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# SOFTWARE REQUIREMENTS SPECIFICATION

for

## Library Management System

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# 1 Introduction

## 1.1 Purpose

The purpose of this document is to define the requirements for the development of a Library Management System (LMS). The system will automate and streamline library operations, including book inventory management, member registration, book borrowing and return, and report generation. This document will guide developers, testers, and stakeholders to ensure the system meets the desired functionality and performance levels.

## 1.2 Intended Audience

- Developers
- Testers
- Project Manager

## 1.3 Intended Use

- Developers: Developers can use this SRS to easily understand what the project is about which part they should focus more, which part to improve, find if there is any scope to add new features or functions for any upgrade.
- Testers: Testers can use this SRS to test the software as required. This will make the testing more organized and as from the SRS testers can easily get the idea where to look and what error or bug they should be looking for.
- Project Manager: Project managers can use SRS oversee the development process, manage timelines, and ensure alignment with business goals.

## 1.4 Project Scope

To summarise, the Library Management System is designed to simplify and sky-rocket library operations for librarians, members, and administrators. This is a completely new system that we will build from scratch, featuring tools to manage books, members, and transactions efficiently. The system will address the challenges faced by libraries in managing resources and providing seamless services to users. The Library Management System will:

1. Librarians can easily add, update, and delete book records.
2. Members can search for books, check availability, and borrow or return books online.
3. Members can access the library's resources from anywhere with an internet connection.
4. Librarians can generate reports on book inventory, borrowing history.

Objective of our system:

1. To provide access to library resources and enhance user experience.
2. To make library operations easier and reduce manual

workload. Goals:

1. To ensure efficient management of library resources.
2. To provide seamless experience for members to borrow and return books.

## 1.5 Risk Definition

- System failure may result in loss of data or disruption of library service.
- Unauthorized access to the system may breach member and book sensitive data.
- Ineffective system performance may result in a bad user experience.

## 2 Overall Description

We are going to build a web-based Library Management System to simplify library activities for librarians, members, and administrators. The system will include book and member management by librarians, searching, borrowing, and returning of books by users, and report generation features. It will be a new product developed from the ground up, which will bring efficiency and simplicity in managing library resources.

### 2.1 User Classes and Characteristics

The Library Management System is designed to help librarians, members, and administrators manage library operations effectively. It is user-friendly, so anyone can utilize it for their library needs. This system will cater to two main user groups: Librarians: Administrators who manage the library's operations. Members: Library users who borrow books and access their accounts.

### 2.2 User Needs

Librarians will use the Library Management System to efficiently handle books, members, and transactions. They need the ability to add, update, and delete book records, track borrowing and returning activities, and generate reports for making informed decisions. Members will use the system to search for books, view availability, borrow or return books with ease. They also need to be notified for overdue books and penalties. Administrators will use the system to manage user roles, monitor system performance, and ensure seamless operations.

### 2.3 Operating Environment

Operating environment for our library management is as listed below.

- Operating System: Windows, Mac OS, Linux
- Database: MySQL
- Front-end: HTML, CSS, JavaScript
- Back-end: PHP

## 2.4 Constraints

- The system that we develop must work in all kinds of operating environment.
- We have to finish the project before 10th April, 2025.

## 2.5 Assumptions

- Users can understand English.
- Users have devices that can access internet.
- Users have a stable internet connection.
- Users are habitual with the internet browsing the Web and visiting websites.
- Librarians have minimum computer knowledge.

# 3 Requirements

## 3.1 Functional Requirements

- 1) **As a User/ admin,**  
I want to login securely  
**so that,** I can access my account and perform authorized actions.

### Confirmation

- The system will provide different login pages for admin and users where they can enter their credentials (email and password or admin Id and password).
- The system will validate the credentials and grant access based on the user's role (admin or user).

- 2) **As an admin,**  
I want to add new books to keep the library inventory  
**So that,** I can keep the library inventory up to date.

### Confirmation

- The system will allow the librarian to add new books with an unique ISBN number.
- Books will be added to the system after checking the state and ISBN number of the book.

- 3) **As an admin,**  
I want to see the books name that was being requested by the user  
**so that,** I can add that requested books.

### Confirmation

- The system will show the requested book title to the admin
- Admins can see the book names that was being requested by the users.

- 4) **As an admin,**  
I want an update panel where all the update functionalities,  
**so that,** I can maintain the library accurately.

### Confirmation

- The admins can access the update panel from the admin dashboard to maintain the library properly.

5) **As an admin,**

I want to update the Books title if required,  
**so that**, I can maintain the library properly.

**Confirmation**

- The admins can update the books title after discussing with their hierarchy to maintain the library stock and library properly

6) **As an admin,**

I want to adjust the number of book copies if required,  
**so that**, I can maintain the library properly.

**Confirmation**

- The admins can update the number of book copies after discussing with their hierarchy to maintain the library stock and library properly.

7) **As an admin,**

I want to adjust the book price if required,  
**so that**, I can maintain the library properly.

**Confirmation**

- The admins can update the books price after discussing with their hierarchy to maintain the library properly

8) **As an admin,**

I want to manage book categories and genres  
**so that**, I can organize the library's collection effectively.

**Confirmation**

- The system will allow librarians to add, update, or delete book categories.
- Books can be assigned to one or more categories during addition or editing.

9) **As a user,**

I want Register myself  
**so that**, I can be a member of this library management system.

**Confirmation**

- The system will allow users to register themselves.



10) **As a user,**

I want to make a request for a book

**so that,** I can get my desired books.

**Confirmation**

- The system will allow users to make requests for books.

11) **As a user,**

I want to I want to Borrow books from the library

**So that,** I can get books.

**Confirmation:**

- The system will allow the users to borrow books from the library management system.
- Users can borrow books from the system's Borrow A Book section.

12) As a user,

I want to see the books that I have borrowed from the library

So that, I can which books I have to return

**Confirmation:**

- The system will display the books that the user has borrowed.
- The system will display the borrowed books result in the Borrowed Books section.

13) **As a user,**

I want to return a book

**so that,** I can avoid overdue fines.

**Confirmation**

- The system will allow members to return books and update the availability status.
- If the book is returned late, the system will calculate and display the overdue fine.
- The system will send a confirmation message for the return.

## 3.2 Nonfunctional Requirements

### Performance Requirements:

- The system must handle high number of users without experiencing failures.
- Responses to any interaction should appear on the screen within 5 seconds.

### Security Requirements:

- The system will utilize a secure database.
- Members can only read or write information (e.g., search for books, borrow books) but cannot edit or modify existing information (e.g., book records, member ac-counts).

### Safety Requirements:

System's usage must not pose any harm to the user/admin.

## 4 Appendix A

### 4.1 Glossary

- **SRS (Software Requirements Specification):**

A Software Requirements Specification (SRS) is a detailed document that describes the functionality, performance, and constraints of a software system to be developed. It includes both functional requirements (what the system should do) and non-functional requirements (how the system should perform). The SRS serves as a blueprint for developers, testers, and stakeholders to ensure the system meets its intended goals.

- **LMS (Library Management System):**

A Library Management System (LMS) is a software designed to make library operations easier, such as book inventory management, member registration, borrowing and returning of books, and report generation. It provides a platform for librarians, members, and administrators to manage library resources efficiently.

- **ISBN (International Standard Book Number):**

A globally recognized unique identifier for books, used in inventory and cataloguing systems.