
Library Management System - Software Requirements Specification

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Software Requirements Specification (SRS)

1. Introduction

1.1 Purpose

The purpose of this document is to define the software requirements for the Library Management System (LMS). This system manages the borrowing, returning, and cataloging of books in a library.

1.2 Scope

The LMS will facilitate the management of book inventories, user registrations, and loan processes for libraries of various sizes.

1.3 Definitions, Acronyms, and Abbreviations

- **LMS:** Library Management System
- **UI:** User Interface
- **API:** Application Programming Interface

1.4 References

- IEEE Standard 830-1998 for Software Requirements Specifications
- Library operational guidelines and policies

1.5 Overview

This document describes the features, constraints, and design goals for the LMS.

2. Overall Description

2.1 Product Perspective

The LMS will be a standalone application accessible via web browsers, designed to streamline library operations.

2.2 Product Functions

- Register and manage library users.
- Catalog and manage books.
- Handle borrowing and returning of books.
- Generate overdue notifications.

2.3 User Characteristics

Library staff and registered patrons with varying levels of technical expertise will use the system.

2.4 Constraints

- Must comply with relevant data protection laws.
- Must be compatible with modern web browsers.

2.5 Assumptions and Dependencies

- Libraries will provide internet access for the system.
- Users will have valid credentials to access the system.

3. System Features

3.1 User Management

Description: Allows registration, authentication, and role management for library staff and patrons.

Inputs: User registration details (e.g., name, email, membership type)

Outputs: Account creation confirmation and user dashboard access.

3.2 Book Management

Description: Enables cataloging and updating book information.

Inputs: Book details (e.g., title, author, publication date)

Outputs: Confirmation of book additions and updates.

3.3 Loan Management

Description: Manages the borrowing and returning of books.

Inputs: Book ID and user ID for transactions.

Outputs: Loan records and overdue notifications.

4. External Interface Requirements

4.1 User Interfaces

- Web-based interface with intuitive navigation.

4.2 Hardware Interfaces

- Standard library computers and barcode scanners.

4.3 Software Interfaces

- Integration with email services for notifications.

4.4 Communication Interfaces

- Internet connectivity for web access and notifications.

5. System Requirements

5.1 Functional Requirements

- Register, authenticate, and manage users.
- Catalog, update, and delete book records.
- Borrow and return books with accurate tracking.

5.2 Performance Requirements

- System should handle up to 100 concurrent users.

5.3 Security Requirements

- Data encryption for sensitive information.
- Role-based access control.

5.4 Software Quality Attributes

- Usability: Simple and intuitive UI.
- Reliability: Backup and recovery features.
- Maintainability: Modular architecture.

6. Other Non-functional Requirements

6.1 Legal and Regulatory Compliance

- GDPR compliance for data privacy.

6.2 Business Rules

- Books can only be borrowed by registered patrons.
- Overdue fines applied after specified periods.

Appendices

Appendix A: Glossary

- **Patron:** A registered library user.
- **Overdue:** A book not returned by the due date.

Appendix B: References

- Library operational policies.

Appendix C: Index

(Not applicable)