30/9/24 DATE: PAGE: 7

Lab-2

SRS for Library management System

Purpose:

This document outlines the requirements for Library Management System (LMS) serving as guide for developers and Stakeholders to ensure alignment on system functionalities, performance and overall objectives

Scope

The system will facilitate efficient management of library operations such as book borrowing, return, cataloging and user management.

Overview

The LMS is designed to streamline library processes ensuring easy tracking of library resources, efficient member management and securing transactions like book lending and returns

General Description

The LMS allows librarians and users to efficient manage book loans and handle membership details. Key features include:

i) Efficient book cataloging and Inventory tracking
ii) Member management
iii) Book borrowing and return management.
iv) Fine calculations for overdue books

Functional Requirements

i) Book cataloging
Efficiently manage and catalog new books in the system.

ii) member management
Create, manage, update member records.

iii) Book borrowing and returns
Enable members to borrow and return books and track due dates.

iv) Fine calculation
Automatically calculate fines for overdue books

v) Transaction History
Maintain a history of all borrowing, return and payments for fines.

vi) Search functionality
Allow users to search for books by title, author, ~~genre~~ genre, etc.

vii) Reservation System
Enable members to reserve books that are currently checked out.

Interface Requirements
LMS will interface with:

) User interface:

Web and mobile interfaces for library staff and members.

ii) Inventory management:
Track available books and manage their status.

Member System:
For member registrations, updating personal details and viewing borrowing history.

5. Performance Requirements
The system should:
i) Handle upto 1000 concurrent users.
ii) Process book borrow and return transactions within 3 seconds.
iii) Ensure 99.9% uptime.

Design Constraint
Developed using Java and MySQL database must operate on a scalable cloud infrastructure.

Non-Functional Requirements
i) Security: All personal and transaction data must be encrypted during storage and transfer.

ii) Reliability
The system should be able to handle

an expanding number of members and to its without degradation and performance.

Budget
Initial budget: $120,000
Project duration: 6 months
Requirements Gathering: 1 month
Design: 1 month
Development: 2.5 month
Testing: 1 month