

3. Library Management System:-

Problem Statement:

The current library management system suffers from manual processes and outdated technologies resulting in inefficiency in book tracking, borrower management, and resource allocation. Implementing a modernized LMS is essential to streamline operations, improve accessibility & enhance user experience for both staff & patrons.

1. Introduction

1.1. Purpose

The purpose is to outline the requirements and specifications for the development of a LMS.

1.2. Scope

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

1.3. Overview

The LMS is 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 :-

Key features of LMS includes

- * Book cataloging and Management

- * Member Registration and Management.
- * Circulation Management.
- * Reservation and Renewal
- * Reporting and Analytics.

3. Functional Requirements

- * Ability to add, edit, and delete books from the library catalog.
- * Member Registration and Management.
- * Circulation Management
- * Reservation and Renewal
Reservation of books that are currently unavailable
- * Reporting and Analytics.

4. Interface Requirements

- * Graphical user interface 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
3 seconds
- * System uptime: 99.9%
- * 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

8. Preliminary schedule and Budget

The development of LMS is estimated to take 6 months with a budget of \$80,000. This includes analysis, design, development, testing and deployment phases.