

Abstract	
User	
Client, Administrator	
<ul style="list-style-type: none"><li>• Perform itineraries search</li><li>• Perform flights search(none stop)</li><li>• Sort itineraries by cost</li><li>• Sort itineraries by time</li></ul>	<ul style="list-style-type: none"><li>• DataHandler</li></ul>

Administrator	
User	
<ul style="list-style-type: none"><li>• Search Flights</li><li>• Search itineraries</li><li>• Upload Client information</li><li>• View Client information</li><li>• Edit Client information</li><li>• Upload Flight information</li><li>• Edit Flight information</li><li>• Book itineraries for Client</li><li>• View booked itineraries</li></ul>	<ul style="list-style-type: none"><li>• DataHandler</li><li>• Client</li><li>• itinerariesSeach</li></ul>

Client	
User	
<ul style="list-style-type: none"><li>• Edit Personal and billing info</li><li>• Search flights</li><li>• Search itineraries</li><li>• Book itineraries</li><li>• View booked itineraries</li></ul>	<ul style="list-style-type: none"><li>• itinerariesSearch</li></ul>

## DataHandler

- Open clients csv file
- Open flights csv file
- Open password file

- Client
- Admin
- User

## Flight

- Flight number
- Departure data
- Arrive Data
- Air Line
- Origin
- Destination
- Cost
- Seats
- Travel Time

## Itinerary

- Departure data and time
- Origin
- Destination
- Total travel time
- Total Cost
- List of flights
- -Calculate the total time
- -Calculate the total cost

- Flight

## FlightGraph

- |  |   |
|--|---|
| <ul style="list-style-type: none"><li>• Add flight as a node to store it in the graph.</li><li>• Link two nodes if one of the destination is the other's origin</li><li>• Get all the linked flights, whose origins are same as the destination of the given flight.</li><li>• Calculate stopover time between two different flights</li><li>• Maximal stopover time</li><li>• Minimal stopover time</li></ul> | <ul style="list-style-type: none"><li>• ItinerariesSearch</li></ul> |
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## ItinerariesSearch

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>• Find all itineraries with given factors</li><li>• -Origin</li><li>• -Destination</li><li>• -Travel date &amp; time</li><li>• -List of itineraries</li></ul> | <ul style="list-style-type: none"><li>• Itinerary</li></ul> |
|---|---|

## ClientManager

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Read from file</li><li>• Save to file</li><li>• - Clients</li></ul> |  |
|---|--|

## flightManager

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Read from file</li><li>• Save to file</li><li>• - Flights</li></ul> |  |
|---|--|

## MainActivity

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|--|---|
| <ul style="list-style-type: none"><li>• Log in</li><li>• Load all clients and flights info from local to serialized data</li></ul> | <ul style="list-style-type: none"><li>• DataHandler</li><li>• ClientManager</li><li>• FlightManager</li></ul> |
|--|---|

## ClientMainActivity

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|--|--|
| <ul style="list-style-type: none"><li>• Lead client to search flights</li><li>• Lead client to search itineraries</li><li>• Lead client to edit personal and billing info</li><li>• Lead client to view personal and billing info</li><li>• Lead client to view booked itineraries</li></ul> |  |
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## AdminMainActivity

## SearchFlightFormActivity

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|--|--|
| <ul style="list-style-type: none"><li>• Search Flight by given factors</li></ul> |  |
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## SearchFlightsResultsActivity

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>• Sort result by cost</li><li>• Sort result by time</li></ul> | <ul style="list-style-type: none"><li>• SearchFlightsFormActivity</li></ul> |
|---|---|

### SearchItinerariesFormActivity

- Search all itineraries by given factors

### SearchItinerariesResultsActivity

- Sort result by total time
- Sort result by total cost
- SearchItinerariesFormActivity

### SelectedItineraryActivity

- Book the selected itinerary
- SearchItinerariesResultsActivity

### BookingActivity

- Show all booked itineraries
- SelectedItineraryActivity

### ClientInfoActivity

- Show the info of the current client
- ClientMainActivity

### EditClientInfoActivity

- Edit the info of current client
- ViewClientInfoActivity

**AdminMainActivity**

- Search Flights
- Search itineraries
- Edit client info
- Edit flight info

**AdminItinerariesShowActivity**

- Show the searched itineraries result
- AdminMainActivity

**AdminShowSearchedFlightsActivity**

- Show the searched flight result
- AdminMainActivity

**AdminEditFlights**

- Edit the flight info
- AdminMainActivity

**AdminNoSuchFlightActivity**

- Show the given client is not found
- AdminEditClient

**AdminEditFlights**

- Edit flight info
- AdminMainActivity

## AdminNoSuchFlightActivity

- Show there is not Flight match the given flight #
- AdminEditFlightActivity

## AdminClientEidtSuccessfully

- To show that the edit is success
- AdminEditClientActivity

## AdminFlightEdittedSuccessfullyActivity

- To show that the flight is edit successfully
- AdminEditFlightActivity

## AdminViewEditClientsActivity

- Edit or View all Clients
- AdminMainActivity

## AdminViewClientActivity

- View all the client info
- AdminMainActivity

## AdminEditClientActivity

- Admin edit Client file
- AdminViewEditClientsActivity

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<b>AdminViewBookedItinerariesActivity</b>	
<ul style="list-style-type: none"><li>• Show all the booked itineraries by Client</li></ul>	<ul style="list-style-type: none"><li>• AdminMainActivity</li></ul>