INFO 6250 – Web Tools Project

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Topic: Flight Management System

Project Overview:

The Flight Management System is a Spring MVC-based Java web application that allows users to perform CRUD operations on flight data, register and manage user accounts, provide an admin login functionality, enable booking of flight tickets, and display error pages for invalid data entries. The system incorporates Spring MVC architecture, hibernate for database operations, the DAO pattern for data access, annotated controllers for request handling, annotated POJOs for Hibernate mapping, and the Inversion of Control (IoC) pattern for dependency injection. The system aims to provide a user-friendly interface for managing flight-related information and facilitating ticket bookings.

Project Features:

1. CRUD Operations on Flight Data:

* Create, read, update, and delete operations for flight records.
* Maintain information such as flight number, origin, destination, total seats, and available seats.
* Validate and handle errors related to incorrect or missing data entries.

1. User Registration and User Management:

* Allow users to register accounts by providing necessary information like username, email, and password.
* Implement CRUD operations for user accounts, including updating user details and deleting user accounts.

1. Admin Login:

* Enable administrators to log in to the system using unique credentials.
* Implement security measures to ensure that only authorized administrators can access the admin functionalities.

1. Admin Welcome:

* Display a dashboard or welcome page after successful admin login.
* Provide an overview of system statistics, flight details, user information, etc.
* Include navigation options for managing flights, users, and other administrative tasks.

1. Ticket Booking:

* Provide a user-friendly interface for selecting flights and booking tickets.
* Display error messages to users if any data entry entered by user is incorrect.

1. Error Handling:

* Implement custom error pages for handling various types of errors, such as invalid data entries, system exceptions, or unauthorized access attempts.
* Display meaningful error messages to users and suggest corrective actions when applicable.

Technology Stack:

1. Java
2. Spring MVC
3. Hibernate (for database access and ORM)
4. MySQL
5. Maven (for build and dependency management)
6. Tomcat servlet container for deployment