

## Administrator

User

- edit any Client's information (other than email)
- edit any Flight's information
- book an Itinerary for any Client

- User
- Client
- Flight
- AdminActivity
- LoginActivity

## BookItineraryActivity

- on creation, display all of a selected Itinerary's information
- allow an Administrator to book a selected Itinerary for any Client
- allow a Client to book themselves a selected Itinerary
- do the booking with the click of a button

- Administrator
- Client
- DisplayItinerariesActivity
- Itinerary

## Client

User

- keep track of personal and billing info
- edit personal and billing info (other than email)
- keep track of booked itineraries
- be able to book an Itinerary for itself

- User
- ClientManager
- ClientActivity
- BookItineraryActivity
- Administrator

## ClientActivity

- create and keep track of a 'submit' and 'back' button
- on creation, display all of a Client's personal and billing information
- allow an Administrator to edit all of a Client's personal and billing information other than email
- allow a Client to edit their own personal and billing information other than email
- save changes and display a message when the 'submit' button is pressed
- go back to the main menu when 'back' is pressed

- Client
- Administrator
- MenuActivity
- ClientManager

## ClientManager

- keep track of the file path where files are saved
- load Client information from a text or serialized file
- keep track of a HashMap of Client email to the corresponding Client
- save Client information to a serialized file

- Client
- ClientActivity

## DisplayBookedItineraries

- on creation, display all of a given Client's booked Itineraries if an Administrator is signed in or the Client's own booked Itineraries if a Client is signed in, determined beforehand in MenuActivity

- Client
- ClientManager
- Itinerary
- MenuActivity

## DisplayFlightsActivity

- display all existing Flights
- display Flights matching previous search criteria

- Flight
- FlightManager
- MenuActivity
- SearchFlightsActivity
- User

## DisplayItinerariesActivity

- on creation, display Itineraries matching search criteria
- allow a User to choose whether to sort by cost or time
- sort Itineraries by cost or time
- allow a User to select an Itinerary by clicking one

- BookItineraryActivity
- Itinerary
- MenuActivity
- User

## Flight

- keep track of and edit departure and arrival dates and times
- keep track of and edit flight number, origin, destination, number of available seats and airline
- keep track of and edit the travel time and cost
- calculate the layover time between two dates
- compare flight numbers of two Flights

- Itinerary
- User

## FlightActivity

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| <ul style="list-style-type: none"><li>• create and keep track of a 'submit' and 'back' button</li><li>• display a Flight's information</li><li>• allow an Admin to edit any of the Flight's information</li><li>• save changes to a file</li></ul> | <ul style="list-style-type: none"><li>• Administrator</li><li>• Flight</li><li>• FlightManager</li><li>• MenuActivity</li></ul> |
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## FlightManager

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| <ul style="list-style-type: none"><li>• keep track of the file path where files are saved</li><li>• load Flight information from a text or serialized file</li><li>• keep track of a Graph of Flights</li><li>• save Flight information to a serialized file</li><li>• find matching Flights given origin, destination, and departure date</li></ul> | <ul style="list-style-type: none"><li>• Flight</li><li>• FlightActivity</li><li>• Graph</li></ul> |
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## Graph

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| <ul style="list-style-type: none"><li>• keep track of a Map of Flight to a set of connecting Flights</li><li>• add Flights and connecting paths to the Map of Flights</li></ul> | <ul style="list-style-type: none"><li>• Flight</li><li>• Itinerary</li></ul> |
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## Itinerary

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| <ul style="list-style-type: none"><li>• keep track of Flights</li><li>• calculate cost</li><li>• keep track of overall cost</li><li>• calculate travel time</li><li>• keep track of travel time</li><li>• compare itinerary times</li><li>• compare itinerary costs</li></ul> | <ul style="list-style-type: none"><li>• Flight</li><li>• User</li></ul> |
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## LoginActivity

- create and keep track of a 'submit' button
- load credentials from file
- allow a User to submit an email and password
- authenticate credentials
- take an authenticated User to the main menu

- User
- MenuActivity

## MenuActivity

- create buttons to other Activities and keep track of their clicks
- keep track of the email of the User who is logged in
- figure out whether an Administrator or Client is logged in
- if the User is an Administrator, show a button to UploadActivity
- send relevant information to corresponding selected Activities

- Administrator
- ClientActivity
- DisplayBookedItineraries
- Flight
- FlightManager
- Itinerary
- LoginActivity
- SearchFlightsActivity
- SearchItinsActivity
- UploadActivity
- User

## SearchFlightsActivity

- on creation, create input fields
- allow the User to search Flights with matching date, origin, and destination

- DisplayFlightsActivity
- Flight
- FlightManager
- MenuActivity

SearchItinsActivity	
<ul style="list-style-type: none"> <li>allow a User to input a departure date, origin and destination</li> <li>search for and create Itineraries that match the input</li> <li>take the User to a DisplayItinsActivity</li> </ul>	<ul style="list-style-type: none"> <li>DisplayItinsActivity</li> <li>User</li> <li>Flight</li> <li>Itinerary</li> <li>MenuActivity</li> </ul>

UploadActivity	
<ul style="list-style-type: none"> <li>allow an Administrator to upload Flight and Client information</li> <li>save the uploaded information</li> </ul>	<ul style="list-style-type: none"> <li>Flights</li> <li>User</li> <li>MenuActivity</li> </ul>

Abstract	User	Client, Admin
<ul style="list-style-type: none"> <li>keep track of username and password</li> </ul>	<ul style="list-style-type: none"> <li>LoginActivity</li> <li>Client</li> <li>Administrator</li> </ul>	