

3 Library Management System.

1. Introduction:

1.1 Purpose of this document:

The purpose of this document is to outline the requirements for the Library Management System. It serves as a guide for the developers, stakeholders and users to ensure a common understanding of the systems capabilities, features & constraints.

1.2. Scope of this document

The LMS will facilitate efficient management of Library operations, including book borrowing returns, Cataloging & user management. Estimated development cost is \$120,000 with a timeline of 6 months for project completion.

1.3 Overview

The Library Management System is designed to streamline library processes, ensuring easy tracking of library resources, efficient member management & secure handling of transactions like book lending & returns. The system will be accessible via web & mobile platforms.

2. General Description

The LMS allows librarians & users to/ members to efficiently manage book loans, track inventory & handle member - ship details. User characteristics include

librarians administrators & library members.

Key features include.

- Efficient book cataloging & inventory tracking
- Member management
- Book borrowing & return management
- Fine calculation for overdue books.

3. Function Requirements

1. Book Cataloging: Efficiently manage & catalog new books into the system
2. Member Management: Create, Update & maintain member records
3. Book Borrowing & Returns: Enable members to borrow & return books & track due dates
4. Fine Calculation: Automatically calculate fine for overdue books.
5. Transaction History: Maintain a history of all borrowings, returns & payments for fines
6. Search functionality: Allow users to search for books by title, author, genre, etc.

4. Interface Requirements.

The LMS will interface with.

- User Interface: Web & mobile interface for library staff & members.
- Inventory Management: Track available books & manage their status.
- Membership Systems: For member registration, updating personal details & viewing borrowing history.

5. Performance Requirements.

The system should:

- Handle upto 1000 concurrent users.
- Process book borrow & return transactions with 3 seconds.
- Ensure 99.9% uptime.

6. Design Constraints

- The system must comply with data privacy regulations, ensuring the security of personal member information.
- Developed using Java & MySQL DB.
- Must operate on a scalable cloud infrastructure.

7. Non functional Attributes

- Security
- Reliability
- Scalability
- Maintainability

8. Preliminary Schedule & Budget

- Initial Budget: \$120,000
- Project Duration: 6 months.
 - Requirements Gathering: 1 month
 - Design: 1 month
 - Development: 2.5 months.
 - Testing: 1 month
 - Deployment & Training: 0.5 month.