

9. Library Management System

3. Introduction

3.1 Purpose of the document

The system will manage library operations such as book borrowing, returns, user registration and catalog management.

3.2 Scope of the document

This provides detailed overview of system's objectives, features and user interactions. CMS will automate management of library resources, including cataloging, borrowing returning and tracking books.

3.3 Overview

The system will facilitate the operations of physical library by allowing librarians to track inventory, borrowers to borrow books, returned books, generate reports. It will support multiple user roles, administration, user members, efficient platform to manage library digitally.

2. General Description

2.1 User Characteristics

- Library staff
- General Public

2.2 User Interface

- Easy to use & intuitive.
- Secure & encrypted data transactions

- Support various functionalities.

2.3 Features

The system will function as a centralized platform for managing library's resources. It will enable users to search books etc. Librarians, administrators will have ability to add, update, remove books for library management. Easy tracking of book inventory.

3. Functional Requirements

- User registration, authentication new user to register and existing user to log in using credentials.
- Book catalog - administrator can add, update and remove books.
- Book searching and borrowing
- Book Return, fine Calculation.
- Notification System
- Report Generation.

4. Interface Requirements

User Interface: System provides a easy web-based, interface for both librarians & users.

API: System will have API's for integration system will send reminders for users to return books on time.

5. Performance Requirements

- Have least response time.
- Should be able to handle load.
- Should recover easily & quickly after a failure to reduce down time.

6. Design Constraints

- Security: Prioritize security measure to protect app.
- Scalability: Future growth & increasing demand should be kept in mind.
- Integration: Must consider other IT system & services.

7. Non-functional attributes:

- Easy to use
- Maintainability
- Interoperability
- Portability

B. Preliminary Schedule & Budget

• Schedule for this project is estimated as:

- Requirement gathering & Analysis - (4-5 weeks)
- System Design - (2-3 weeks)
- Development - (8-10 weeks)
- Testing & Validation - (4-6 weeks)
- Deployment & Training - (2-3 weeks)

✓ Total Estimated weeks - (19-23 weeks)

• Estimated project for this project is:

- Requirement documentation - (₹ 100000)
- Design & tools - (₹ 50000)

• Development - (₹ 100000)

• Testing - (₹ 50000)

✓ Total Estimated Budget - (₹ 300000)