

5. Library management system

2. Introduction

2.1 Purpose of this document

The purpose of this document is outline the requirements and specification for the development of a library management system (LMS).

2.2 Scope of this document

This document defines the overall working and main objectives of the LMS. It includes a brief of the estimated development cost and time required for the project.

2.3 Overview

The LMS is a software solution designed to streamline library operations. It will include functionalities such as catalog management, member registration, book borrowing, returning.

General Description

The LMS will cater to the needs of library staff, student and family members providing features such as book search, reservation, digital catalog, fine management and usage reporting. It will be accessible to users with varying levels of technical expertise.

functional Requirement

3.1 Book and catalog management

- add, update and delete book record
- maintain digital catalog with search functionality

3.2 member management

- Register new member
- maintain user profiles with borrowing history and membership details

3.3 borrowing and returning

- allow users to borrow and return books with a automatic due date calculation
- generate reminder and notification for overdue books
- calculate overboard fine for late returns

4 Interface Requirements

4.1 user Interface

- Accessible via web browsers, mobile device and desktop application
- intuitive and user-friendly
- Interface for librarians and members

4.2 Integration interface

- integration with barcode/RFID scanner for book tracking
- integration with online database
- Supports for web system and physical gateways

5. Performance Requirements

- 5.1 Response time: The system should respond to user action within 2 sec
- 5.2 Scalability: Handle a minimum of 500 concurrent users during peak hours
- 5.3 Data Integrity: ensure consistency and accuracy of books inventory and members records

6. Design Constraints:

- 6.1 Hardware Limitations
 - The system should be compatible with standard library hardware
- 6.2 Software Dependencies
 - utilize a relational database management system for data storage

7. Non functional Attributes.

- 7.1 Security: Implement authentication and authorization to protect user & staff data.
- 7.2 Reliability: ensure high availability and fault tolerance to minimize downtime
- 7.3 Scalability: Design the system to support future growth
- 7.4 Portability: supports deployment on multiple platform
- 7.5 Usability: Provide a simple & intuitive interface with easy navigation for all users

2.6 Reusability: use modular code design for easy maintenance and future enhancements

2.7 Data Integrity: generate accurate and consistent storage retrieval and reporting of library data

8 Preliminary Scheduling and Budget
The development of the LIS system is estimated to take 6 months with a budget of 820,000. This includes project planning development testing and deployment phases

(4) Stock management System

1 Introduction

1.1 Purpose of Document

- The purpose of this document is to state the requirement and specifications for the development of a stock management system

1.2 Scope of this Document

- This document defines the overall working and main objectives of the stock management system. It includes the development, estimated cost and time required for the project