

Library management system

1. Introduction

1.1 Purpose of this document

The document outlines the requirements for developing a library management system. The purpose is to provide a system that simplifies library operations, enhance user experience & improve overall efficiency.

1.2 Scope of this document

This document covers the design, development & implementation of an LMS. It will track book inventory, manage user memberships, & allow for borrowing & returning of books. The system will be designed to minimize manual labour & reduce human error.

1.3 Overview

The LMS will allow librarians to manage book collections, handle user data, & track borrowing activities. It will include modules for search, reservation, issuing, & returning of books, along with date fee calculation.

2. General description

The LMS is designed for library staff & patrons. Users can search for books, reserve, or borrow them, & check their account details. Librarians can manage inventory & track borrowing history. The system aims to improve efficiency of LMS while reducing errors.

3. Functional Requirements

- User authentication for members & staff
- Book catalog management

- Issue & return tracking with fine calculation
- overdue books

- Search & reservation functionality for users
- generate reports on inventory, borrowing history

4. Interface Requirements

- web based interface for users & staff
- integration with external databases for library updates
- notifications for overdue books through email & SMS

5. Performance Requirements

- response time should be under 2 seconds for common queries
- system should handle upto 100 concurrent users
- database storage capacity for 1 million books records

6. Design Constraints

- must use SQL database for storage
- compatible with Windows & Linux servers
- responsive UI for both desktop & mobile devices

7. Non Functional Attributes

- High reliability with 99.9% uptime
- Scalable to handle growing user base & inventory
- Secure user authentication & data encryption

8. Preliminary Schedule & Budget

- The project will take approx 4 months

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Design - ~~₹ 10,000~~ ₹ 10,000

Development - ₹ 80,000

Deployment - ₹ 20,000

Testing - ₹ 50,000

Miscellaneous - ₹ 15,000