Technical Documentation

Introduction

Flight Management System (FMS) is designed to revolutionize the aviation industry's approach to managing flights and passenger information. This project addresses the inefficiencies and challenges associated with traditional systems, providing a modern, user-friendly, and secure web application for streamlined flight and passenger management.

Architecture Overview

The application has three layers

- **Presentation Layer:** The user interface is implemented using Thymeleaf templates
- **Business Logic:** The Spring Framework is used to implement the business logic
- **Data Access Layer:** Data is stored in a database managed by Spring Data JPA.

Technologies:

● Development Framework: Spring Boot
● Database: MySQL Server
● Backend Language: JAVA

Tools:

● IDE: IntelliJ IDEA Community Edition 2023

Implementation Details

The application is implemented with the help of controllers, services, and repositories.

Controllers: Handle incoming requests, interact with services, and return responses.

Services: Contain logic and provide necessary functionalities.

Repositories: Talk with the database using JPA for CRUD operations.

Libraries and Frameworks

Apache Tomcat : The built in servlet provided by Spring Boot.

Thymeleaf Used for server side display of HTML templates.

Database Structure

The application uses a database, and the entities are mapped to corresponding database tables. The database structure includes tables for Users, Flights, Booking, Airline, Client_Bookings and UserView.

Security Measures

Authentication : It ensure secure access to different parts of the application based on user roles.

Authorization : Role based access control to ensure that users have appropriate permissions.