

Software Requirement Specification (SRS)

Project Proposal: Library Management System

1. Introduction

1.1 Problem Statement / Overview

Traditional libraries suffer from manual record-keeping, which causes difficulties in tracking books, managing members, monitoring borrow/return dates, and generating reports. These manual processes are time-consuming, error-prone, and inefficient.

To solve these issues, a Library Management System (LMS) will automate book cataloging, member management, issuing/returning books, fine calculation, and report generation.

2. Use Case Diagram

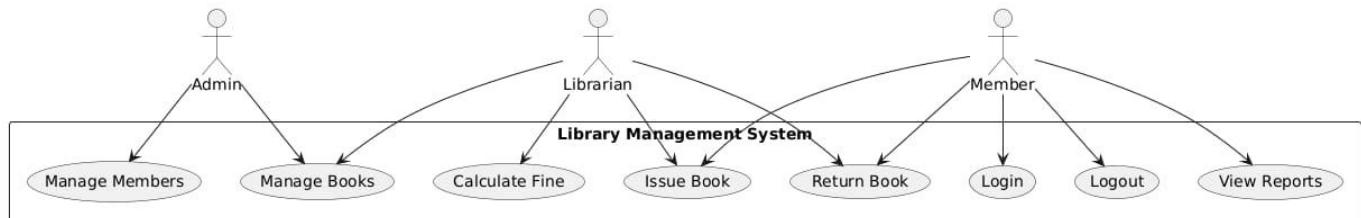
2.1 Actors:

- Admin
- Librarian
- Member/User

2.2 Main Use Cases:

- Manage Books
- Manage Members
- Issue Book
- Return Book
- Calculate Fine
- View Reports
- Login/Logout

2.3 Diagram:



3. User Stories:

1. As an Admin, I want to add and manage librarians so that library operations can run smoothly.
2. As a Librarian, I want to add and update books so that users can find accurate information.
3. As a Member, I want to search books so that I can easily find the book I need.
4. As a Member, I want to borrow/return books through the system so that the process becomes efficient.
5. As a Librarian, I want the system to calculate fines automatically so that errors are reduced.

4. Functional Requirements

4.1 Authentication Requirements

- User Registration
- Login/Logout

4.2 Member/User Requirements

- Search Books
- Borrow Book
- Return Book
- View Borrowed Books
- Reserve Book

4.3 Admin Requirements

- Add Book
- Update Book
- Delete Book
- View All Borrowed Books
- Manage Users
- Track Fines

4.4 File Management

books.txt stores book data
users.txt stores user data

5. Non-Functional Requirements

1. Performance: System should load pages within 3 seconds.
2. Security: Passwords must be encrypted.
3. Reliability: System should have 99% uptime.
4. Usability: Interface must be simple and user-friendly.
5. Scalability: System should support growing number of books & members.

6. Project Scope

6.1 In Scope:

- Book management
- Member management
- Issue/Return module
- Fine calculation
- Reports
- Authentication

6.2 Out of Scope:

- Online book purchase
- E-book reader integration
- Mobile app version
- Barcode/QR scanner integration

7. Challenges

- Ensuring accurate fine calculation
- Handling concurrent access
- Designing a simple but powerful UI

- Maintaining data integrity

8. Timeline

Phase	Duration	Tasks
Requirement Analysis	3 days	Make SRS, Final Use Case
Basic Structure Setup	3 days	Project setup, file structure
Authentication System	4 days	Register/Login module
Student Module	5 days	Search, Borrow, Return, Reserve
Admin Module	5 days	Add/Update/Delete books, user management
Integration & Testing	4 days	Test cases, bug fixing
Final Documentation	2 days	User guide & final SRS

Total estimated development time: 26 days (4 weeks).

9. GitHub Links:

9.1 Leader's Repository:

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9.2 Teammates' Fork Links:

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10. Conclusion

This SRS document provides a complete outline of the requirements for the Library Management System.