

# **LOW LEVEL DOCUMENT OF LIBRARY MANAGEMENT SYSTEM**

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# INTRODUCTION

Library Management System is a term for computer-based system that manage the catalogue of a library. The main purpose of this system is to manage library daily operation efficiently.

## 1. PROJECT AIM AND OBJECTIVES

Library Management System is a term for computer-based system that manage the catalogue of a library. The main purpose of this system is to manage library daily operation efficiently. Objectives of Library Management System (LMS)

a) To build a system that can receive input and generate automatically output in easy way and short time.

b) Provide timely access to requested materials.

c) Simplify search/discovery of library resources.

d) To build a monitoring system that is able to monitor and manage all library operations efficiently.

e) To enter and preserve details of the various issues and keep a track on their returns.

f) Online book issue

g) Request column for librarian for providing new book.

- h) A separate column for digital library.
- i) Student login page where student can find books issued by him/her and date of return.
- j) A search column to search availability of books

## **2. USER REQUIREMENTS**

The application is designed for the use of librarians and library users. By using library management system, the operation of borrowing and managing inventories is paperless. This system provides a user-friendly data entry with dropdown button menu, list box and checkbox in purpose to make the input entry easier to understand and use. It is also created to ensure that the library items are stored properly in order to maintain their security. This system will store all the books and members information that consist book numbers, book titles, author names and categories to the system database. It also provides search function to help students find the book by book name, title, category. Search function will search through the books database to look for the book and view where the book is situated. For the administrator user, only librarians have access to view or edit data from the system databases. Administrator user will handle administrative functions such as add a new book, update/delete an existing book information, view student information, and issue/ return book to students. Librarian need to enter correct password and user id before they can access to this function. From here, they can add, delete or update the book and borrower database.

# FUNCTIONAL FEATURES IMPLEMENTATION

## 1-REGISTER NEW STUDENT

Student is required to provide his/her details like name, email, department, gender, address, contact number and password. After clicking on register button, the student is redirected to the student registration page. If registration is successful, a message will be appeared showing registration is successful along with a automatic generated student Id. If not it shows registration unsuccessful and redirects to login page.

## 2-REGISTER NEW LIBRARIAN

Librarian is required to provide his/her details like name, email address, contact number and password. After clicking on register button, the librarian is redirected to the librarian registration page. If registration is successful, a message will be appeared showing registration is successful along with a automatic generated librarian Id. If not it shows registration unsuccessful and redirects to login page.

## 3-STUDENT LOGIN

Student is required to enter his/her student id and password and after clicking on login if the login is successful he will be redirected to the student dashboard page else he will be redirected to the login page where a message will be displayed of invalid login(results if username/password does not match in database).

#### **4-LIBRARIAN LOGIN**

Librarian is required to enter his/her librarian ID and password and after clicking on login if the login is successful he will be redirected to the librarian dashboard page else he will be redirected to the login page where a message will be displayed of invalid login(results if id/password does not match in database).

#### **5-BOOK SERVICES (LIBRARIAN DASHBOARD)**

##### **5A-ADD NEW BOOK**

Add book is provided as an option of Book Services dropdown on the nav bar of librarian dashboard. When clicking on add book the librarian will be redirected to the add book form where he has to enter Book title, author, category and quantity, front page and back page. After clicking on add book, it will redirect to display message page where a message of “book added successfully” will appear.

##### **5B-UPDATE BOOK**

Clicking on search book it will be redirected to the update book page where in the table there is a option for update and delete in front of every book.

Clicking on the update option will redirected to the book update form where the book title, book author, book category, book quantity fields will be prepopulated. The librarian can make the changes and click on update book and will be redirected to the update book page which now contains the updated book. Clicking on the delete option will redirected to the delete book form where the book Id will provided. If any student has issued book with the provided book Id, then a message will be displayed showing “ Book can’t be

deleted, already Issued to a student”. Else the book with given book Id will be deleted from the database and a message displayed stating “book has been deleted successfully”.

## **6-SEARCH DASHBOARD(LIBRARIAN DASHBOARD)**

On signing to the librarian dashboard it will be redirected to librarian welcome page where all the book data will be fetched from the book database and displayed in the table which contains book ID, Book title, book author, book category, book quantity, update/delete. Above the table is the search field where three buttons are given as search by title, search by author, search by category. The user is required to enter the relevant input in the search field and click on the respective button to get that result.

## **7-ASSIGN BOOK (LIBRARIAN DASHBOARD)**

Assign Book option is provided on each books card, clicking on assign book will display a form where librarian is required to enter student ID. If any of the following case arise issue book will give an error message- -If quantity of the specified book is less than 1. -If the student has already three books issued. -If a student id does not exist or match with the database. If everything is fine then clicking on assign book will display a message stating a message of “Book assigned to Student”.

## **8-STUDENT SERVICES(LIBRARIAN DASHBOARD)**

### **8A-UPDATE STUDENT**

On clicking on the update student dropdown will redirect to student update form where librarian is required to enter student id and click on get data button which will redirect to a update form page which shows all data of student with given id. We have to update the fields whichever has to be modified and click on update to update the modified details in database. On clicking on delete button, the book will be deleted from database and displays a message "Book deleted successfully". If the book which we want to be displayed is already assigned to a student. In such case, the book doesn't get deleted from database and displays a message "you can't delete the student because he is having a book".

### **8B-SHOW STUDENT BOOKS(LIBRARIAN DASHBOARD)**

Clicking on show students book will redirect to a student service page where librarian has to give student id and click on check out button. A student books table will get displayed. In each row besides book details, submit book and fine option is provided. Clicking on book and fine option the book will be submitted and shows a message "Book is submitted". Eventually book will be deleted from issued books table database and book quantity of books table will be incremented by one value.

## **9-LOGOUT (LIBRARIAN DASHBOARD)**

Logout is provided on the top right corner of librarian dashboard. Clicking on logout will remove the session object of the librarian and redirect to the homepage.

## **10-SEARCH BOOK (STUDENT DASHBOARD)**

On signing to the student account it will be redirected to student welcome page where all the book data will be fetched from the book database and displayed in the table which contains book ID, Book title, book author, book category, book quantity, update/delete. Above the table is the search field where three buttons are given as search by title, search by author, search by category. The user is required to enter the relevant input in the search field and click on the respective button to get that result.

## **11-STUDENT SERVICE (STUDENT DASHBOARD)**

Student Service option is provided on the top of student dashboard. Clicking on student service will redirect to show issued book page where for that particular student id the books issued will be fetched from database and displayed in a table which contains book ID, Book title, book author, book category, issue date, return date, status and fine amount in rupees.

## **12-LOGOUT (STUDENT DASHBOARD)**

Logout is provided on the top right corner of student dashboard. Clicking on logout will remove the session object of the student and redirect to the homepage.