
SOFTWARE REQUIREMENTS SPECIFICATION

for

Library Management System

Version 1.0

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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,**

I want login securely

so that I can access my account and perform authorized actions.

Confirmation

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

2) **As a librarian,**

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 a librarian,**

I want to manage overdue books and fines

so that I can ensure timely returns and collect penalties.

Confirmation

- The system will automatically calculate fines based on the number of days a book is overdue.
- Librarians can view a list of overdue books and the associated fines.
- The system will allow librarians to mark fines as paid once collected.

4) **As a librarian,**

I want to update or delete book details,

so that I can maintain accurate information about the library's collection.

Confirmation

- The librarian can modify details such as title, author, or quantity.

- The librarian can delete a book from the inventory.

**5) As a librarian,
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 (e.g., Fiction, Non-Fiction, Science).
- Books can be assigned to one or more categories during addition or editing.
- Members can filter books by category when searching.

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

- The system will be allow users to register themselves.
- The member will be added to the system after get approved by the librarian.

**7) As a member,
I want to search for books by title, author, category, or ISBN number
so that I can find the books I need quickly.
Confirmation**

- The system will display a search bar to enter criteria.
- Search results will show book details and availability status.
- If no books match the search, the system will notify the user.

**8) As a member,
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 accounts).

Safety Requirements:

- The system's usage must not pose any harm to human users.

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):**

An International Standard Book Number (ISBN) is a unique 13-digit (or 10-digit for older books) identifier assigned to each edition and variation of a book. It is used globally to identify books and simplify inventory management, distribution, and sales.