

# LAB-1

## Software Requirements Specification (SRS)

### Library Management System

---

#### 1. Introduction

##### 1.1 Purpose

Define requirements for a system to manage library operations: books, members, and transactions.

##### 1.2 Scope

A web-based system to manage book inventory, user registrations, issue/return processes, and generate reports. Supports roles: Admin, Librarian, and Member.

##### 1.3 Definitions

- **LMS:** Library Management System
  - **ISBN:** Book Identifier
  - **CRUD:** Create, Read, Update, Delete
- 

#### 2. Overall Description

##### 2.1 Product Perspective

A standalone web system that can later support integration (e.g., barcode scanners).

## 2.2 Product Functions

- Manage books and members
- Issue/return books
- Fine calculation
- Reports
- Role-based access

## 2.3 User Types

- **Admin:** Manage users
- **Librarian:** Manage books/transactions
- **Member:** View/borrow books

## 2.4 Environment

- OS: Windows/Linux/macOS
  - Browser: Chrome/Firefox/Edge
  - DB: MySQL/PostgreSQL
  - Backend: Node.js/Django
  - Frontend: HTML/CSS + React/Angular
- 

# 3. Requirements

## 3.1 Functional Requirements

- **FR1:** User login & roles

- **FR2:** Add/edit/delete/search books
- **FR3:** Register/edit/delete members
- **FR4:** Issue/return books, calculate fines
- **FR5:** Search by title/author/ISBN
- **FR6:** Generate reports

### **3.2 Non-Functional Requirements**

- **NFR1:** Handle 100 users concurrently
  - **NFR2:** Encrypted passwords, secure access
  - **NFR3:** 99.5% uptime
  - **NFR4:** Simple, responsive UI
  - **NFR5:** Modular, maintainable code
- 

## **4. Assumptions and Constraints**

### **4.1 Assumptions**

- Users have basic computer skills
- Stable internet access

### **4.2 Constraints**

- Must follow data privacy laws
- Built in 3 months
- Use open-source tools

---

## 5. System Scope

### In Scope

- Book/member management
- Issue/return + fines
- Authentication
- Reports

### Out of Scope

- Mobile app
- Email/SMS notifications
- E-book integration

---

## 6. Deliverables

- SRS Document
- Database Schema
- System Design
- Source Code
- Test Plan
- Deployment Manual
- User Manual

## **7. Conclusion**

This Software Requirements Specification (SRS) outlines the key functional and non-functional requirements for the Library Management System. It defines the scope, user roles, system behavior, and constraints to ensure a structured and efficient development process. By implementing this system, libraries can automate routine operations such as book management, member tracking, and borrowing activities—resulting in improved accuracy, time efficiency, and user satisfaction. This SRS serves as a foundation for developers, testers, and stakeholders to ensure the system meets its intended goals.