohd Ashfaque in partial fulfillment of the requirement for the award of 2nd year Engineering in Computer Engineering from University of Mumbai.

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# PROJECT DESCRIPTION

Online Library Management System is a system which maintains the information about the books present in the library, their authors, the members of library to whom books are issued, library staff and all. This is very difficult to organize manually. Maintenance of all this information manually is a very complex task. Owing to the advancement of technology, organization of an Online Library becomes much simple. The Online Library Management has been designed to computerize and automate the operations performed over the information about the members, book issues and returns and all other operations. This computerization of library helps in many instances of its maintenances. It reduces the workload of management as most of the manual work done is reduced Library Management System in which we can perform all CRUD operations, in addition to advanced search, book issuing, Serialization, and Deserialization CRUD is an acronym for CREATE, READ, UPDATE and DELETE which are basic functions of persistent storage. CRUD operations can use forms or an interface view to retrieve and return data from a database. Reads the table records based on the primary key within the input parameter Serialization is a mechanism of converting the state of an object into a byte stream. Deserialization is the reverse process where the byte stream is used to recreate the actual Java object in memory. This mechanism is used to persist the object.

The different concepts used here are classes and objects , collections, array list ,searching characters and substring in a string and serialization and deserialization Then moving to the project we have breakdown our work in to 6 tasks and we have layed our roadmap through this tasks and performed out project so talking about the tasks Create a blueprint to store Book details (getting started ) Implement searching for books based on their name or authors name (addition and deletion of book details ) Emulate admin login session via the command line (searching)

Implement the functionality to issue a book for a user (issue books)

Implement serialization and deserialization to store the data in encrypted format in files (serialization and deserialization using files)

Implementing GUI framework using JFrame of applets library

The project will be a typical command line application in Java.

We'll be accepting data (book and user details) to be stored.

We'll be adding the functionality to retrieve book details.

The admin login session will be emulated via the command line. Only during the admin login session can a user be issued a book.

All of the data will be stored in encrypted format in text files to escape the initial volatile nature of the application.

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# CLASS DIAGRAM

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# SOFTWARE & HARDWARE REQUIREMENTS

## Required Software:

Necessary Software’s/Libraries are:

* Software framework library
* Eclipse IDE

## Required Hardware:

* Processor (CPU) with 2 gigahertz (GHz) frequency or above
* A minimum of 4 GB of RAM
* A minimum of 50 GB of available space on the hard disk
* Internet Connection Broadband (high-speed) Internet connection with a speed of 4 Mbps or higher
* Windows system with 16 GB RAM

# ALGORITHM

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# PROJECT CODE

[**https://github.com/danishkhanbx/Library-Management-System**](https://github.com/danishkhanbx/Library-Management-System)

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Graphical user interface, text, application

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# RESULT / OUTPUT

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Graphical user interface, application

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# CONCLUSION

A Library Management System Project in Java is one of the various systems developed that has numerous functionalities that meet the current requirements of the present-day library system. To enhance it, we can add features like RFID, SMS to remind users of the return date, and others. Java has many features that can be explored to create such wonderful programs.

After we have completed the project we are sure the problems in the existing system would overcome. The “LIBRARY MANAGEMENT SYSTEM” process made computerized to reduce human errors and to increase the efficiency. The main focus of this project is to lessen human efforts. The maintenance of the records is made efficient, as all the records are stored in the ACCESS database, through which data can be retrieved easily. The navigation control is provided in all the forms to navigate through the large amount of records. If the numbers of records are very large then user has to just type in the search string and user gets the results immediately. The editing is also made simpler. The user has to just type in the required field and press the update button to update the desired field. The Books and Students are given a particular unique id no. So that they can be accessed correctly and without errors. Our main aim of the project is to get the correct information about a particular student and books available in the library. The problems, which existed in the earlier system, have been removed to a large extent. And it is expected that this project will go a long way in satisfying users requirements. The computerization of the Library Management will not only improves the efficiency but will also reduce human stress thereby indirectly improving human recourses.

# REFERENCES

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