**Library Management System**

**Software Requirements Specification**

**(SRS)**

**1. Introduction**

**1.1 Purpose**

The purpose of this Software Requirements Specification (SRS) is to provide a detailed description of the Library Management System (LMS). This document outlines the functional and non-functional requirements, along with the system's design, performance, and security specifications.

**1.2 Scope**

This software will automate and streamline the management of library operations, including user management, book cataloging, lending process, and fine calculation. The system will have separate access levels for administrators, librarians, and members.

**1.4 References**

* Business Requirements Document (BRD)
* [Library Management System Design Documentation]

**1.5 Overview**

This SRS will provide details regarding the functional and non-functional requirements of the Library Management System. The document will also discuss system performance, security measures, and external interfaces.

**2. Overall Description**

**2.1 Product Perspective**

The Library Management System will be a web-based application with a responsive design, providing features like user and book management, lending, and fine calculation. The system will consist of:

* A **frontend** built using React.js
* A **backend** developed using Springboot framework and RestfulApi.
* A **database** using MySQL database

**2.2 Functions**

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| Group | Req  ID | Requirement Description |
| User & Member  Mgmt | FR1 | Admin users can create, update, and manage users and access levels. |
| FR2 | New Users can register and create user account and update their information |
| FR3 | User should be able to reset their password if they forgot |
| FR4 | Registered user can login and access their history |
| FR5 | Admin user can edit member information |
| FR6 | Admin user can delete the member account |
| FR7 | Admin User can search the list of member and filterable by ID or name |
| Book Mgmt | FR8 | Admin can Add, update, delete, and view books |
| FR9 | Members can search and filter the book with the available status |
| FR10 | Search book with the name, ISBN, author |
| FR11 | Database should contain the Book details: ISBN, title, author, category, publication year, copies available |
| Lending Mgmt | FR12 | User can able to select the limited number of books to borrow |
| FR13 | User can view his list of books borrowed Status and history |
| FR14 | User can renew the borrowed book return date |
| FR15 | Renewing time is limited to 2 times for each book |
| FR16 | If Late return, the fine amount to be shown in the UI after the user login. |
| Membership Rules | FR17 | Limit to Members can borrow a maximum of 3 books at a time and reject if members tried to select more than 3 which inclusive of the borrowed book |
| FR18 | Membership valid for 1 year from registration |
| FR19 | Members can borrow only with valid membership |
| Lending Rules  &  Fine Calculation | FR20 | Set the Loan duration to 14 days and if more than that , each day fine is 50cent |
| FR21 | Maximum 2 renewals per book |
| FR22 | Member are restricted to borrow if any books on overdue |
| FR23 | Maximum fine per book limit to 20$. |
| FR24 | The system may integrate with email services for sending overdue notices and renewal reminders |
| Non-Functional Requirements | NFR 1 | The system must provide fast user authentication and authorization. |
| NFR 2 | The UI for user management should be responsive and intuitive. |
| Interface Requirement |  | Admin Panel: For managing users, books, and system settings. |