



# Flight Delay Engine

By: Alberto Ponce, Ryan Karcaw, Armine Arutyunyan, Maura Ellsworth

# IAH Flight Delays

total\_by\_reason\_2022

reason	total_delays
Arrival Delay	1557771
Weather Delay	93009
National Aviation System Delay	261469
Security Delay	2287
Late Aircraft Delay	522114

- IAH there are 1,557,771 minutes of delays- Equates to 3 years of delays
- Flight delays cause:
  - Missed connections
  - Loss of vacation
  - Unexpected costs such as needing to purchase a new hotel or flight



# Flight Delay Dashboard

[project documentation](#)

## Airline Carriers

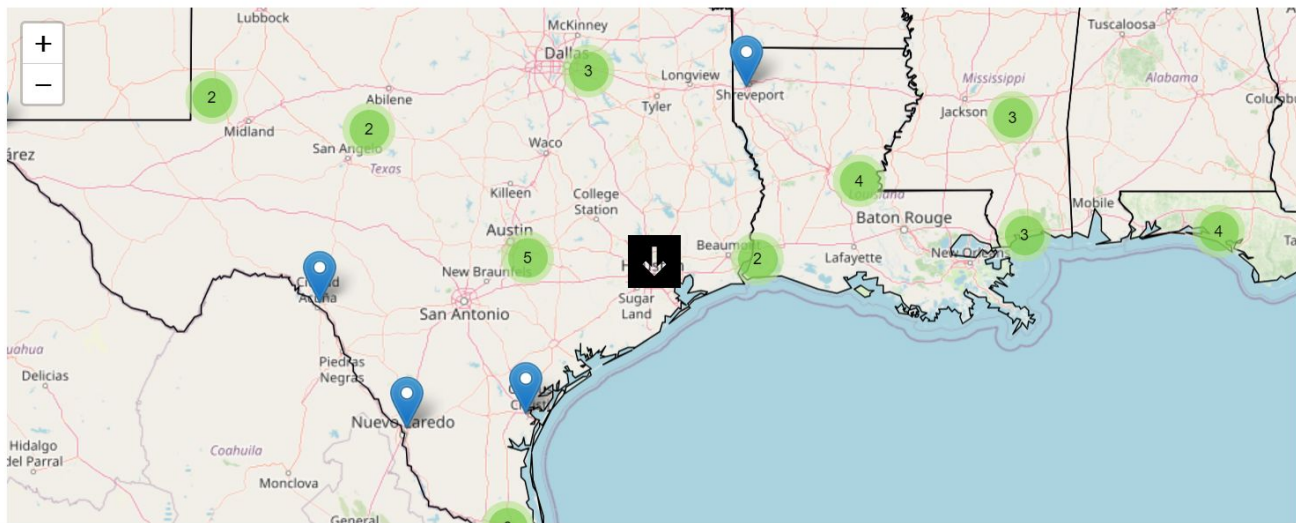
Select from airlines servicing  
Houston from IAH

Endeavor Air ▾



Headquarter: Minneapolis  
Nearest Hub Airport Code:  
ATL  
Hub City: Atlanta

## Airports Mapped



We discovered that there is no great way to figure out how likely your airline is going to be delayed. So we developed a platform that shows statistical information on how likely your flight will be delayed based on airline



# Data Collection

- Web scraper built to pull departure delay data for George Bush Intercontinental IAH from the Bureau of Transportation Statistics for all years. This will be all domestic airlines that fly into IAH and their subsidiaries
- This was exported into a CSV so that we could use the data for our database and transfer into JSON



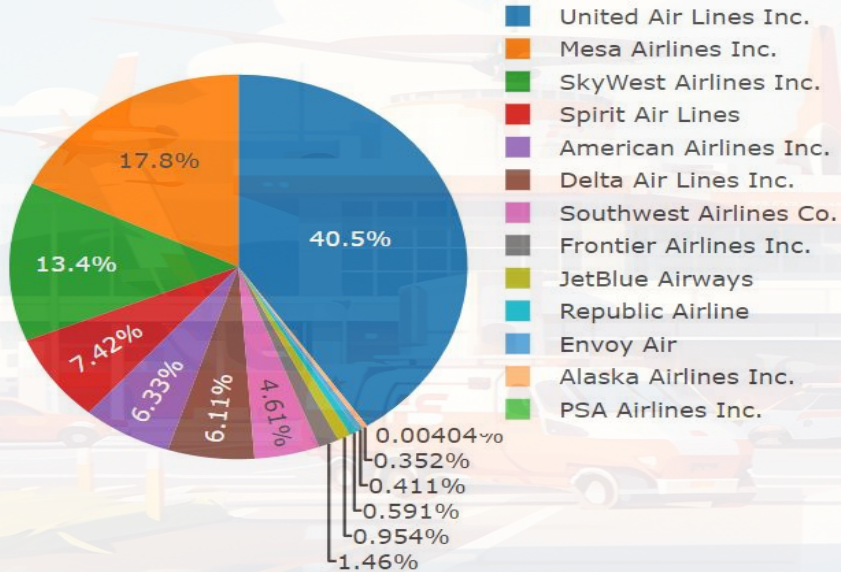
# Our Database

- Created two databases, one SQL and one MongoDB to import our flight delay CSVs
- The databases were used to create the summarizing visualizations for the dashboard
- SQL database was used for the analysis, while MongoDB was used for table building

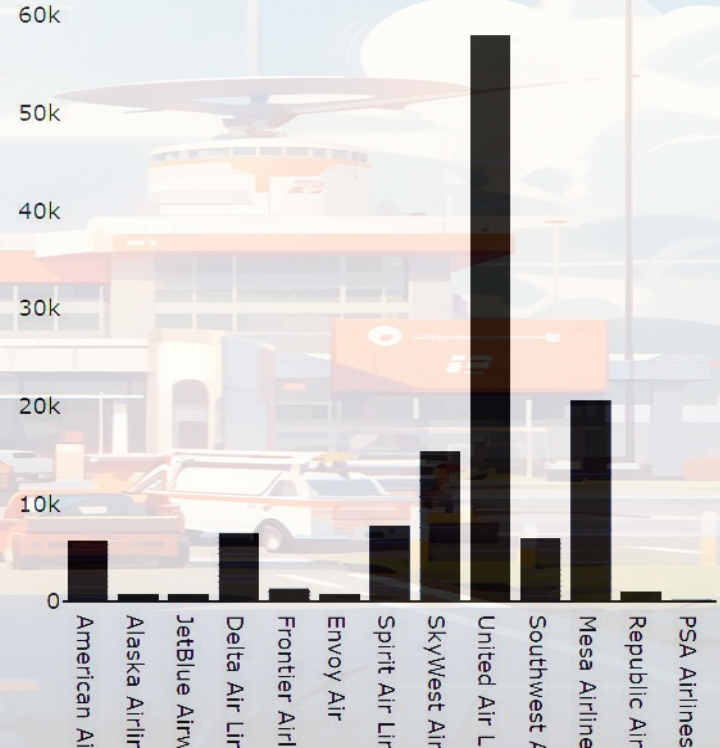


# Data Analysis

## 2022 Delays by Airline out of IAH

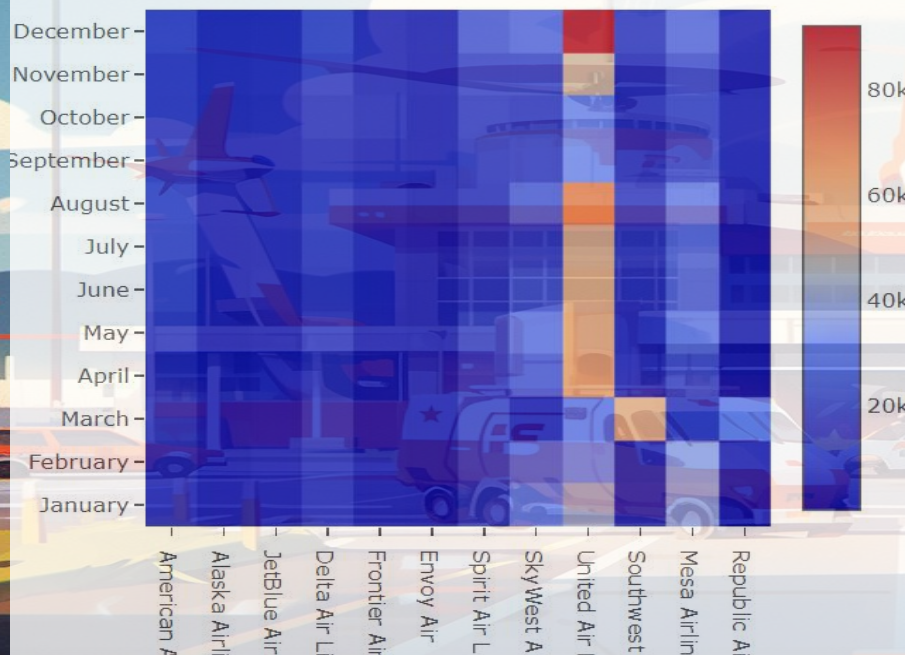


## Number of Flights in 2022 out of IAH

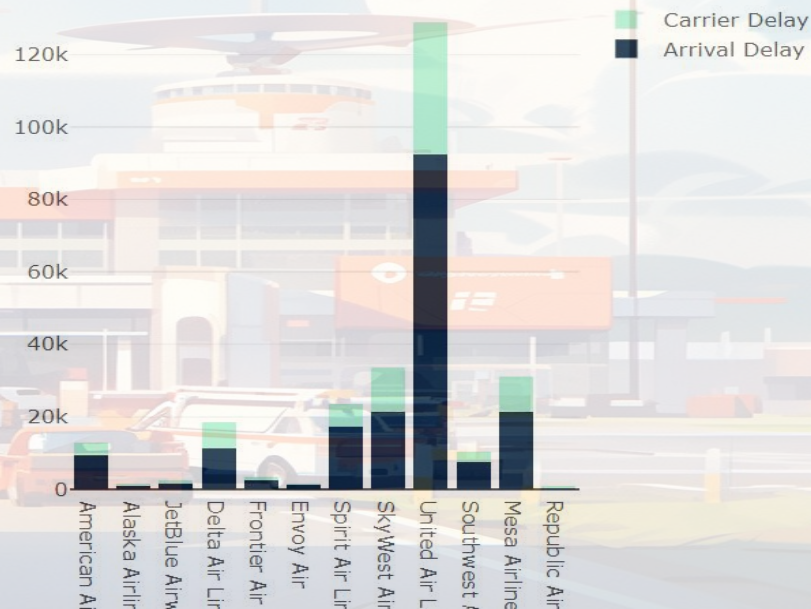


# Visualizations

## 2022 Flight Delays by Months out of IAH



## 2022 Arrival & Carrier Delay by Airlines out of IAH







# Live Demo