

# Library management System.

## Purpose.

→ defines requirements for the dev of lib management system. outlines functionality, design and interfaces.

Scope: it describes overall objectives of LMS, highlighting the value it provides to both users and library administrators. it includes an estimate development costs and timelines.

## Overview:

system is designed to streamline the library operations, allowing library staff to manage book inventories, track member activities.

## General description:

The LMS aims to digitalize traditional library processes, providing benefits such as efficient resource management, quick access to book inventories, and ease of record maintenance. Key user types include library staff, members, and visitors. The system will offer a user friendly interface for all.

## Functional Requirements:

- User management - for new registration, updating of user profiles and deactivation of inactive accounts.
- Book management - Administrators will be held to add, remove, or update book records, including details such as title, author and availability status.
- Lending and return system - system will manage borrowing and returning of books, track due dates and send notifications for overdue books.
- Search functionality - Users can search the catalog using keywords.



## Interface Requirements

1. User Interface - system will feature an intuitive web-based interface for both administrators and members. This includes dashboard for managing books, viewing borrowing history and performing administrative tasks.
2. Database interface - system will connect to a back end database for storing and retrieving information related to books, users, and transactions.

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## Performance Requirements:

### 1. Response Time

- system should respond to user queries within 2 records.

~~the system~~

### 2. Throughput - system must support up to 500 simultaneous users with no significant performance degradation.

### 3. Error rate - the error rate for processing requests should be less than 1%.

## Design Constraints:

1. Platform - system will be developed as a web-based solution, supporting modern browsers such as Chrome.
2. Data Constraints - system will be designed to scale with library's growing collection and user base.



non functional attributes:

1. security - user credentials and sensitive data will be encrypted.
2. ~~security~~ scalability - system will be designed to scale with the library's growing collection and user base.
3. reliability + system will achieve 99.99% up time to ensure availability.
4. usability

Preliminary Schedule and Budget  
Development Time: Estimated 6 months.  
Budget: Estimated budget for project \$50,000 including design, development, testing and deployment.