

### 3) SRS for Library Management System:

#### 1. Introduction:

1.1 Purpose: The purpose of this document is to define the requirements for the Library Management System. It ensures proper handling of books, members, borrowing/returning, fines and catalog search.

1.2 Scope: The system will automate library operations including book issue, return, catalog search, fine calculation, and membership management.

1.3 Overview: LMS will replace manual record-keeping with a digital system enabling librarians and students to access resources efficiently.

#### 2. General Description.

The system supports librarians, staff and members, offering catalog browsing, issue/return tracking, overdue management, and report generation.

#### 3. Functional Requirements

Book Management: Add, update, and delete books. Maintain availability status.

Member Management: Maintain member records, registration and borrowing history.

Issue/Return System: Track borrowing/returning with due dates.

Fine Calculation: Automatically calculate overdue fines.

Search & Catalog: Search by title, author, ISBN & category.

Reports: Generate reports on issued books, overdue items, and member activity.

#### 4. Interface Requirements

UI: Simple web-based and mobile interface.

Integration: Barcode/BID support for book issue/return.

5. Performance Requirements: Response time  $\leq 2$  seconds. Handle up to 500 concurrent users. Ensure real-time inventory update.

6. Design Constraints: Relational DB (MySQL/PostgreSQL). Web-based architecture with Java/Python backend.

7. Non-Functional Requirements  
Security: Role-based access (admin, librarian, student).

Reliability: 99.9% uptime

Scalability: Expandable to large universities  
libraries

Portability: Accessible via web & mobile

8.

Preliminary Schedule & Budget

Development duration: 4 months

Estimated budget: \$ 50,000