

### III Library Management System

#### 1. Introduction:

##### a. Purpose:

It is to provide a detailed document for the library management. It is designed to manage the day-to-day operations of a library, including book cataloging, member management.

##### b. Document Convention:

Bold texts are used for section handling & interface labels. Bulleted lists are used for listing actions, options or steps.

##### c. Intended Audience & Reading suggestions:

- Project Managers to understand the project scope, deliverable and system constraints. Software developers to design, implement and integrate the system components.

##### d. Scope:

It will be a client-server web application used by librarians and members to manage books, track borrowing/returns and monitor overdue items.



- e. References:  
IEEE Std 830-1998 - IEEE recommended practice for software requirements specifications.

2. Overall description:

a. Product perspective:

It is a standalone system that connects to a centralized database. It has modular design and will be accessed via a web-browser.

b. Product Function:

- Add/edit/delete/search books.
- Register members
- Issue/return books.

c. Users Classes and Characteristics:

Librarian manages the library database.  
Members borrow and return books.

d. Operation environment:

OS: Windows, Linux, macOS.

Browsers: Chrome, Firefox, Edge.

Database: MySQL.

e. Design and Implementation:

It must be web-based. It must support at least

1000 concurrent  
technologies

f. User Interface:

- User Interface
- Admin Interface

g. Assumptions:

Users  
authenticated  
deployment

3. Special Requirements:

a. Functional Requirements:

- Book availability
- Member registration
- Member login
- Member search

b. Non-Functional Requirements:



1000 concurrent users. use of open-source technologies are preferred.

f. Uses Documentation:

- Uses manual
- Admin guide

g. Assumption & Dependencies:

Users must have an internet connection. Proper authentication is required. The system will be deployed on a secure cloud server.

3. Specific Requirements:

a. Functional Requirement:

- Book Management: The system shall allow librarians to add new books with title, author, ISBN.
- Member management: The system shall allow registrations for new members.

b. Non-Functional Requirements:

The system shall be available 99.9% of the time. The system shall respond to user queries within 2 seconds.

c. External Interface Requirements:

Responsive UI for desktop and mobile. login page,



dashboard, book catalog, issue/return forms

d. Appendix:

- Mobile app integration.

- QR code scanning for issue/return.

e. Preliminary schedule & budget:

Requirement analysis & design (2 weeks)

core-development like user & book management

modules (3 weeks) implementation of issue/

return & search function (2 week), testing

& development prep (1 week) launch &

support (1 week)

→ 3 months estimated time

→ estimated budget - 20 lakhs approx.