Alex An

Mohammed Ahmed

Justin Johnson

**QuickFlight – Documentation**

**Requirements & Specifications**

* Upon start of the application, the user should see a splash screen
* The Main menu gives the option to the user to register or login
* Login requires username and password
* Registration requires information such as first name, last name, address, zip, state,
* username, password, email, SSN and a security question for password recovery.
* User can login using username and password (Should register first if not a member)
* You should enable user to retrieve his password knowing the username with the

security question.

* There should be two types of users. Admin and customer. The admin has more

privileges regarding this application.

* After login into application a customer should be able to:
* Search flight database for flights based on different criteria such as from city/ to

city/ date and time of flight etc.

* Be able to book a flight and add that to his account.
* Be able to delete a flight from his account.
* Customer should not be able to book same flight more than once.
* If there is a conflict about date and time of a flight, application should warn the

customer about this and should not let user book the conflicting flight.

* Application should keep track of number of passengers booked at each flight and

should not let a user book the flight if it is full.

* An admin should be able to do all customer activities in addition to be able to add,

update or delete a flight.

* User should be able to logout and upon login; previously booked reservation should

be there in his/her account.

* You should always provide an option in any case to go back to Main Menu.
* Overall the application should be functional in most parts considering the

requirements mentioned above

**UML Diagram**

A picture containing clock

Description automatically generated

**ERD**

A screenshot of a cell phone

Description automatically generated

**Functionality & Flow of Program**

1. Startup
   1. At the beginning of the QuickFly Flight Reservation application there will be a splash screen appear right when the application is run
      1. Connection status at the bottom of the window must show that the application is connected to the cloud database or the user cannot login and register at all.
      2. Three options are available for the customers to choose from.
         1. The user can either register, recover their password or login
2. Register
   1. Upon clicking the register button there will be inputs required for the user to make an account
      1. Once the user completes registration the account will be added to the database
         1. A method is invoked to make sure all the inputs are valid and returns a popup stating that there is an invalid input.
         2. If the registration is successful, the screen will close and return the user to the main login screen;
3. Forgot Password
   1. If the user does not remember his or her password, there is a hyperlink available for password recover
      1. Once the password recovery hyperlink is clicked a popup method will be invoked asking the user for their username
         1. If the user enters a blank text or a non-existing account a popup screen will also display notifying the user to enter an existing username
      2. After entering in an existing username, another popup method is invoked with the security question and an answer text field.
         1. If the answer is incorrect another popup method is invoked letting the user know that it is incorrect.
      3. After entering the password that is bound to the username another popup method is invoked and finally the user has successfully recovered his or her password.
4. Login
   1. When logging in the user can either login as an admin or a registered customer. If the input for either of the text fields are incorrect, a popup method will be invoked notifying the user.
      1. The pullPassword method is used to extract to password that the username holds in the database and another method is used to compare the password from the database the one that the user has entered the text field.
5. Customer
   1. Once a customer with an existing account in the database has successfully logged in there are three options to choose.
      1. Manage Flights
         1. When the user clicks on the Manage Flights button, the main menu will close and a table view containing all the available flights will appear
            1. Customer can book a flight by selecting a table row and pressing add.
            2. If the customer wants to remove a flight from their booking list they can press the Check Your Flights button and delete it from the database.
            3. Tickets cannot be booked more than once and a popup will show up notifying the user.
      2. Account Information
         1. Account information is shown using the extractor method which pulls each of the traits the Account object holds and returns an object storing those variables into a label.
      3. Logout
         1. Brings the user back to the login screen
6. Admin
   1. Admin can login using the variable stored in the admin class. Unlike the Flights, Tickets, and Account class, Admin information is not stored within the database and has all of its login information stored within in the Admin class.
      1. Admin has privileges that lets the user Manage Flights, Customers, and Tickets.
   2. Manage Flights
      1. Similar to customers a tableview showing all of the flights will appear except there are also textfields at the bottom allowing the user to manually add flights into the database
         1. A popup will appear if a text field input is empty or using the wrong format.
         2. After the flight is successfully added to the database, other customers booking flights will also be able to see the added flight.
         3. If an Admin tries to remove a flight that a user has booked, a popup appears notifying that there are customers who have booked that flight.
            1. After the error popup appears another window appears allowing the Admin to edit booked flights that can be causing this issue.
         4. Once the user is done managing the flights he or she close the table view to navigate back to the home menu.
   3. Manage Customers
      1. Like managing the flights the Admin also has the power to add and remove customers from the database. Invalid inputs or incomplete text fields will also invoke a popup showing an error message.
         1. If the Admin tries to delete a customer that has booked a flight, a popup will appear and a manage ticket screen will appear allowing the Admin to remove booked flights causing this error.
         2. Like the manage flights table, the user can close the window to get back to the home menu.
   4. Manage Tickets
      1. The manage ticket window allows the user to remove existing tickets. Customers who are having trouble removing tickets can contact Admin and tell them the flight number and ticket number so that the Admin can fix the issue.