3) Library Management System.

Problem Statement

The library management system aims to streamline the borrowing, returning, and the tracking of books in a library. It will manage users, inventory, fines, and reservations. The system supports both physical and digital resources. It should offer efficient search and reporting. User access control is required.

Software Requirements Specification

1. Introduction

1.1. Purpose of the Document

The purpose of the library management system is to automate library workflows, improve tracking, and enhance services for students, faculty, and libraries

1.2. Scope of the Document

The system will allow users to search, reserve, borrow and return books. It will manage inventory, user roles, fines, and generate reports.

1.3. Overview

This document details functional components, user interfaces, performance needs, and constraints for system development.

2. General Description

This system details and manages users and book inventories. Users can borrow/return books based on privilages. Admins can add/remove books and handle fines.

3. Functional Requirements
User login and signup
Search, reserve, borrow, and return books
Fine calculation for overdue items
Admin control for inventory management

4. Interface Requirements
Web interface for staff and users
Admin panel for management.
Backend interfaces with a database

5. Performance Requirements
System should handle 500+ concurrent users
Search and checkout operations should be under 2 seconds

6. Design Constraints
Should use RDBMS
Must run on existing hardware / intranet
Should support role-based access
Interface must follow WCAG accessibility standards.

7. Non-functional Requirements
24/7 system availability during academic terms
Search results must return within 2 seconds
Regular backups to prevent data loss
Interface should support reader mode

8. Preliminary Schedule and Budget

Schedule (4 months)
Month 1 - Requirements gathering, DB design, basic UI
Month 2 - Core modules (Borrowing, Search, Return)
Month 3 - Fine management, reports, admin panel

Month 4 - Testing, user training, documentation

Budget Breakdown

Developer salaries	-	$ 45000
UI UX design	-	$ 5000
Database & Hosting	-	$ 5000
QA and Testing	-	$ 10000
Miscellaneous / Admin	-	$ 12000

Total Cost - $ 80000