

2024

Library Management System Documentation

1. Introduction

The Library Management System is a software application designed to streamline the management of library resources, including books, authors, categories, and user interactions. This document provides an in-depth overview of the system's functionalities, user roles, database design, user interfaces, security considerations, deployment approach, and potential future enhancements.

2. System Overview

The Library Management System comprises two main components:

Admin Dashboard: This interface is accessible to administrators who have special privileges to manage the library system. Admins can perform tasks such as adding new book categories, adding new books with detailed information (title, author, book number, publisher), managing authors, and searching for books.

User Interface: The user interface is designed for registered users (library members) who can access the system by registering with their details. Users can browse through different book categories, search for specific books by title or author, and view detailed information about individual books.

3. User Roles

The system supports two primary user roles:

Admin: Admins have elevated privileges to perform administrative tasks such as managing book categories, adding books and authors, and overseeing the overall system functionality.

User: Users are registered members who can interact with the library system to browse, search, and access book details based on their interests.







4. Functionalities

Admin Functionalities:

Login: Admins can securely log in to the system using their credentials.

Add Category: Admins have the ability to create and manage different categories for books (e.g., Fiction, Non-Fiction, Science, etc.).

 Add Category

Category Name	Edit	Delete
Test category name		
Test category name1		
Test category name2		

Add Book: Admins can add new books to the library database by providing details such as title, author, book number, and publisher.

Library Management System Home Categories Books Publishers Authors

Add Book

ISBN

Book Name

SerialName

Description

Category

Test category name

Test category name

Test category name1







Test category name2

Test author name

Publisher







Add Author: Admins can add information about authors including name, bio, and associated books.

 Add Authors

Author Name	Description	Edit	Delete
Test author name	Test description		
Test author name1	Test description1		
Test author name2	Test description2		




Add Publisher: Admins can add information about publisher including name.

+ Add Publisher

Publisher Name	Edit	Delete
Test publisher name		
Test publisher name1		
Test publisher name2		

Search Book: Admins can search for specific books based on title, author, or other criteria.

+ Add Book

ISBN	Book Name	Serial Name	Description	Detail	Edit	Delete
Test isbn2	Test name2	Test serial name2	Test description2			



User Functionalities:

Registration: Users can register as members of the library system by providing necessary details.

Browse Categories: Users can explore different book categories available in the library.

Search Book: Users can search for books by title, author, or category to find specific items of interest.

View Book Details: Users can view detailed information about a selected book including author, book number, and publisher.

5. Database Design

The database schema for the Library Management System includes the following tables:

Users: Stores user information including username, password (encrypted), role, and registration details.

Categories: Contains book categories defined by the admin.

Books: Stores details of each book including title, author ID (foreign key), category ID (foreign key), book number, and publisher.

Authors: Holds information about authors such as name, bio, and associated books.

Publishers: Holds information about Publishers such as name.

6. User Interfaces.

The system interfaces are designed to be intuitive and user-friendly:

Admin Dashboard: Provides a dashboard with options to manage categories, add new books, authors, and perform administrative tasks.

User Interface: Offers a clean and responsive interface for users to navigate, search, and access book information seamlessly.

7. Deployment

The Library Management System will be deployed on a web server using modern web technologies:

Frontend: HTML, CSS.

Backend: Java SpringBoot.

9. Future Enhancements

Future enhancements and features planned for the system include:

Advanced search functionalities with filters and sorting options.

Recommendation system based on user preferences and reading history.

Integration with external APIs to fetch book details, ratings, and reviews.

Mobile application development for on-the-go access to library resources.