Ease My Trip - Flight Price Analysis

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Introduction

Our Goal

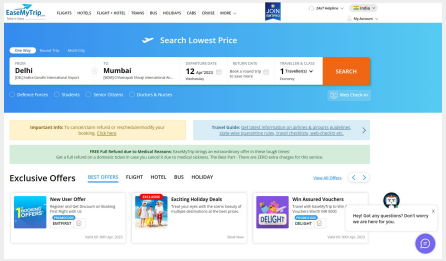
- Design an interactive dashboard that shows insights about a main business

Database selected

- Extracted from kaggle.com, with the title “Flight Price Prediction”
- Contains information about flight booking from an Indian online travel booking web page called “Ease My Trip”

Why the selection?

- *“Ease My Trip”* offers a wide range of services such as :
  - Air tickets
  - Bus tickets
  - Hotel bookings
  - Holiday packages
- In 2021 joined India’s unicorn list by crossing the $1 billion US mark of market capitalization
- Main business in:
  - India
  - United Arab Emirates
  - Thailand
  - Nepal



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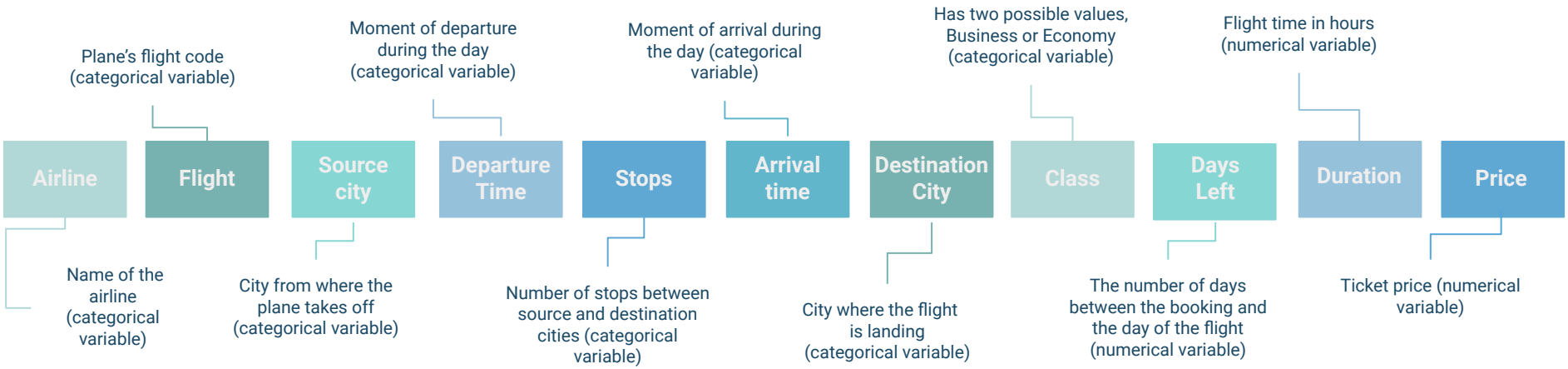
Data description

- The dataset used for this project contains information about flight options between 6 India metro cities, available in the website from February 11th to March 31st 2022
- Contains 300153 observations and 11 features:



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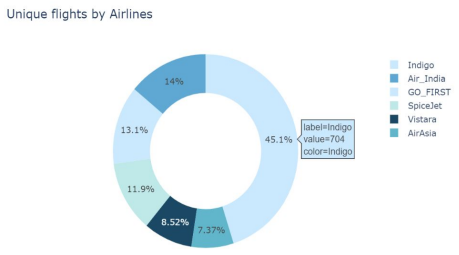
Questions assessed

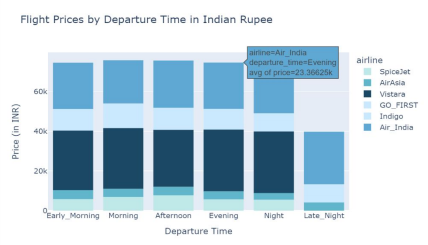
For this project we assessed 4 questions focused on either price range or quantity of flights purchased.

How are flights prices distributed by company?

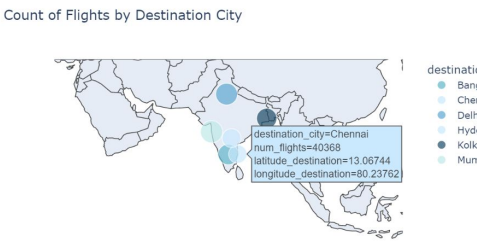
How are the number of flights distributed by company?



How are flights prices distributed by departure time?



How are the number of flights distributed by destination?



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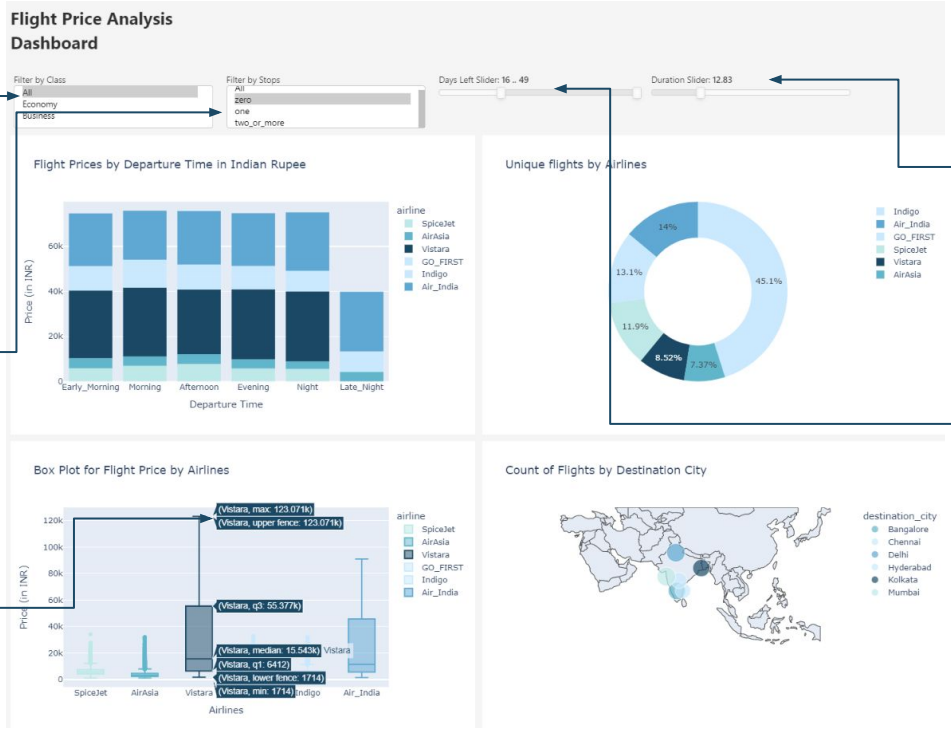
Dashboard proposal

Filter by class so we'll able to visualize the changes in price and flights in all the charts

Filter by stops will change the graphs according to the number of stops available in the datam so we can compare how the prices change along

Every chart allows the viewer to appreciate descriptions of it



Finally we can also slide through the duration of the journey

We can also modify the chart by selecting the number of days left for the flight. It ranges between 1 and 49.
This will allow the viewer to see if the prices go up or down depending on the proximity of the flight

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Data Findings

- Price depends on class: For all the stops, airlines, departure time and date of booking the flight, we can clearly see that the price of the flight ticket is higher for business class than the economy class (which makes complete sense as well)

- Departure date and ticket price booking: The price almost remains constant up to 50 days previous to the departure date. However around 15 days before the departure, the ticket price increments rapidly, especially the economy ticket which reaches prices up to 3 times its original price, while Business suffers a more expensive ticket but with a difference not as radical as the aforementioned class.

- Price depends on Departure time: Most of the airlines set their lowest price in the evening and it would not be affected by ticket class. It can also be observed that customers of the business class have less price sensitivity in terms of the departure time, so the gap between maximum price and minimum price during a day is bigger in business class, compared to economy class.

- Price and Stops: Based on the data (from the dashboard), we can see that the average price is always less for flights without stops as compared to flights with stops for both business and economy class, for any departure time, airlines or journey (which is very strange). However, the number of direct flights (i.e, without any stops) is less than the flights with one stop.

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Areas of improvement

Limitations

- Regrettably, the available data is quite limited, making it difficult to provide a comprehensive historical view of prices and trajectories.
- Our interaction is limited to view and filter, but It would be a great addition if the viewer could, let's say select a source in the map and visualize specific statistics for the place selected.
- As for our plots, the pie chart can be difficult to do accurate comparison between categories.
- The histograms can be sensitive to the choice of size, which impacts the interpretation.
- Box plot may not be suitable for datasets with complex distributions and the geo scatter plot may be limited by the size and resolution of the map.

Future work

- Add a multi-currency support, so the data doesn't only shows Indian rupees.
- Add a visualization that shows the number of flights from a source to a destination, so the viewer can spot the most popular trajectories.
- Have an airline filter, so we can focus certain views on analyzing merely the airlines individually.
- A chart with the price change of the ticket depending on the proximity to the flight date, that could be affected by a filter by class and airline.

Links

YouTube

https://www.youtube.com/watch?v=E183hUA0vxQ

Dashboard

https://vanshikas253.github.io/flight_price_analysis_dashboard/combined_dashboard_final.html

Github

https://github.com/Vanshikas253/flight_price_analysis_dashboard

Members participation

ZHANG Yunqiu:
-In charge of question ***How are flights prices distributed by departure time?***
-Selection of interesting data to spot

SHARMA Vanshika:
-In charge of question ***How are the number of flights distributed by company?***
-Design of dashboard and deploy of visualization

AVILA CAÑIVE Aiza:
-In charge of question ***How are the number of flights distributed by destination?***
-Creation of slides

ELA ESSOLA Michele Natacha:
-In charge of question ***How are flights prices distributed by company?***
-Deploy of visualization