

A Mini Project Synopsis on
Library Management System

S.E. - I.T Engineering

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CERTIFICATE

This to certify that the Mini Project report on **Library Management System** has been submitted by Sakshi Thorbole (21204003), Rohan Bait (21204008) and Sania Mane(21204014) who are a Bonafede students of A. P. Shah Institute of Technology, Thane, Mumbai, as a partial fulfilment of the requirement for the degree in **Information Technology**, during the academic year **2020-2021** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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Guide

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Chapter 1

Introduction

A Library management system is a software that uses to maintain the record of the library. It contains work like the number of available books in the library, the number of books are issued or returning or renewing a book or late fine charge record, etc. Library Management Systems is software that helps to maintain a database that is useful to enter new books & record books borrowed by the members, with the respective submission dates. Moreover, it also reduces the manual record burden of the librarian. Library management system allows the librarian to maintain library resources in a more operative manner that will help to save their time. It is also convenient for the librarian to manage the process of books allotting and making payment.

Library management system is also useful for students as well as a librarian to keep the constant track of the availability of all books in a store. A library management system is the most proficient and easy to use system for managing all the processes involved in a Library in the most effective ways. This system will reduce all the manual work and the whole process can be managed just through single clicks and edits. There will be no headache and doubtfulness of storing the data securely and searching the records of any individual afterward. Any book seeker can rent a book just by signing in with their details, and return it with the date of returning.

Module 1 consist of pages which includes the login page, the signup page and forgot password page. The Login page consist of username and password by which the user can login easily in case the user is a new user then the signup page comes page comes where he has to make a new account and generate the username and password to login. If the user forgets his/her password then the forgot page helps him to reset his passwords by some queries which will be asked like a security question the user selected during making a new account.

1.1 Purpose :

It reduces the manual paperwork through it and gives proper information of books has been recorded automatically. Librarian can update the information of books and manage availability and arrive record of the books. It saves human efforts and time. With the help of library management software, the customer can easily search and find the books. Online Library Management System is an automated library system that handles the various functions of the library. It provides a complete solution to the library management software. The demand for library automation software in India is increasing day by day with the advancement of the system. As we all are living in the digital age, everyone prefers quick and accurate service. Library management system helps the students in better learning by providing quick access to the library system.

1.2 Objectives:

The main objective of the library management system is to manage the library operations like searching, keeping track of data, issuing and returning book. It handles the entire activity of the librarian. It also keep track of all information about the books and registered students. It contains a database where in all the information is stored safely. This system manages all the information about students and books. It also reduces the manual paper work.

1.3 Scope:

Firstly, this library is amongst the fastest growing sector in India and worldwide, because of which there is a high demand of managerial skills in this sector. This high growth is expected to be there for next two decades. Secondly, there is a gap in presence of managers in library industry. One reason for this is, the students largely comes from engineering or commerce stream and they usually take up employment in education sectors. Due to this there was a need for preparing managers who can specifically work in library. Lastly, library industry is much more complex than any other.

There are a large number of systems and factors that are interrelated and needs to be carefully considered while making managerial decision making. This makes it absolutely necessary for library managers to have a detailed and in-depth understanding of how education works. The requirement of expertise in library is much more than any other sector.

The project will keep track of all the books and library information. The system will be able to handle all necessary information. It is easy to understand and use. It has a simple and a good user interface which helps user to use the system easily. It can assist the staff in capturing the effort spent on their respective working areas. It can also utilize resources in an efficient manner by increasing their productivity through automation. The system will generate types of information that can be used for various purposes. Thus, there are information scopes behind developing the library management system and it reduces a lot of burden of the entry.

Chapter 2

Problem Definition:

The old manual system used to take much more time than this library management system. Libraries are used to store books, but require a system to navigate to a specific book or specific content within a book. A library database system is an infrastructure that allows users to search books and book content, add or remove, and download selected books.

The problem faced is that library users require an efficient method to find a specific book. Efficiency requires that the processing time should stay relatively the same even as the library contents increases. Managing library operations like searching, keeping track of data, issuing and returning book was quite difficult. There was an increase in human effort and time required was much. Difficulties faced by admin while searching and finding the books was requiring more time. Therefore, there was a slow process.

The problem is to overcome the manual library management processing which can be done by the use of technology. It reduces the overall time consumed thereby increasing the efficiency. The problem involves paper work. But system eliminates paper work. Difficulties faced by librarian in searching, tracking the student details and book details is reduced.

Chapter 3

3. Proposed System:

The proposed library management system is developed after the analysis of issues, problems, and drawbacks of the existing system. Here, different modules have been assigned for managing and organizing different tasks in a library. Using this software, librarian can store information of all the books, with author name, faculty, etc., available in the library. Only one person can handle the entire library.

The main feature of this system is that all the books available in the library can be displayed in a list so that students need not roam through the entire library to find a book. Additionally, the application effectively maintains the details of users/students to whom books have been issued, it also records the issued date and return date.

3.1 Features and Functionality:

Librarian can add book and user. There is search feature for finding book availability in library stock. This project also add student's records upon issue of a book. It records book issued and returned date. The librarian can see details of registered students and books available in the library. Data will be stored and accessed easily. Librarian also have the option to add, delete or update student and book details.

Modules:

- User Signup
- User Login
- Home
- --- Add Student
- --- Add Book
- --- Issue Book
- --- Return Book

- --- Statistics
- --- About us
- Logout
- Exit

Chapter 4

Project Outcomes:

1. User will be able to login.
2. In case, if user forgets the password then it can also be retrieved.
3. If the user doesn't have an account he/she can easily create an account by using the sign up button.
4. The librarian can be able to add, delete or update student details easily.
5. The librarian can also be able to search for the desired book.
6. The system also records the data of book issued and the book returned.
7. Details of books and students are stored in the database.

Chapter 5

Software Requirements:

- Front End - Java
- Back End – MySQL
- IDE - Net beans
- Operating System – Windows 10

Chapter 6

Project Design:

User Interface Design

Login User:

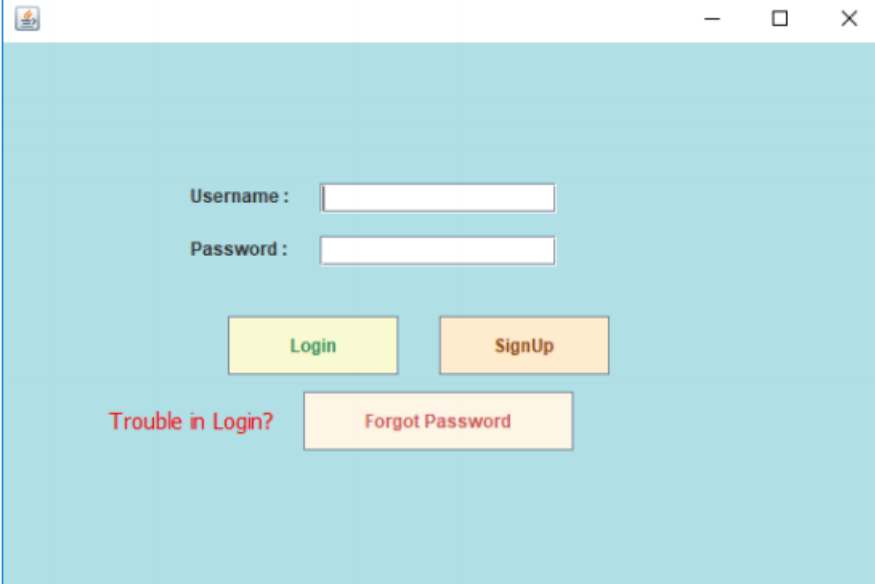
A screenshot of a web application window titled "Login User:". The window has a light blue background. It contains two input fields: "Username :" and "Password :". Below these fields are two buttons: "Login" (yellow) and "SignUp" (orange). At the bottom, there is a red link "Trouble in Login?" and an orange button "Forgot Password".

Figure 1. LOGIN

(User can login by putting his username and password. If user don't have an account then he can create his account using the sign up button. If user forgets his password then both username and password can be retrieved using the forgot password button).

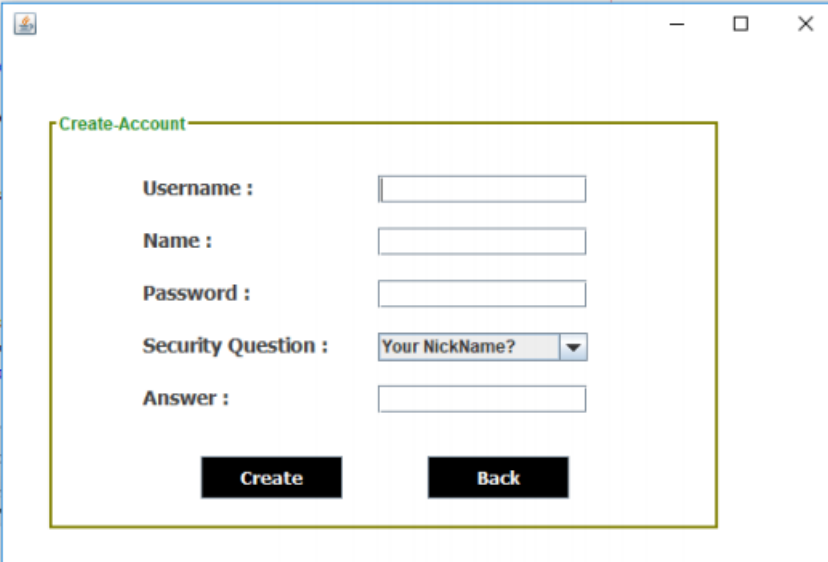
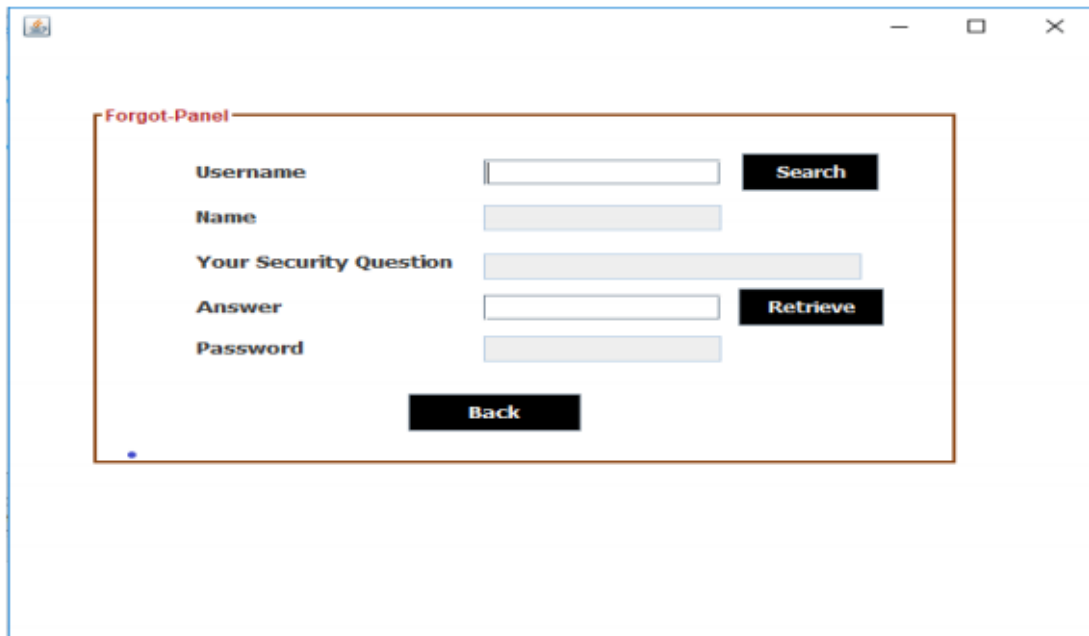
A screenshot of a web application window titled "Create Account". The window has a white background. It contains five input fields: "Username :", "Name :", "Password :", "Security Question :", and "Answer :". The "Security Question :" field has a dropdown menu with "Your NickName?" selected. Below these fields are two buttons: "Create" (black) and "Back" (black).

Figure 2. SIGNUP

(Using sign up button, user can create his account by putting all his details).

Forgot:



The screenshot shows a window titled "Forgot-Panel" with a light blue background. Inside the panel, there are five input fields: "Username", "Name", "Your Security Question", "Answer", and "Password". To the right of the "Username" field is a black "Search" button. To the right of the "Answer" field is a black "Retrieve" button. Below the "Password" field is a black "Back" button. The panel has a thin blue border and a small blue dot in the bottom-left corner.

Figure 1. FORGOT

(If user forgets his password, then both username and password can be retrieved using the forgot password button).

Loading:

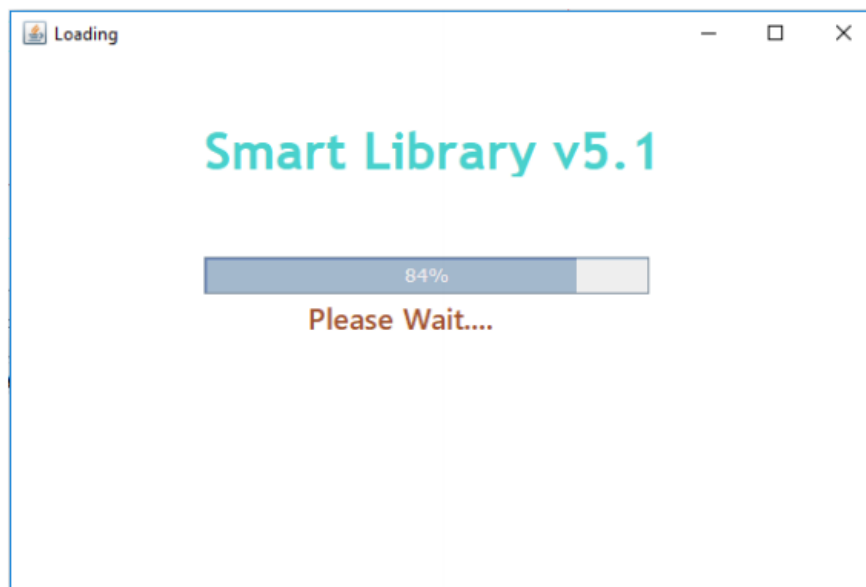


Figure 2. LOADING

(New frame that is loading frame has opened. This means our username and password has matched with the database).

Home:



Figure 3. HOME

(This is the main frame that is home frame. Here, we are having options like to add student, add books, issue book, return book, statistics etc. Record, Help and exit are the menus on the menu bar).

Add Book:

The screenshot shows a window titled "Add Books". Inside the window is a form with the following fields: "Book_id" (with the value "301"), "Name", "ISBN", "Publisher", "Edition" (a dropdown menu with "1" selected), "Price", and "Pages". At the bottom of the form are two buttons: "Add" and "Back".

Figure 4. ADD BOOK

(The librarian can add the book by putting all the details. Here, book_id is the primary key from which will take the reference of the book).

Add Student:

Student_id: 3540

Name:

Father's Name:

Course: B.E

Branch: Mechanical

Year: First

Semester: 1st

ADD Back

Figure 5. ADD STUDENT

(The librarian can add the student by putting all his details. Here, student_id is the primary key from which will take the reference of the student).

Issue Book:

Book_id: Search

Name:

ISBN:

Publisher:

Edition:

Price:

Pages:

Date of Issue:

Issue Back

Student-Details

Student_id: Search

Name:

Father's Name:

Course:

Branch:

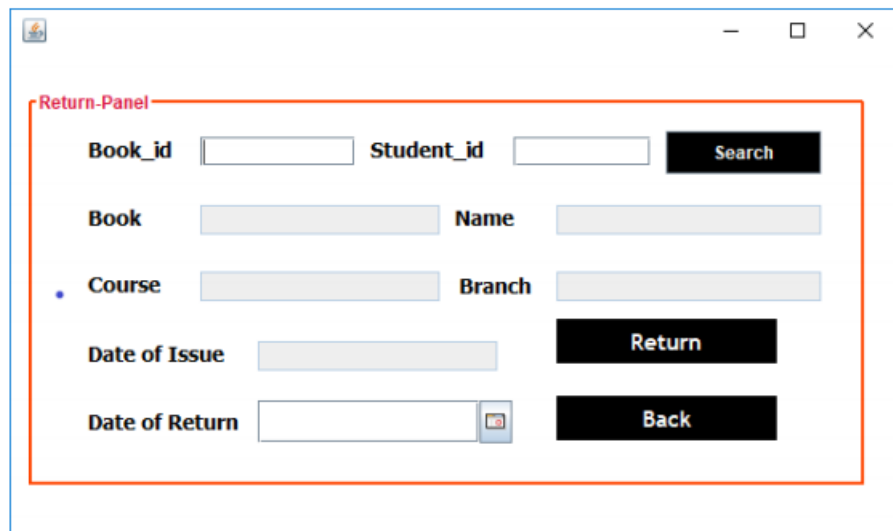
Year:

Semester:

Figure 6. ISSUE BOOK

(If any student want to issue a book, then this issue book frame is used. By just putting the book_id and student_id, rest all the details are auto generated).

Return Book:



Return-Panel

Book_id Student_id

Book Name

Course Branch

Date of Issue

Date of Return

Figure 7. RETURN BOOK

(If any student want to return a book, then this return book frame is used. By just putting the book_id and student_id, rest all the details are auto generated).

About Us:



About Us - Group 4

Library Management System
v5.1

Developed By : GROUP 4

Contact Us : group4@gmail.com
Subscribe us on Youtube : Group4
Follow us on Instagram : group4

****If you want us to make Java Project for you, drop a mail****

Figure 8. ABOUT US

(Here, we have simply promoted our group that is group 4 and mentioned some contact details).

Book Details:

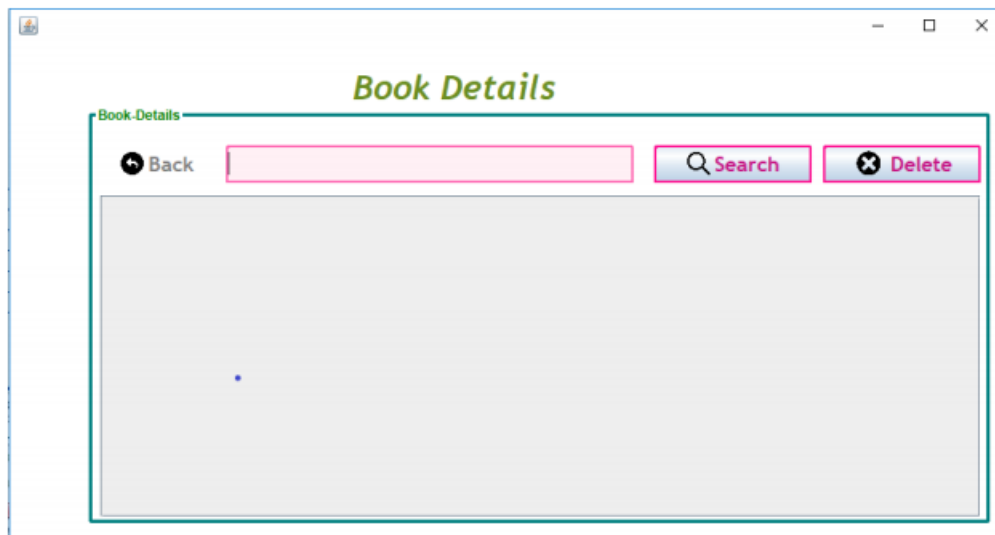


Figure 9. BOOK DETAILS

(Here, the user can see the details of books that is book_id, name, price etc).

Read Me:

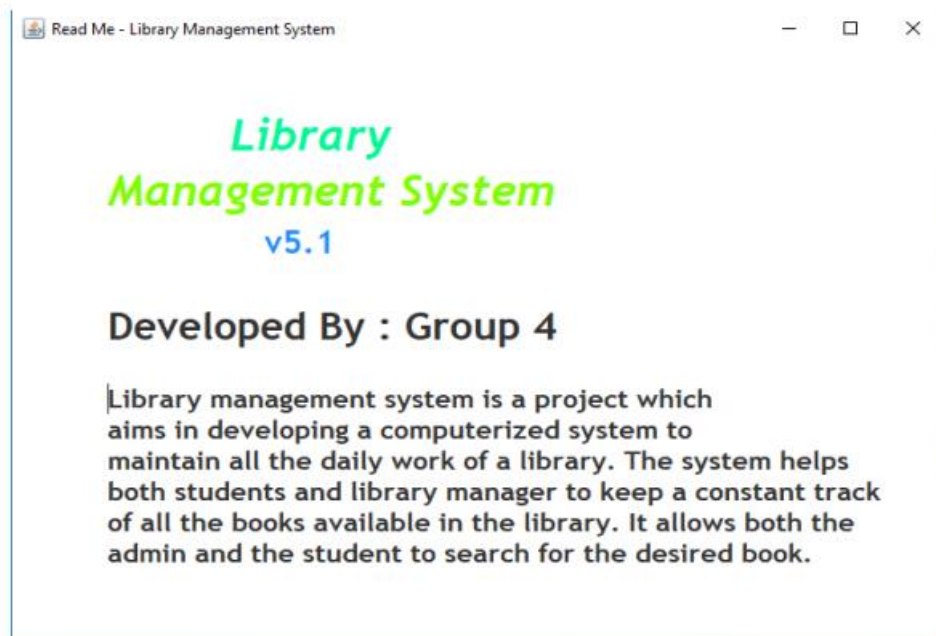


Figure 10. READ ME

(Information regarding library management system, can be seen using the read me frame).

Chapter 7

Project Scheduling Template

Sr. No	Group Member	Time duration	Work to be done
<u>1</u>	Sakshi Thorbole	1 st week of january	Implementing modules (Designing the sign up, login, issue book, return book, add student)
		2 nd week of january	Testing of above modules.
<u>2</u>	Rohan Bait	3 rd week of january	Implementing modules (Designing the about us, read me, add book)
<u>3</u>	Sania Mane	By the end of march month	Implementing modules (Designing the logout and exit). Database Connection

Chapter 8

Conclusion:

The Library Management System allows storing the details of all the data related to library.

This system has been computed successfully and was also tested successfully by taking test cases.

It is user friendly, and has required options, which can be utilized by the user to perform the desired operations.

The software is developed using Java as front end and MySQL as back end in windows environment.

The goals that are achieved by the software are:

1. Instant access.
2. Improved productivity.
3. Optimum utilization of resources.
4. Efficient management of records.
5. Simplification of the operations.
6. Less processing time and getting required information.
7. User friendly.
8. Portable and flexible for further enhancement.

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