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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)