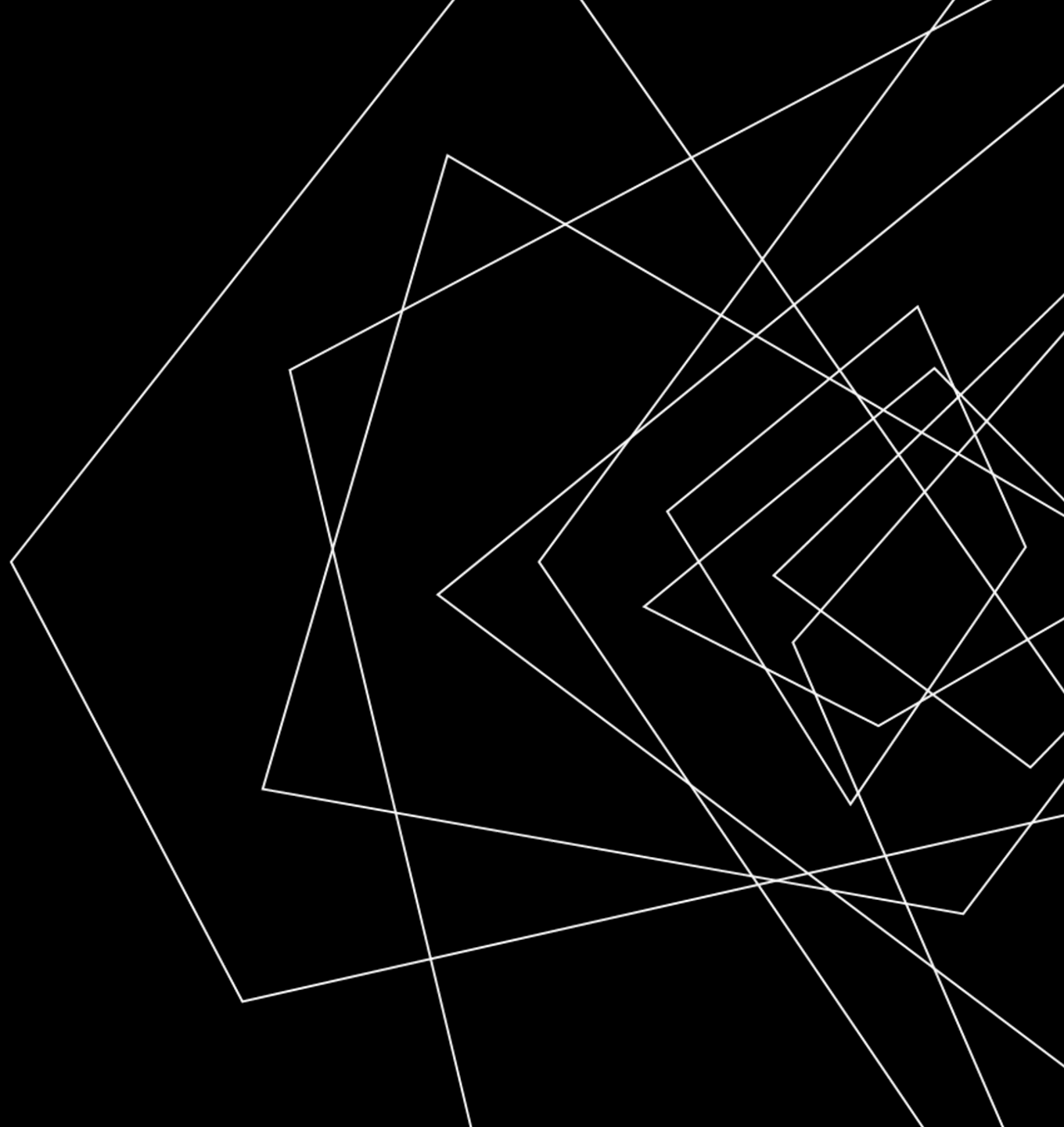
An abstract graphic in the top-left corner consisting of several overlapping, irregular polygons with thin black outlines. The shapes are nested and tilted, creating a complex, layered geometric effect.

# **AIRLINE MANAGEMENT SYSTEM**

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# PROBLEM DESCRIPTION

The project is a small implementation of a widely used transaction-based processing system - the **Airline Reservation System**. It incorporates various functionalities like airline schedules, fare tariffs, passenger reservations, and ticket records, etc.

We process different types of requests/transactions by implementing various database operations like insertions, selections, group by, join, order by, aggregate functions (e.g.: count),etc.

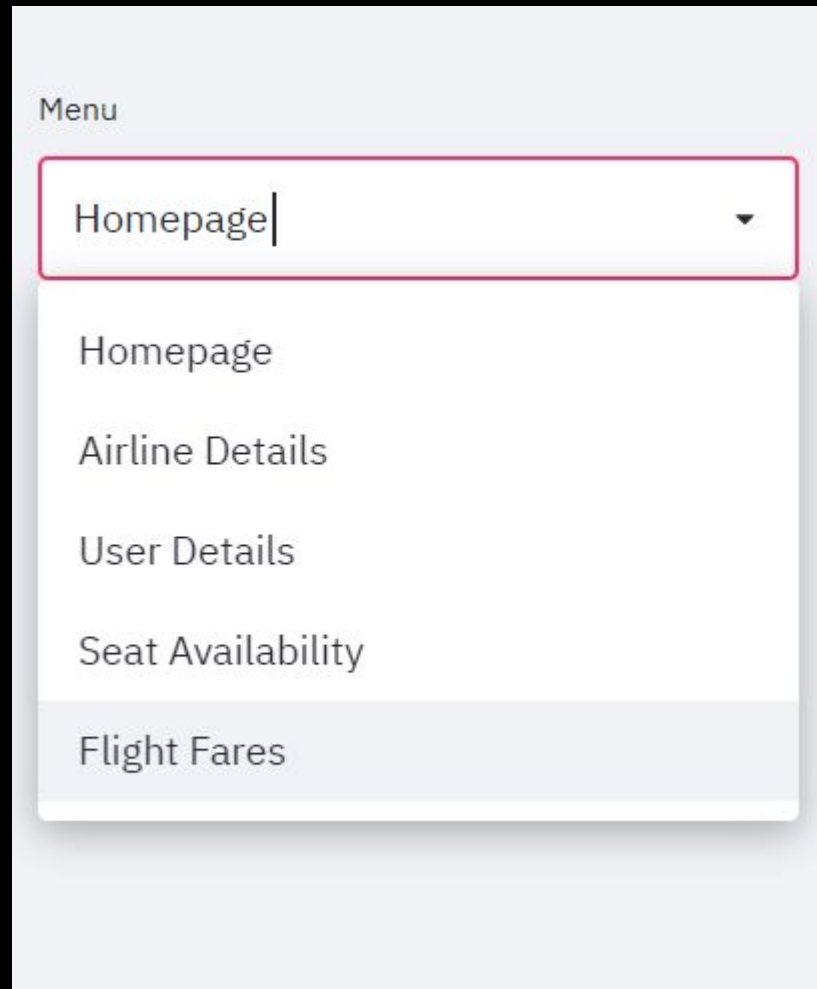
# APPLICATION FEATURES

The application provides the user to get the following information:

- Traveler information
- Traveler Itinerary (including stops in their trip)
- The total number of flights that would operate corresponding to every airline
- The total number of bookings done by each user type - agency / traveler in each airline
- The total number of bookings done by each agency in each airline
- The total number of seats available for booking in each airplane.
- The total number of seats available for booking in each airplane, for each of the seat categories - aisle, window and middle.
- Fare associated with every flight .

# AIRLINE MANAGEMENT SYSTEM





The menu at the left corner of the application lists the details that this application provides.

## Traveller Info

This page displays the traveller details given an Traveller ID and a Trip ID.

Enter Traveler ID

1

Enter Trip ID

101

Submit

On choosing the homepage, a user gets prompted to enter the Traveler id and Trip id. Every traveler has a unique id (traveler id) and is associated with a unique trip id corresponding to their travel.

Enter Traveler ID

1

-

+

Enter Trip ID

101

-

+

Submit

	first_name	last_name	contact_number
0	Abhay	Sharma	(123) 456-789

Successfull

On Submitting this, the user can see the details : First name, Last name and Contact number of the traveler undertaking this trip.



This page displays the traveller details given an Traveller ID and a Trip ID.

Enter Traveler ID

1

Enter Trip ID

101

Submit

	first_name	last_name	contact_number
0	Abhay	Sharma	(123) 456-789

Successfull

### Itenerary

Expand to View Full Itinerary

### Layovers

Expand to View Layovers

The same details earlier submitted (traveler id and trip id) can be used to check the users' itinerary and layovers of their trip (if any) .

## Itinerary

Expand to View Full Itinerary

	departure_airport	depart_time	arrival_airport	arrival_time	airplane_no
0	delhi airport	01:45:00	mumbai airport	04:10:00	1001

Successfull

The user with traveler id = 1 and trip id = 101 has a flight scheduled from delhi airport, departing at 1:45, reaching mumbai airport at 4:10, on the airplane numbered 1001.

Note : Every airplane in our database is uniquely identified by a unique airplane number.

## Layovers

Expand to View Layovers

	halt	arrival_time	depart_time
0	no hop	0	0

Successfull

The selected trip has no layovers.

This page displays the traveller details given an Traveller ID and a Trip ID.

Enter Traveler ID

21

- +

Enter Trip ID

121

- +

Submit

	first_name	last_name	contact_number
0	Amrik	Sharma	(123) 456-809

Successfull

### Itenerary

Expand to View Full Itinerary

+

### Layovers

Expand to View Layovers

+

Let's try it for a different user.

## Itinerary

Expand to View Full Itinerary

	departure_airport	depart_time	arrival_airport	arrival_time	airplane_no
0	delhi airport	05:15:00	mumbai airport	10:05:00	1005

Successfull

## Layovers

Expand to View Layovers

	halt	arrival_time	depart_time
0	ahmedabad airport	07:00:00	09:00:00

Successfull

This user, who is travelling on airplane number 1005, has a halt at ahmedabad airport. The details of the arrival and departure time at this halt is also shown to the user.

## Traveller Info

This page displays the traveller details given an Traveller ID and a Trip ID.

Enter Traveler ID

1

-

+

Enter Trip ID

106

-

+

Submit

No details found for this user for the selected Traveller ID and Trip ID

If a user enters a trip id, which is not associated with the traveler id, no details will be fetched.

## Traveller Info

This page displays the traveller details given an Traveller ID and a Trip ID.

Enter Traveler ID

1001

Press Enter to apply

Enter Trip ID

106



Value must be less than or equal to 120.

Submit

In our dataset, Traveler id ranges from 1 to 120 and Trip id ranges from 101 to 220. Any deviation from this range would not be accepted by our application.

Menu

Airline Details|



Let's try to explore the next functionality of this application.



## Airline Details

This page displays the number of airplanes operating for a selected airline

Choose an Airline

AirAsia

	airnines_name	count
0	AirAsia	1

Successfull

This page displays how many airplanes operate for each of the airlines in our dataset. By default, the details of the airline AirAsia is displayed.

Note: Our dataset shows all the information for a specific date.

## Airline Details

This page displays the number of airplanes operating for a selected airline

Choose an Airline

IndiGo

AirAsia

AirIndia

GoFirst

IndiGo

SpiceJet

Vistara

A user can select any airline to find their results

## Airline Details

This page displays the number of airplanes operating for a selected airline

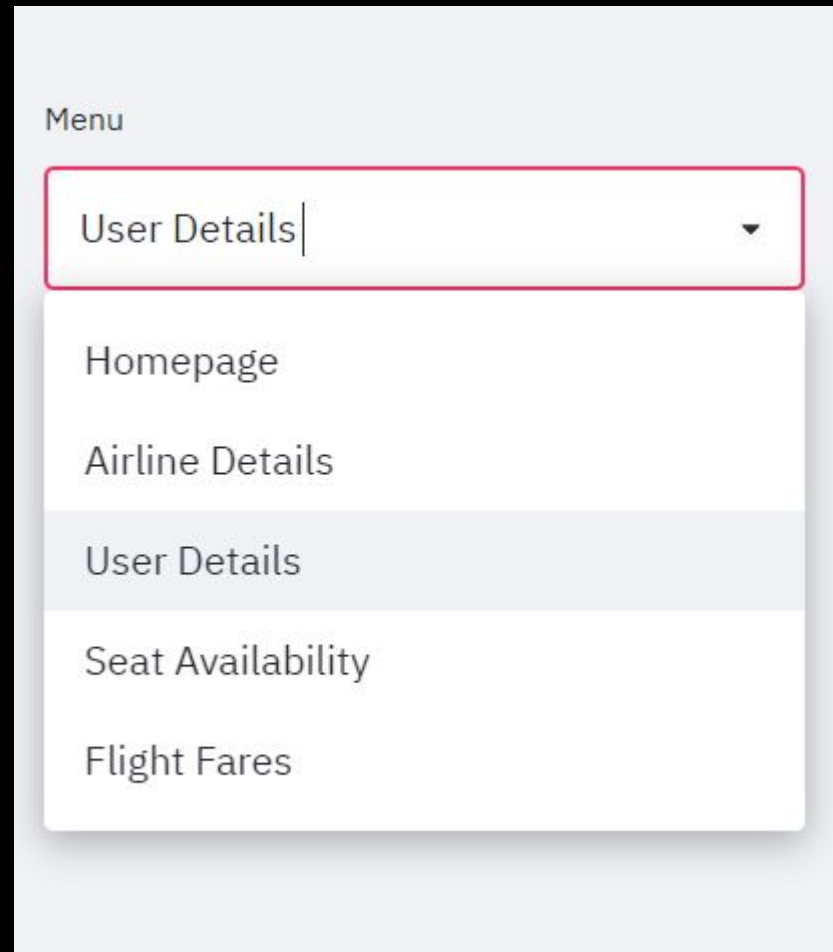
Choose an Airline

IndiGo

	airnines_name	count
0	IndiGo	9

Successfull

IndiGo airline has 9 operating flights.



Let's move to the next functionality.

## User Details

This page displays the number of tickets booked by user type, which can be an agency or a traveller himself.

What type of user are you?

traveller

Submit

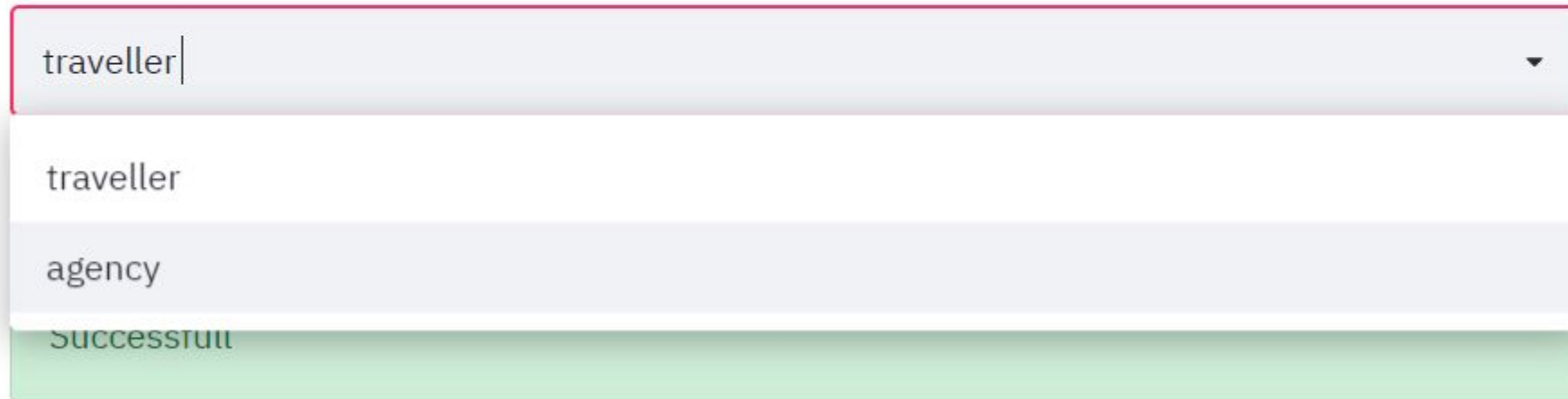
Successfull

Functionality: To retrieve how many tickets were booked by each user type, and their further distribution based on airlines.

## User Details

This page displays the number of tickets booked by user type, which can be an agency or a traveller himself.

What type of user are you?



traveller

traveller

agency

Successful

Our dataset has 2 kinds of users.

1. Traveller : The ones who are travelling on the flight which they have booked.
2. Agency : The ones who are not travelling, but have booked tickets.

## User Details

This page displays the number of tickets booked by user type, which can be an agency or a traveller himself.

What type of user are you?

traveller ▼

Submit

Successfull

	user_type	count
0	traveller	92

## Details

Expand to View List of airlines booked by User Type

+

In our dataset, there are 92 bookings which have been done by those who are travellers as well.

	user_type	count
0	traveller	92

## Details

Expand to View List of airlines booked by User Type

Successfull

	airnines_name	count
0	SpiceJet	13
1	AirIndia	13
2	Vistara	17
3	GoFirst	10
4	IndiGo	36
5	AirAsia	3

For each airline, we can see the number of bookings done by travellers.



## User Details

This page displays the number of tickets booked by user type, which can be an agency or a traveller himself.

What type of user are you?

agency

Submit

Successfull

	user_type	count
0	agency	28

## Details

Expand to View List of airlines booked by User Type

+

Agencies had total 28 bookings.

	user_type	count
0	agency	28

## Details

Expand to View List of airlines booked by User Type

Successfull

	airnines_name	count
0	GoFirst	10
1	AirIndia	2
2	SpiceJet	2
3	Vistara	3
4	IndiGo	9
5	AirAsia	2

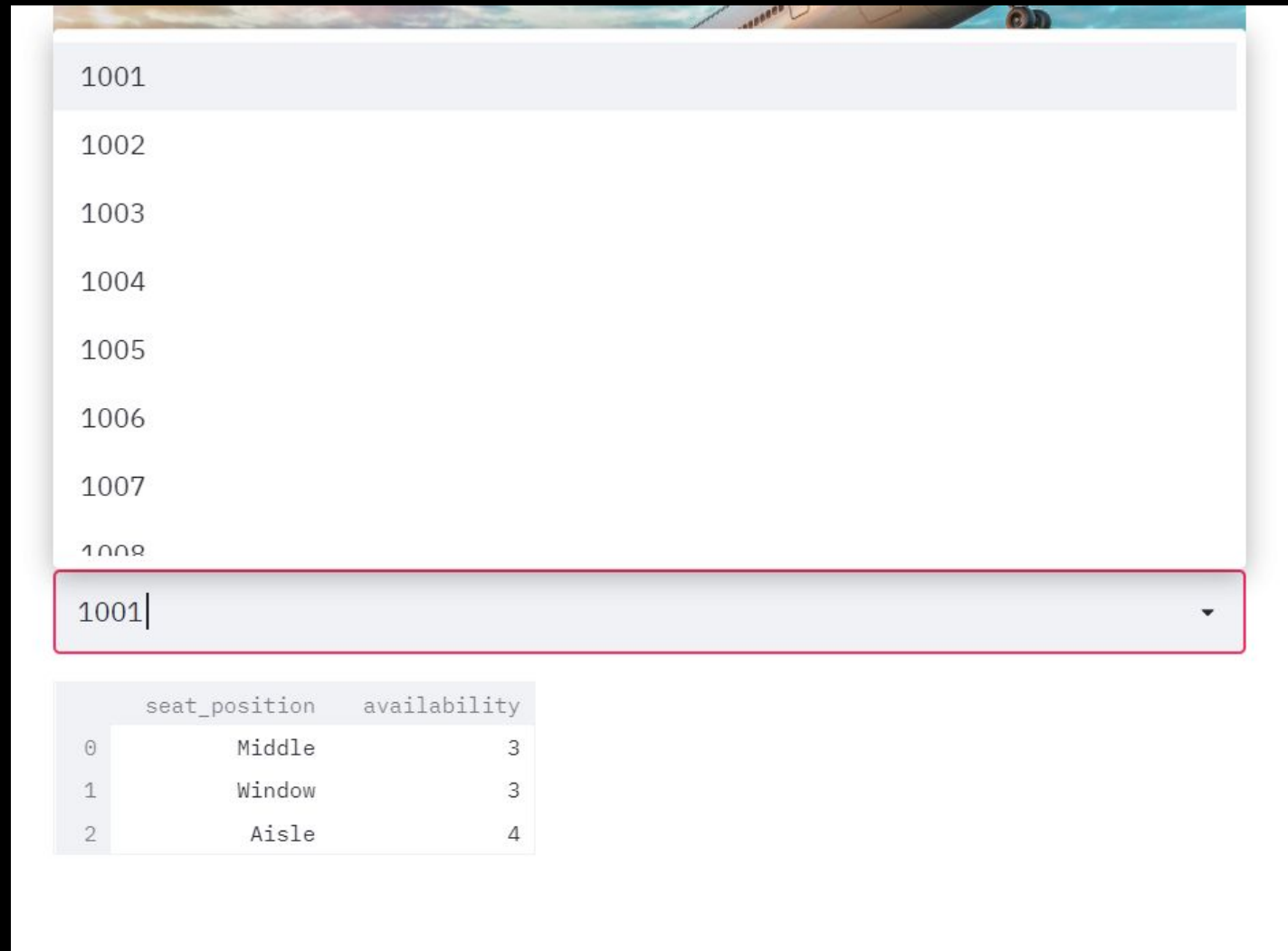
The further breakdown of the bookings, categorized by airlines can be seen.

Menu

Seat Availability|



Let's explore the next functionality.



The screenshot shows a web application interface. At the top, there is a header image of an airplane. Below it, a list of airplane numbers is displayed: 1001, 1002, 1003, 1004, 1005, 1006, 1007, and 1008. The number 1001 is highlighted. Below the list, there is a dropdown menu with a red border, showing the selected value '1001' and a downward arrow. At the bottom, there is a table with two columns: 'seat\_position' and 'availability'.

	seat_position	availability
0	Middle	3
1	Window	3
2	Aisle	4

To begin with, a user needs to select an airplane number.

## Seat Availability

This page displays the number of seats available per seat type for the selected airplane number.

Choose an Airplane

1003|

	seat_position	availability
0	Aisle	2
1	Middle	1
2	Window	1

Having selected an airplane number, the application shows the availability of seats characterized by the seats' location - aisle window and middle.

## Seat Availability

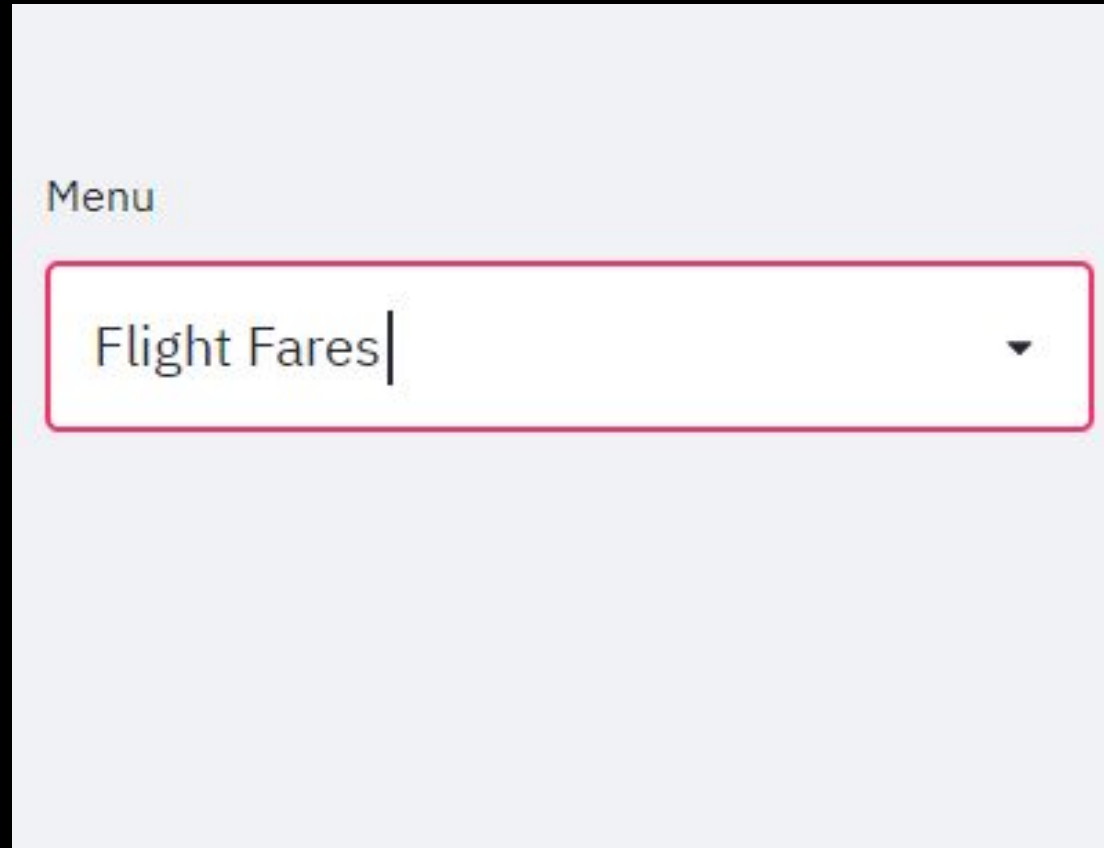
This page displays the number of seats available per seat type for the selected airplane number.

Choose an Airplane

1005|

seat_position	availability
<i>empty</i>	

Airplane number 1005 has no seats available!



And here comes the next functionality, Flight Fares.

## Fare Details

This page displays the fare for a given airlines

Choose an Airline

AirAsia

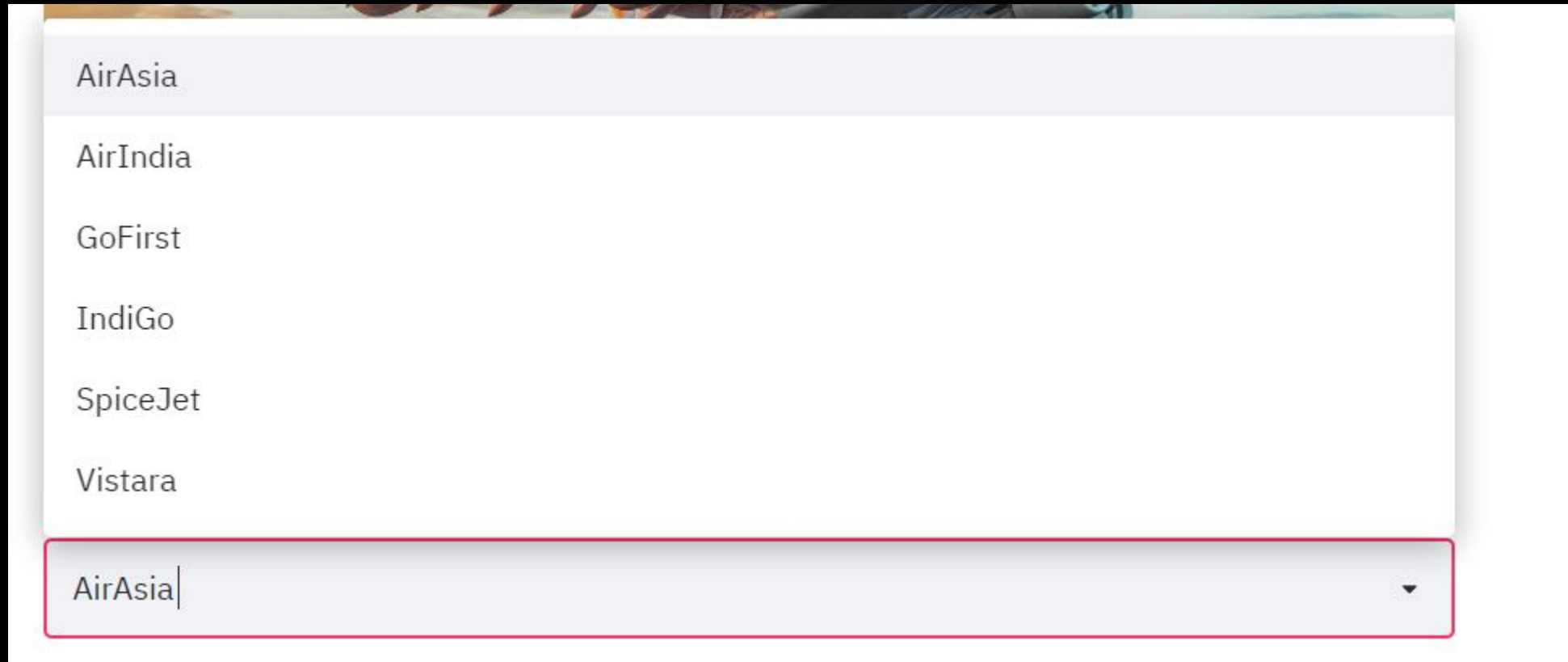
	airplane_no	airlines_name	final_amount
0	1003	AirAsia	2456

Successfull

This functionality allows users to see the ticket cost for each airlines.

Note : In our data set, every traveler pays the same fare for the same flight.





A screenshot of a web application showing a dropdown menu for selecting an airline. The menu is open, displaying a list of airlines: AirAsia, AirIndia, GoFirst, IndiGo, SpiceJet, and Vistara. The 'AirAsia' option is highlighted in a light blue bar at the top of the list. Below the list, there is a search input field with a red border. The input field contains the text 'AirAsia' followed by a vertical cursor line. To the right of the input field is a small downward-pointing triangle icon, indicating that the menu can be toggled open or closed.

- AirAsia
- AirIndia
- GoFirst
- IndiGo
- SpiceJet
- Vistara

AirAsia

One can choose among airlines to see all the fare options that that airline has to offer.

## Fare Details

This page displays the fare for a given airlines

Choose an Airline

Vistara|

	airplane_no	airlines_name	final_amount
0	1007	Vistara	2501
1	1024	Vistara	2837
2	1015	Vistara	3152
3	1021	Vistara	3152

In our dataset, the Vistara airline has 5 airplane flights for the date, and mentioned is the ticket cost for each of them.

Abstract geometric lines in white on a black background, forming various polygons and intersecting lines on the left side of the slide.

**THANK YOU**