

## 2) Library management system:

### \* Problem statement:

Traditional library management is prone to errors like losing of books, misplaced records, delay in issuing books. A centralized system is required to do the operations.

### SRS document:

#### Introduction:

##### \* purpose of the document:

To develop a efficient library management system that automates book issuing, returning, catalog management, member registration, fine calculation

##### \* scope of the document:

In scope: Book catalog, member management, borrowing / returning, fine calculation

out of scope: Digital ebook management, inter-library networking, AI recommendations to the user

##### \* Overview:

A web-based library software with modules for admin (librarian) & users to search and borrow books.

##### \* General Description:

→ Users: Librarian, Students/staff

→ System environment: web-app, Database

→ Assumptions: books have unique ids, internet & computer availability in library

### \* Functional requirements:

- Member: Borrow/Return book, search books, Register/login, view borrow/return history
- Librarian: Add/Remove books, Issue/collect books, manage members.
- System: Auto fine calculation upon delay, assign unique ids for books.

### \* Interface requirements:

- UI: simple to use, search & dashboard
- Hardware: library PCs
- Software: MySQL DB, nodejs for backend

### \* ~~Require~~ Performance requirements:

- Handle 500+ members at a time
- Able to issue or collect thousands of book at a time
- concurrent access by 50+ users
- Data backup daily

### \* Design constraints:

- must support barcode/QR code scanning of books
- Budget limits to add AI features
- compliance with IT/security policies

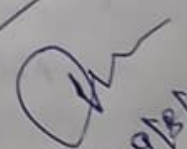
### \* Non functional attributes

- security: Role based access, encrypt user credential
- Usability: simple UI easy to understand & use
- Reliability: ensuring no data lost in transactions

- scalability: support growing book inventory & members
- maintainability: Easy to update book records & UI features

\* Preliminary Schedule and budget:

- Requirement analysis - 2 weeks
- Design - 2 weeks
- Development - 5 weeks
- Testing - 1.5 weeks
- Deployment - 1 week
- Budget estimation: 4-5 lakhs

  
19/8/25