

INTERNET TECHNOLOGIES ASSIGNMENT REPORT

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Group: A1

Assignment: 3

PROBLEM STATEMENT

Implement a web application for “Travel Thru Air” using servlets to support the following two use cases

1. A list of current special deals must appear on the home page. Each special deal must display the departure city, the arrival city, and the cost. These special deals are set up by the marketing department and change during the day, so it can't be static. Special deals are only good for a limited amount of time.
2. A user may search for flights, given a departure city, time and an arrival city. The results must display the departure city, the arrival city, the total cost, and how many legs the flight will have. State and explain why and where you have used design patterns.

SOLUTION APPROACH

There are 2 servlets as follows:

- **SpecialDealsServlet**- Responsible for rendering a list of special deals.
- **FlightsServlet**- Responsible for rendering a list of flights based on source and destination city and departure time provided by user.

The special deals are objects of SpecialDeal class and flights are objects of Flight class. An arraylist of respective objects is initialised in the servlets and it is set to a request attribute before dispatching to the respective JSP.

The FlightsServlet also checks for errors and in case of error dispatches the request to a different jsp named error.jsp after setting the error message as request attribute. The following errors are handled:

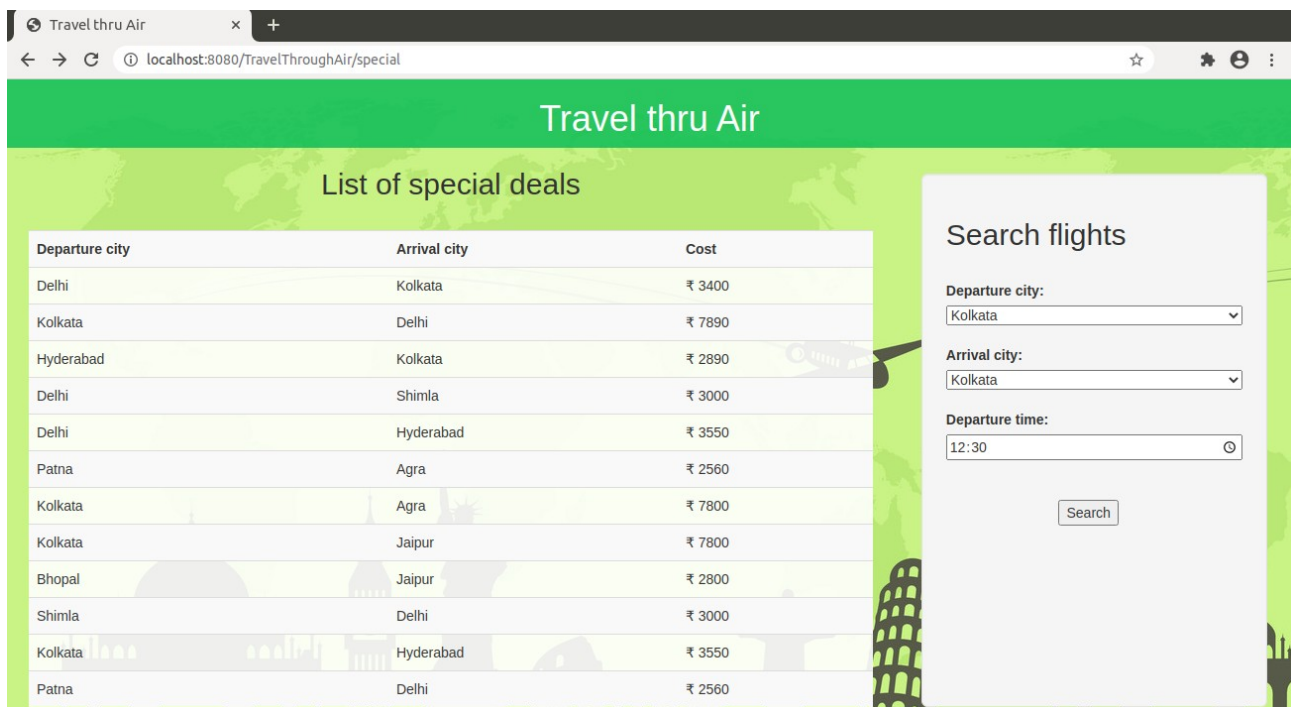
- Destination and arrival city same.
- Time is invalid
- No flights with the given input available.

SALIENT FEATURES UNIQUE TO MY APPLICATION

- Follows MVC architecture.
- Provision for handling error in user input.

SCREENSHOTS

1. List of special deals



The screenshot displays the 'Travel thru Air' web application interface. The page has a green header with the title 'Travel thru Air'. Below the header, the main content area is titled 'List of special deals' and features a table with flight information. To the right of the table is a 'Search flights' form with dropdown menus for departure and arrival cities, a time selector, and a search button.

Departure city	Arrival city	Cost
Delhi	Kolkata	₹ 3400
Kolkata	Delhi	₹ 7890
Hyderabad	Kolkata	₹ 2890
Delhi	Shimla	₹ 3000
Delhi	Hyderabad	₹ 3550
Patna	Agra	₹ 2560
Kolkata	Agra	₹ 7800
Kolkata	Jaipur	₹ 7800
Bhopal	Jaipur	₹ 2800
Shimla	Delhi	₹ 3000
Kolkata	Hyderabad	₹ 3550
Patna	Delhi	₹ 2560

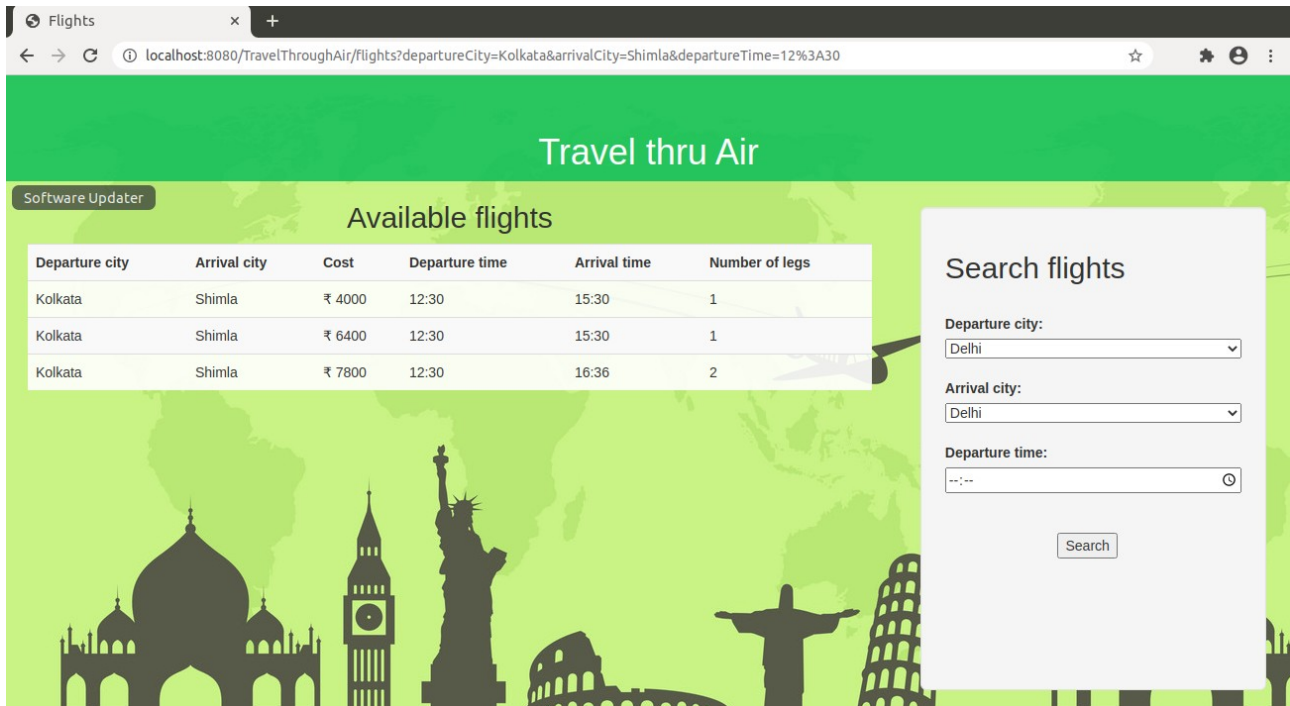
Search flights

Departure city:

Arrival city:

Departure time:

2. List of flights from Kolkata to Shimla



The screenshot shows a web browser window with the URL `localhost:8080/TravelThroughAir/flights?departureCity=Kolkata&arrivalCity=Shimla&departureTime=12%3A30`. The page has a green header with the text "Travel thru Air". Below the header, there is a "Software Updater" button and a section titled "Available flights". This section contains a table with the following data:

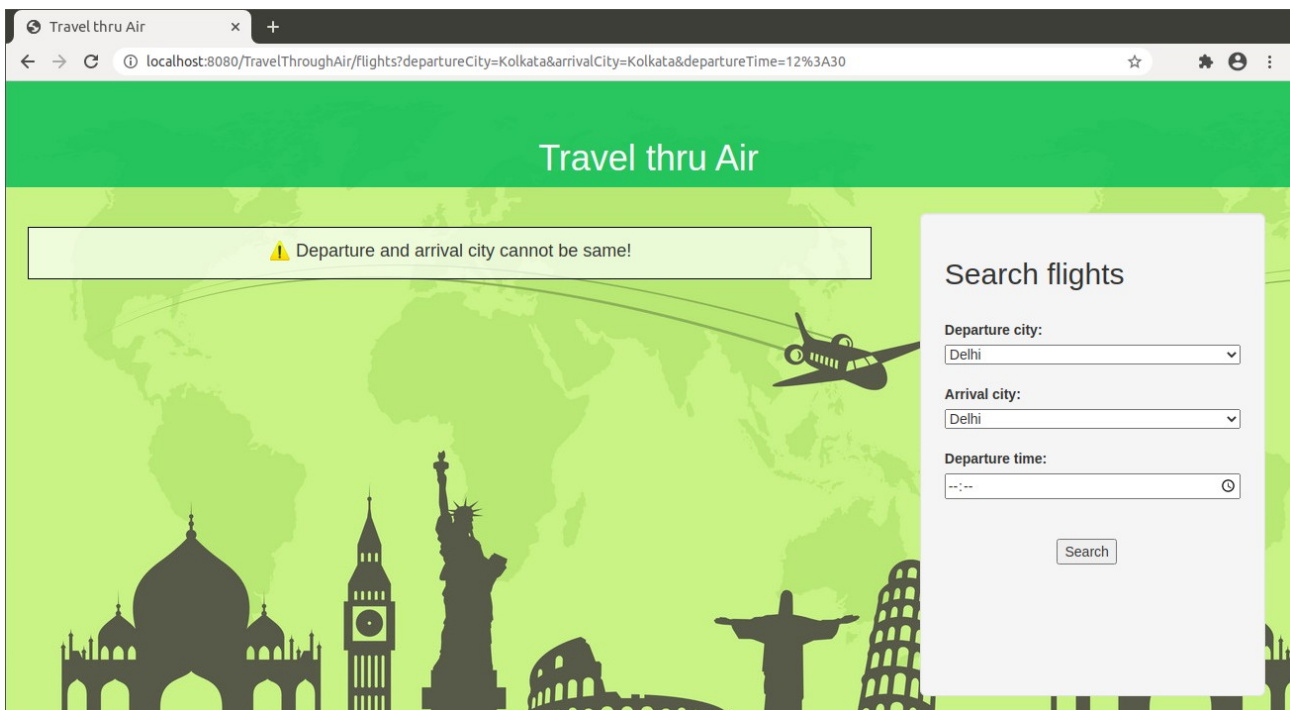
Departure city	Arrival city	Cost	Departure time	Arrival time	Number of legs
Kolkata	Shimla	₹ 4000	12:30	15:30	1
Kolkata	Shimla	₹ 6400	12:30	15:30	1
Kolkata	Shimla	₹ 7800	12:30	16:36	2

To the right of the table is a "Search flights" form with the following fields:

- Departure city:
- Arrival city:
- Departure time:
- A "Search" button.

The background of the page features a world map and silhouettes of various landmarks including the Taj Mahal, Big Ben, the Statue of Liberty, the Colosseum, and Christ the Redeemer.

3. Error: Source and destination same



The screenshot shows the same "Travel thru Air" website, but the URL is `localhost:8080/TravelThroughAir/flights?departureCity=Kolkata&arrivalCity=Kolkata&departureTime=12%3A30`. A yellow error message box is displayed at the top left, stating: "⚠️ Departure and arrival city cannot be same!". The "Search flights" form on the right is still visible, with the "Departure city" and "Arrival city" fields both set to "Delhi". The background features the same world map and landmarks as the previous screenshot.