Library Management System (LMS)

Problem Statement:

The problem that a library Management System aims to solve is the efficient management of library operations including cataloging and organizing books, managing members registration, handling book checkout and returns, tracking overdue books and generating reports.

1. Introduction

1.1. Purpose of this Document:

To outline the requirements and specifications for the development of a library management system.

1.2. Scope of this Document:

This document defines the overall functionality, interface requirements, performance expectations, design constraints and non-functional attributes of the library Management System.

1.3 Overview:

Designed to automate and streamline various operations within a library, including cataloging, circulation, membership management and reporting. It aims to improve efficiency, enhance user experience and facilitate better management of library resources.

2. General Description:

The LMS will cater to the needs of librarians, library staff and members. It will feature intuitive intuitive interfaces, robust search capabilities and comprehensive reporting functionalities.

3. Functional Requirements:

Functional requirements describe the specific functions or capabilities that the library management system must perform. This includes actions such as cataloging books, managing users, handling circulation transactions, and getting reports. These requirements are listed in a ranked order, prioritizing them based on their importance to the systems functionality.

4. Interface Requirements:

The LMS will interact with users through:
- Graphical User Interface (GUI) for library staff.
- Web-based interface for online catalog search and member services
- Mobile application for accessing library resources and services on the go.

5. Performance Requirements
- Response time for catalog search and book checkout.
- System uptime
- Concurrent user support: Minimum 50 users
- Data Processing speed: Real time updates for book availability and member transactions.

6. Design Constraints
   - Integration with existing library systems and databases for data migration.
   - Compatibility with different operating systems and web browsers.
   - Compliance with library standards and protocols for cataloging and circulation.

7. Non-functional Attributes
   - Security: Encryption of sensitive data, role-based access control for staff and members.
   - Portability: Accessibility across different devices and platforms
   - Reliability: Minimal downtime, data backup and recovery mechanisms.
   - Scalability: Ability to accommodate growing library collections and user base.

   - Preliminary Schedule and Budget:
     The development of the library management system is estimated to take 6 months with a budget of $50,000. This includes analysis, design, development, testing and deployment phases.