

• GRS for Library management System

1. Introduction

1.1 Purpose

This document outlines the requirements for the LMS to guide stakeholders in understanding the system's objectives and functionalities.

1.2 Scope: The LMS will streamline library operations, providing functionalities for user and book management. It includes an estimate of development costs and timelines.

1.3 Overview: The LMS will automate processes such as book management, member transactions and reporting, enhancing operational efficiency.

2. General Description:

The LMS will serve multiple user roles including librarians, members, and administrators.

1) User management: Registration and management of library members.

2) Book management: Cataloging, searching and managing library inventory.

3) Transaction management: Handling book checkouts, returns and transactions.

4) Reporting: Generating reports on library usage, overdue books, and inventory status.

The LMS is ~~essential~~ for modern libraries to improve accessibility and service delivery.

3. ~~Function~~ Requirements:

1. ~~User~~ Registration and Login

2. Search Functionality for Books

3. Check-out and Return Process

4. Reservation of Books

5. Management of member profiles

6. Inventory Management

7. Generation of Reports

4. Interface Requirements:

The LMS will communicate through:

1) User Interface: A web-based interface for end users.

2) API - Interfaces: RESTful API's for integration with external systems.

3) Database Interface: SQL interface for data retrieval and manipulation.

5. Performance Requirements:

The LMS should meet the following performance criteria:

- 1) Response time: the system should respond to user actions within 2 seconds
- 2) Concurrent Users: support up to 100 concurrent users without performance degradation
- 3) Data Storage: Ability to handle up to 10000 book records and 5000 member profiles
- 4) Error Rate: Maximum allowable error rate of 1% of transactions.

6. Design constraints:

The design team must adhere to the following constraints:

- 1) Use of a specific database management system
- 2) Compliance with relevant data protection regulations.
- 3) Compatibility with existing library hardware and software systems.

7. Non-functional Attributes:

- 1) Security: Implementation of user authentication & data encryption
- 2) Portability: The system should be accessible from various devices
- 3) Reliability: 99.9% uptime and regular backup procedures
- 4) Scalability: Ability to add more users and books as the library grows.

8) Preliminary Schedule and Budget

- 1) Development costs: \$30,000
- 2) Testing: \$10,000
- 3) Deployment: \$5000
- 4) Training and support: \$5000

Schedule

Schedule:

- Requirement Analysis & Design: 3 weeks
- Development: 6 weeks
- Testing & Quality assurance: 2 weeks
- Deployment & User-training: 1 week