Air Route Planner Use Cases and Test Cases

Use Case 1: User Interface

Goal: The user interface for the program shall display information (e.g. airport information, routes information, and functions to search, delete, add, modify and open airports or routes)

Actors: General user

Scenario: The user needs to get information and choose functions on the interface.

Test Case 1:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Case | Action | Expected | Actual | Pass/Fail |
| 1.1 | a. The user can choose origin airport on the GUI | Origin should populate with all airports in system | All airports appear | Pass |
|  | b. The user can choose destination airport on the GUI | Destination should populate will all the airports in the system | All airports appear | Pass |
|  | c. The user can choose categories (cost,airline and time) on the GUI |  |  |  |
|  | c.i. Cose |  |  |  |
|  | c.i.1 Highest | Costs should appear in descending order | Costs descend | Pass |
|  | c.i.2 Lowest | Costs should appear in ascending order | Costs ascend | Pass |
|  | c.ii. Time |  |  |  |
|  | c.ii.1 Quickest | Time should appear in ascending order | Time ascends | Fail. Some time not correct. |
|  | c.ii.2 Longest | Time should appear in descending order | Time descends | Fail. Some time not correct. |
|  | c.iii. Airline |  |  |  |
|  | c.iii.1 Shows paths that use the input airline | Only paths that contain the input airline should appear | Paths appear | Pass |
|  | d. If no paths can be found, the system tells the user | System will let the user know what's occuring | User is aware | Pass |
| 1.2 | a.The GUI will display the results on the Jtable | Results appear formatted in jtable | Results populate appropriately | Pass |
| 1.3 | a. The user can add/modify airport on the GUI | Add a new | Airport shows up in destination and origin | Pass |
|  | b. Press airports | airport should |  |  |
|  | c. Press create new airport | show up |  |  |
| 1.4 | a. The user can add/modify routes based on existing routes on the GUI | Create new | Create route dialog appears | Pass |
|  | b. Press routes | route should |  |  |
|  | c. Press create new route | show up |  |  |
| 1.5 | a. The user can delete airports on the GUI | Delete airport | all airports able to delete | Pass |
|  | b. Press airports | show up |  |  |
|  | c. Press delete airport |  | delete airport dialog box shows up |  |
| 1.6 | a. The user can delete routes on the GUI | Delete route | all routes able to delete | Fail- can delete all routes but last does not remove from jTable |
|  | b. Press routes | show up |  |  |
|  | c. Press delete route |  | delete route dialog box shows up |  |
| 1.7 | a. The GUI can display most current route information |  | updated info is displayed | Pass |
| 1.8 | a. The GUI can display airports that can be reached from a given airport | Information show | “more info” generates list of reachable airports from selected airport | Pass |
|  | b. Press "more info" button | in Jtable |  |  |
| 1.9 | a. The GUI can display air route information for a given route |  | all displayed in main GUI | Pass |
| 1.10 | a. The user can close airport | Open/Close | Closes. Doesn’t reopen. GUI does show up | Fail |
|  | b. The user can re-open closed airport | an airport should |  |  |
|  | c. Press airports | show up |  |  |
|  | d. Press open/close airport |  |  |  |
| 1.11 | a. The GUI can save any modifications made |  | Any modification can show up in GUI | Pass |

Use Case 2: Data input

Goal: Data will be read in from a text file

Actors: General user

Test Case 2:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Case | Action | Expected | Actual | Pass/Fail |
| 2 | a.Open the data file from a text file | Data will be separated | Opens and sorts file | Pass |
|  | b.Check if data separated into sections | by '#' keyword "# |  |  |
|  | c.Check the keyword | comment" |  |  |

Use Case 3:

Goal: New routes will be added with the right information

Actors: General user

Scenario: The user needs add new routes meet the requirements.

Test Case 3:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Case | Action | Expected | Actual | Pass/Fail |
| 3.1 | a. System will allow user to enter new routes |  | Allows and applies | Pass |
| 3.2 | a.Press routes | Error: the flight | Route successfully creates and searchable | Pass |
|  | b. Press create new route | arrives before |  |  |
|  | c. The new route require airline | it departs |  |  |
|  | d. The new route require departure airport |  |  |  |
|  | e. The user should choose an existing origin airport |  |  |  |
|  | f. The new route require arrival airport |  |  |  |
|  | g. The user should choose an existing arrival airport |  |  |  |
|  | h. The user type in departure time 0800 |  |  |  |
|  | i. The user type in arrival time 0600 |  |  |  |
|  | j. The user type in price 180 |  |  |  |
| 3.3 | a.Press routes | Error: the flight | The dialog box shows “Invalid” for incorrect parameter including “Cost” | Pass |
|  | b. Press create new route | arrives after |  |  |
|  | c. The new route require airline | midnight |  |  |
|  | d. The new route require departure airport |  |  |  |
|  | e. The user should choose an existing origin airport |  |  |  |
|  | f. The new route require arrival airport |  |  |  |
|  | g. The user should choose an existing arrival airport |  |  |  |
|  | h. The user type in departure time 2000 |  |  |  |
|  | i. The user type in arrival time 2400 (next day) |  |  |  |
|  | j. The user type in price 180 |  |  |  |
| 3.4 | a.Press routes | Error: the price is | The dialog box shows “Invalid” for the cost parameter alone. | Pass |
|  | b. Press create new route | less than zero |  |  |
|  | c. The new route require airline |  |  |  |
|  | d. The new route require departure airport |  |  |  |
|  | e. The user should choose an existing origin airport |  |  |  |
|  | f. The new route require arrival airport |  |  |  |
|  | g. The user should choose an existing arrival airport |  |  |  |
|  | h. The user type in departure time 0800 |  |  |  |
|  | i. The user type in arrival time 1200 |  |  |  |
|  | j. The user type in price -600 |  |  |  |
| 3.5 | a. Press airports | Error: The airport | Errored stated the format was incorrect | Pass |
|  | b. Press create new airport | code should be |  |  |
|  | c.Type in airport code "456" | letters |  |  |
|  | d. Press add |  |  |  |
| 3.6 | a. Press airports | Error: The airport | Errored stated the format was incorrect | Pass |
|  | b. Press create new airport | code should be 3 |  |  |
|  | c.Type in airport code "ASDF" | letters |  |  |
|  | d. Press add |  |  |  |

Use Case 4:

Goal: System will allow user to add new airports

Actors: General user

Scenario: The user needs to add new airports meet the requirements.

Test Case 4:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Case | Action | Expected | Actual | Pass/Fail |
| 4 | a. Press airports | Error: The airport | Errored stating the airport already exists | Pass |
|  | b. Press create new airport | must be no added |  |  |
|  | c.Type in airport code "ATL" | routes |  |  |

Use Case 5:

Goal: System will allow user to delete routes

Actors: General user

Test Case 5:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Case | Action | Expected | Actual | Pass/Fail |
| 5 | a. Press routes | Delete route window | Delete route window show up | Pass |

Use Case 6:

Goal: System will allow user to delete airports

Actors: General user

Test Case 6:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Case | Action | Expected | Actual | Pass/Fail |
| 6 | a. Press airports | All routes associated are deleted | All routes associated are deleted | Pass |
|  | b. Press delete airport |  |  |  |
|  | c.Choose an airport to delete |  |  |  |
|  | d. Press delete |  |  |  |
|  | e. Check if any routes associated with deleted airport must be deleted as well | |  |  |

Use Case 7:

Goal: System shall allow the user to see all airports currently in the network

Actors: General user

Test Case 7:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Case | Action | Expected | Actual | Pass/Fail |
| 7 | a.Press "More Info" button On GUI | The information | The information show on Jdialog | Pass |
|  | b.Check the information on JDialog | show on Jdialog |  |  |

Use Case 8:

Goal: System shall allow the user to see all airlines that service a given airport

Actors: General user

Test Case 8:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Case | Action | Expected | Actual | Pass/Fail |
| 8 | a.Press "More Info" button On GUI | The information | The information show on Jdialog | Pass |
|  | b.Check the information on JDialog | show on Jdialog |  |  |

Use Case 9:

Goal: System shall allow the user to see the air route information for all routes

Actors: General user

Test Case 9:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Case | Action | Expected | Actual | Pass/Fail |
| 9 | a.Press "More Info" button On GUI | The Jdialog should | Jdialog show the inmoramtion | Pass |
|  | b.Check the information on JDialog | has the information |  |  |
|  |  | of carrier, departure |  |  |
|  |  | airport/time,arrival |  |  |
|  |  | airport/time,price. |  |  |