Contact Documentation

Library Management System Project

Date: January 2025

Prepared By: [Ayush Singh]

Team Members and Roles

Name	Role	Email Address	Phone Number	GitHub Profile
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Nikhil Panwar	Reviewer	nikhilpanwar169@gmail.com	+91-XXXXXXXXXX	https://github.com/reviewer-id

Communication Guidelines

- Primary Mode of Communication: Slack or Email.

- Meeting Schedule: Weekly reviews every Monday at 4:00 PM IST.

- Escalation Protocol: Any unresolved issues should be emailed to the project manager within 24 hours.

1. Project Overview

- **Project Title**: Library Management System

- **Objective**: To design and implement a system for managing books, users, and transactions in a library.

- **Technologies Used**:

    o Backend: Java (Maven-based)

    o Frontend: HTML, CSS, Bootstrap, JavaScript

    o Database: MySQL

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2. Features

1. **User Management**

    o User Registration and Login

    o Profile Management

2. **Library Management**

    o Add, View, Update, and Delete Books

    o Issue and Return Books

3. **Transactions**

    o Track Issued Books with Due Dates

    o Generate Reports for Library Usage

4. **Validation and Security**

    o Form Validation using JavaScript

    o Role-based Access Control

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3. Project Structure

- **Frontend**:
  src/main/resources/templates/

- HTML Templates: Login, Registration, Dashboard, etc.

- CSS/Bootstrap for Styling

- JavaScript for Validation

- **Backend**:
  src/main/java/com/project/library/

  - Controllers: Manage requests and responses

  - Services: Implement business logic

  - DAO: Database interaction

- **Database**:

  - MySQL schema and tables for users, books, and transactions

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4. Testing

1. **Unit Tests**:

   - Service Layer Tests (e.g., UserService, BookService)

2. **Integration Tests**:

   - Test Controllers and DAOs

3. **Validation Tests**:

   - Form input validation

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5. Installation Instructions

1. Clone the repository:

bash

Copy code

git clone https://github.com/your-username/library-management.git

2. Configure the database in application.properties.

3. Build and run the project using Maven:

bash

Copy code

mvn spring-boot:run

4. Access the application at http://localhost:8080.

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6. Challenges and Solutions

- **Challenge**: Synchronizing database transactions.

  - **Solution**: Implemented transaction management using Spring.

- **Challenge**: Ensuring responsiveness on all devices.

  - **Solution**: Used Bootstrap components for a consistent layout.

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7. Conclusion

- The Library Management System simplifies library operations and enhances user experience by automating key processes.