# **Software Requirements Specification (SRS) - version 1**

## 1. Introduction

This document outlines the functional and non-functional requirements for the Library Management System (LMS).

## 2. Functional Requirements

### 2.1 User Registration & Authentication

* FR1: Users can register as member with a username, email, and password
* FR2: Registered users can renew membership before expiry
* FR3: Registered users can reset password
* FR4: Registered users can log in to access the system.
* FR5: Admin can register users as librarian or member roles
* FR6: Admin can create, update, delete users
* FR7: Admin can search for members by name or ID

### 2.3 Book Search

* FR8: Users can search for books by title, author, or ISBN
* FR9: The system displays a list of matching books

### 2.4 Borrowing & Returning Books

* FR10: Users can borrow available books
* FR11: Users can return borrowed books
* FR12: The system updates the status of books accordingly.
* FR13: Users can view borrowing history
* FR14: Users can check due date of borrowed books

### 2.5 Book Management Functions

* FR15: Administrators can add new books
* FR16: Administrators can update or delete existing books
* FR17: Admin can search for books title, author, genre, or ISBN
* FR18: Admin can track the status of books (available, borrowed, reserved, overdue)

### 2.6 Overdue Notifications

* FR19: The system flags overdue books automatically
* FR20: Users are notified of overdue books
* FR21: The system calculates fines for overdue books based on predefined policies

## 3. Non-Functional Requirements

* NFR1: The system should respond within 3 seconds for any user action
* NFR2: The UI must be intuitive, user-friendly and accessible
* NFR3: The system should support up to 100 concurrent users without performance issues

## 4. System Constraints

* Backend: Built on Spring Boot with Maven
* Database: Uses MySQL 8+ for data storage
* Frontend: Built with React 18 for an interactive UI
* Version control: Managed with Git