\*   **Library Management System.**

1. **Problem statement.**

The current library management system suffers from manual processes and outdated technologies, resulting in inefficiencies in book tracking, borrower management, and resource allocation. Implementing a mordenixed LMS is essential to stream-line operations, improve accessibility & enhance user experience for both staff & patron.

2. **Introduction**

  **2·1 Purpose**

The purpose of this document is to outline the requirements & specifications for the development of a LMS.

  **2·2 Scope of document.**

This document defines the overall functionality, interface requirements, performance etc of the library management system.

  **2·3 overview**

The LMS is designed to automate & stream-line various operations within a library. It aims to improve efficiency, enhance user experience & facilitate better man·gt of library resources

3. **General description**

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

- Book cataloging & management.
- Member registration and management.
- Circulation management.
- Reservation and renewal.
- Reporting and Analytics.

4. Functionality Requirements.
   • Book cataloging & management.
   - Ability to add, edit, delete books from the library catalog.
   - Classification & indexing of books based on categories, genres, authors etc.
   - tracking of book details such as title, author, ISBN, publish date etc.
   • Member registration & management.
   - registration of library members.
   - Storage & retrieval of member info.
   - Ability to update members details.
   • Circulation management.
   - checkout & checkin of books
   - due date management & overdue book trac.
   - fine calculation & collection of overdue books.
   • Reservation and renewal.
   - Reservation of book currently not available.
   - renewal of book loans for eligible members.
   • Reporting and Analytics.
   - Data analysis for decision-making & resource planing.
   - generation of various reports like inventory st. etc.

5. Interface requirements.
   The LMS will interact with users through:

- Graphical user interface for library staff.
- web-based interface for online catalog.
- Mobile-app for accessing library resource.

6. Performance requirements.
   - Response time for catalog search & book checkout < 3 seconds.
     - system uptime : 99.9%.
     - concurrent user support : minimum 50.

7. Design constraints.
   - Integration with existing LS & database for data migration.
   - compatibility with different OS & web browsers.

8. Non-functional requirements.
   - Security : Encryption of sensetive data, role-based access control for staff & members.
   Portability - Accessibility across different device & platforms.
   Reliability - Minimal downtime, data backup & recovery mechanism.

9. Preliminary schedule & budget.
   The development of LMS is estimated to take 6 mnths with budget of $80,000. This includes analysis, design, development, testing etc.