# **Software Requirements Specification (SRS) Document**

# **Library Management System**

## **1. Introduction**

### **1.1 Purpose**

The purpose of this document is to define the requirements for the development of a Library Management System (LMS). The system is designed to automate and streamline the processes involved in managing library resources, enhancing efficiency in cataloging, circulation, and reporting.

**1.2 Intended Audience**

This document is intended for developers, testers, project managers, stakeholders, and any other individuals involved in the design, development, and implementation of the Library Management System.

### **1.3 Intended Use**

The Library Management System is designed for use by librarians, faculty, and students. It facilitates various library-related tasks, including book check-in and check-out, user management, and report generation.

### **1.4 Scope**

The Library Management System encompasses the following functionalities:

* User Management
* Catalog Management
* Circulation Management
* Reporting

It will provide a user-friendly interface for interacting with the system.

### **1.3 Definitions, Acronyms, and Abbreviations**

LMS: Library Management System

ISBN: International Standard Book Number

User: A person who interacts with the system, including librarians and faculty,students

Faculty: Academic staff or instructors

Student: Individuals enrolled in academic programs

## **2. Overall Description**

### **2.1 System Description**

The Library Management System is a web-based application that facilitates the efficient management of library resources. It provides a user-friendly interface for librarians and patrons, allowing seamless interaction with the system.

### **2.2 User Needs**

### **2.2.1 User Authentication**

#### **2.2.2 Login**

Users, including librarians, faculty, and students, should be able to securely log into the system using unique credentials.

#### **2.2.3 Logout**

Users should be able to log out of the system to ensure security and privacy.

#### **2.2.4 Add New Faculty**

Librarians should have the capability to add new faculty members to the system, including relevant details such as name, department, and contact information.

#### **2.2.5 Add New Student**

Librarians should be able to add new students to the system, capturing information such as name, student ID, and program details.

### **2.3 Assumptions and Dependencies**

It is assumed that users have basic computer literacy. The system depends on a reliable internet connection for real-time functionality.

## **3. System Features & System Requirements**

### **3.1 System Features**

#### **3.1.1 User Management:**

Create, edit, and delete librarian accounts.

Assign roles and permissions to librarians.

Register and update patron information.

#### **3.1.2 Catalog Management:**

Add, edit, and delete book records with details such as title, author, ISBN, and category.

Manage book copies and track their availability.

Search and filter books based on different criteria.

#### **3.1.3 Circulation Management:**

Check in and check out books.

Manage book reservations and holds.

Generate and print due date slips.

Notify users of overdue books.

#### **3.1.4 Reporting:**

Generate reports on book circulation, popular books, and user activity.

Export reports in various formats (e.g., PDF, CSV).

### **3. 2. Functional Requirements**

#### **3.2.1 User Authentication**

The system shall provide secure login functionality for librarians, faculty, and students.

Passwords shall be securely stored using encryption techniques.

#### **3.2.2 User Management:**

The system shall allow librarians to create, modify, and delete librarian accounts.

Librarians shall be able to assign roles and permissions to other librarians.

The system shall allow the registration and modification of patron information.

#### **3.2.3 Catalog Management:**

Librarians shall be able to add, edit, and delete book records.

Book records shall include details such as title, author, ISBN, and category.

The system shall provide search and filter functionalities for books.

#### **3.2.4 Circulation Management:**

The system shall support book check-in and check-out operations.

Librarians shall be able to manage book reservations and holds.

The system shall generate and print due date slips.

Automated notifications shall be sent for overdue books.

#### **3.2.5 Reporting:**

The system shall generate reports on book circulation, popular books, and user activity.

Reports shall be exportable in multiple formats.

### **3.3 External Interface Requirements**

### **3.3.1 User Interfaces**

The system shall provide a user-friendly interface accessible through common web browsers.

Interfaces for adding new faculty, adding new students, and managing books shall be intuitive.

### **3.3.2 Hardware Interfaces**

The system shall be compatible with standard computer hardware and require an internet connection for optimal functionality.

It will provide a user-friendly interface for interacting with the system.

### **3.4 Non-Functional Requirements**

#### **3.4.1 Usability:**

The system shall have an intuitive and user-friendly interface.

Response time for critical functions shall be less than 2 seconds.

Help documentation shall be provided for users.

**3.4.2 Reliability:**

The system shall be available 24/7, with scheduled maintenance communicated in advance.

Data backups shall be performed daily.

#### **3.4.3 Security**:

Access to the system shall be protected by user authentication.

User data shall be encrypted to ensure privacy.

#### **3.4.4 Performance:**

The system shall support concurrent logins and database transactions efficiently.

Database queries shall be optimized for efficient performance.

Response times for user interactions shall be within acceptable limits.

### **3.4.5. System Constraints**

The system shall be compatible with modern web browsers (e.g., Chrome, Firefox, Safari).

The application shall be developed using a scalable and maintainable architecture.

The system shall comply with relevant data protection regulations.

## **4. Sign-off**

This document is to be reviewed and signed off by the stakeholders to confirm their agreement with the specified requirements.

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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