Flight Reservation System
Report

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1. Introduction

In this report I will shortly describe the project and the different present functionalities, but also the objectives that hasn’t been completed due to technical problems.

This project consisted in the creation of a GUI-Based Application in Java language, using different frameworks,in order to create a flight booking application.

2. Project details

In order to make this application I have been using a graphical framework, Javafx and a local database system mySQL. The objective here wasn’t to create a website but an app synchronize for this project to a local database as a proof of functioning more than a completely functional and web synchronize app. To manage the different dependencies of the project and facilitate the deployment of the project on other devices I used maven as a package manager and a builder for the project.

I also tried but in vain cause to different issues which cost me precious time that have caused me not to implement all of what I had scheduled.

3. Implemented / not implemented functionalities

During the development process, I successfully implemented various features as outlined in the specifications. Users are now able to create their accounts and log in, with their passwords securely stored and encrypted. Additionally, the system differentiates between two types of users: "User" and "Admin," each with distinct actions and permissions within the database.

For regular users, the system allows for a multi-criteria search of flights in the "Flight Search" tab. Users can also book flights and select seats across various legs of their journey, with the ability to view the price for each ticket. A "Traveller" entity is generated for each booking. All reservations made by a user are visible on their "Booked Flights" page and can be canceled at any time, which frees up the reserved seats on the respective flights. The seat reservation system is designed such that if a seat is selected by someone during the booking process, it will no longer appear available to other users, thus preventing conflicts before the flight is even reserved.

Regarding the Admin functionalities, I had less time to fully implement all the intended features for this user type. However, it is currently possible for admins to search for existing flights and modify their prices, as well as block or unblock certain seats (which prevents new reservations on these seats or removes existing "Traveller" entities that had previously booked these seats). The ability to block or unblock seats is only available for direct flights and not for flights with connections.

Admins can also add direct flights, although there are still many unintended behaviors that can occur, such as adding two flights for the same airplane at the same time. Due to time constraints, I was unable to correct these issues.

I did not have time to implement the visualization of reservations by admins or a payment portal simulator.

Initial tests for proper functionality upon installation have been conducted on the model classes, but more comprehensive tests could be implemented with additional time. These would include scenarios for booking and cancellation with verification of resource availability at each step, as well as adding flights and connections.

4. How to lauch the project

In order to launch the project and as I haven’t been able to make an executable using install4j, I’ve made executable that may download all the necessary dependencies of the program and make the project well configured for your device.

The application database rests on mySQL,which is automatically downloaded if not already on your device, but you’ll need at launch to provide a username and password for the program to configure the project’s database.

The procedure to follow depending of your operating system is to launch at first install_and_run_yourOS.sh/bat in the flight-reservation-system folder. (If possible launch the project under Linux based system because I never tested it on another OS).

The project is going to launch in console and ask you for a username then a password. These are your MySQL username and password to inform. If mySQL wasn’t on your device before, default username is “root” and default password is “”.

Once this done the application should launch naturally.

In order to reduce time at launch, and for the upcoming launch you can simply run the files run_yourOS.sh/bat.

There are no default Users so you must create one by signing up.

There is one default Admin which connection information are :

- mail : “control@admin.com”

- password : “notsecure”

This is made because there is at this point no way to create an admin account from the GUI.

If you encounter any issues please let me know so you can properly see the results of my work.