FLIGHT DELAYS AND CANCELLATIONS DASHBOARD

Data Foundations Nanodegree - Udacity

Links To Dashboards And Story

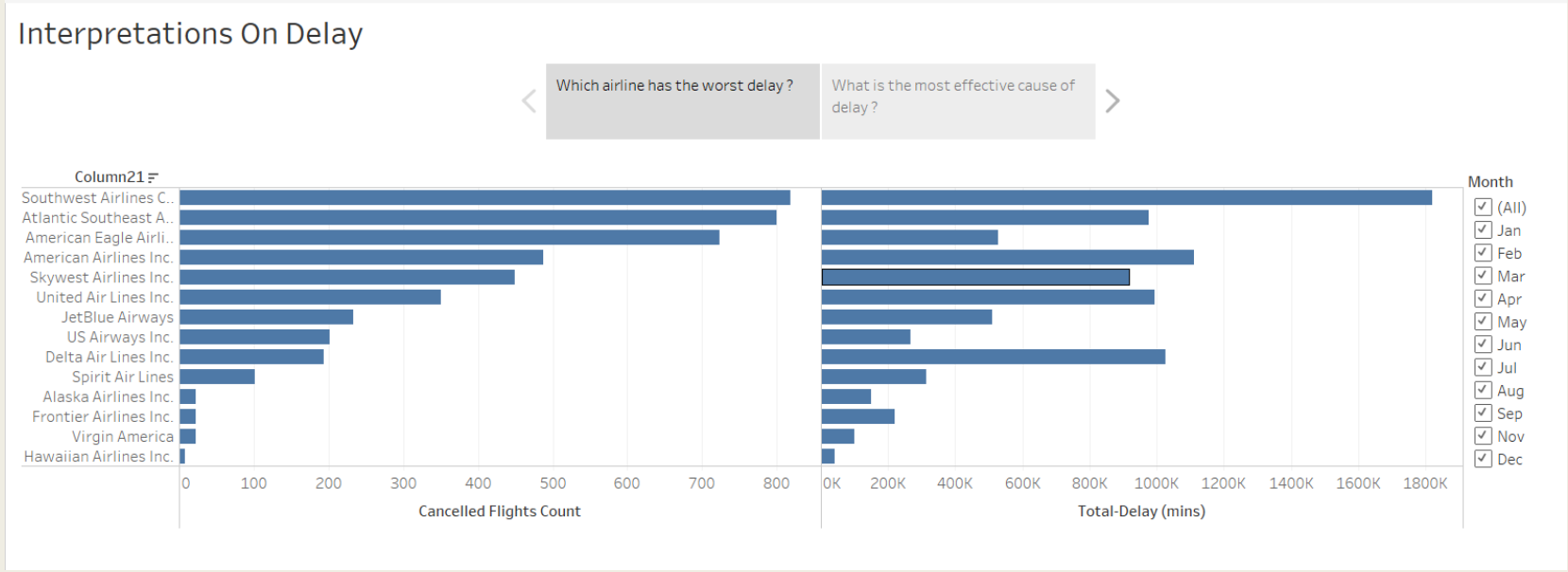
- [STORY1] Which airline has the worst delay? https://public.tableau.com/profile/maha.amin#!/vizhome/DFND-Tableau-Project/Story1
- [DASHBOARD1] Delay and cancellations trend lines. https://public.tableau.com/profile/maha.amin#!/vizhome/DFND-Tableau-Project/Dashboard1
- [Worksheet] Number Of Airports In Each State. https://public.tableau.com/profile/maha.amin#!/vizhome/DFND-Tableau-Project/Sheet6

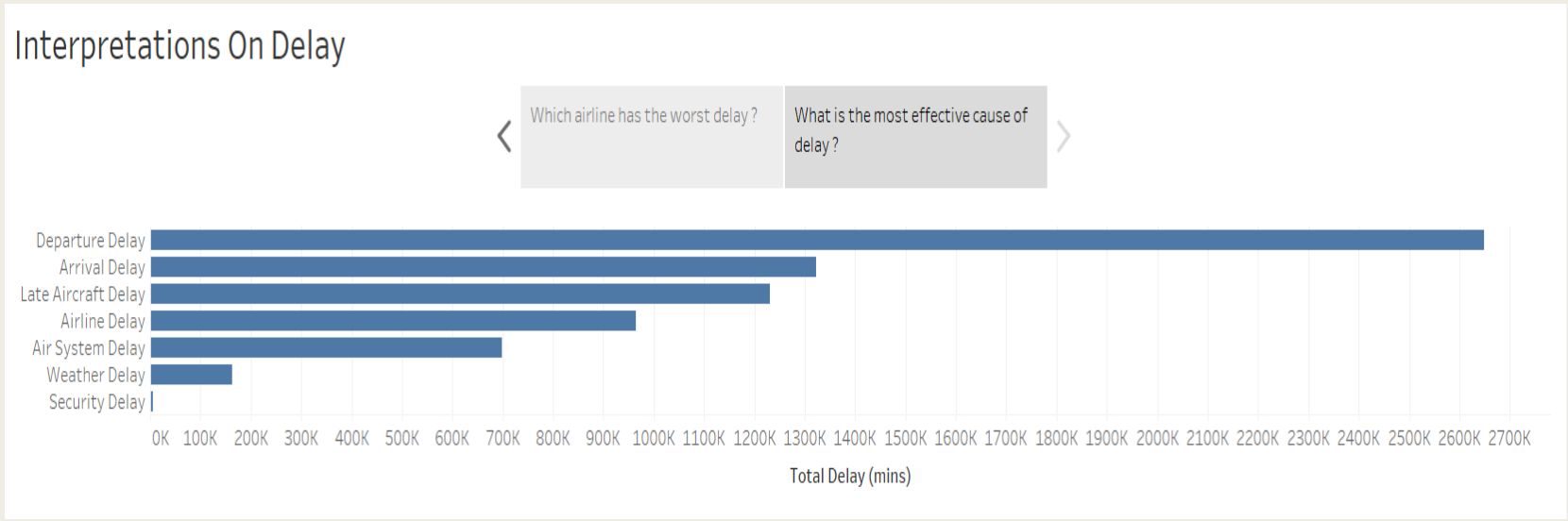
Project Description

- This project aims to produce visualizations, that reveal insights about delay and cancellations of flights operated by a large air carries in 2015.
- The data used is a dataset from Kaggle. The dataset tracks the on-time performance of US domestic flights operated by large air carries in 2015.
- The dataset consists of 3 tables in .csv format: “flights.csv”, “airports.csv”, and “airlines.csv”. The main file is “flights.csv” the other 2 files are used to extra information about flights, airlines, and airports.

Visualizations Insights Summary

Problem Insight





The top-left visualization represents the number of **cancelled flights** by each airline, and the **total-delay-time (mins)** made by each airline during 2015. (A filter is added to show the data for each month during 2015.

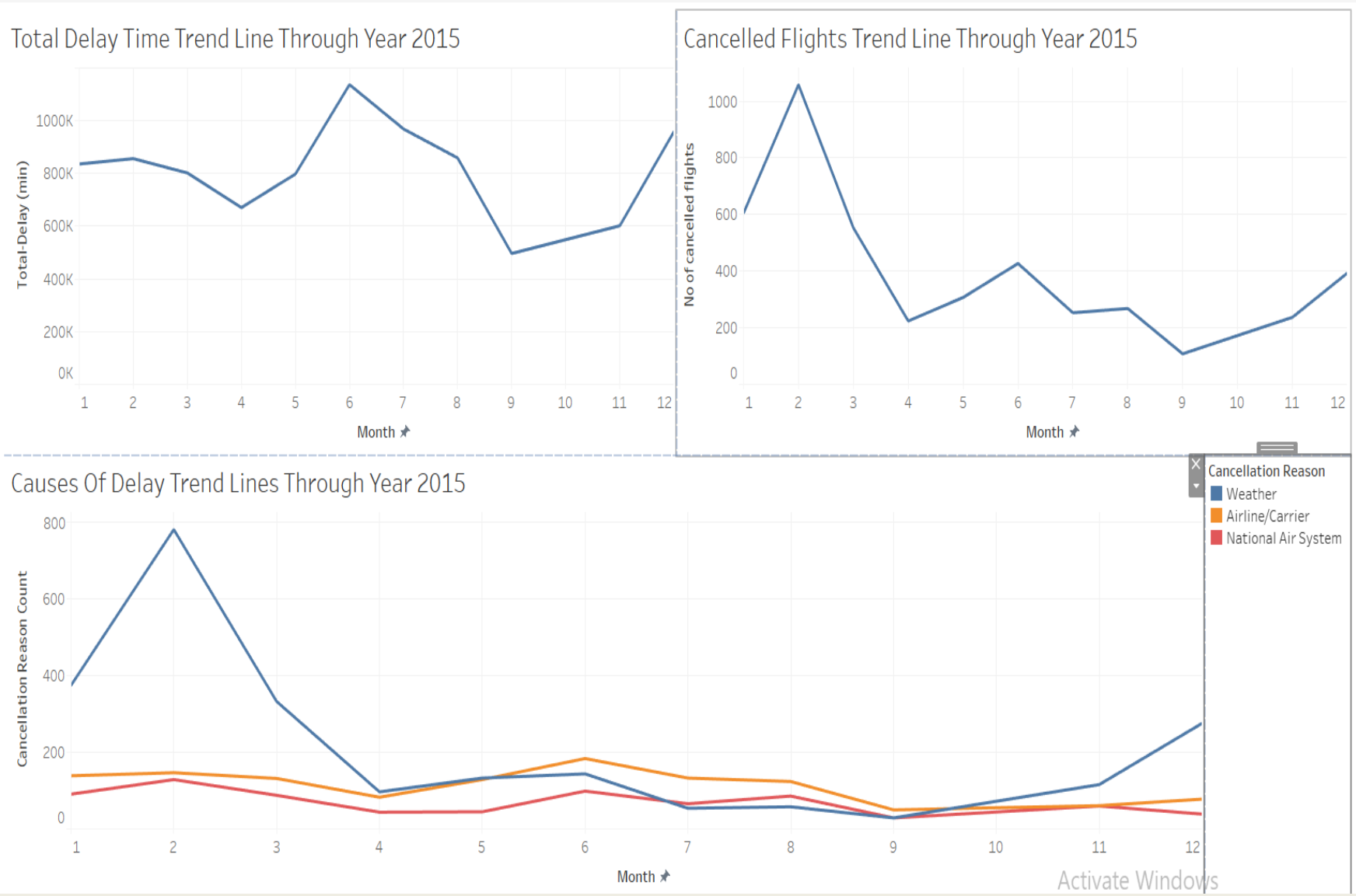
The bottom-left visualization shows the **total-delay-time (mins)** resulted by each cause.

Design Choice :

- The bar chart is used to represent the data, as it is a categorical data type.
- No colors are used to represent each category in the bars, as the category name is labeled on y-axis.

As a result the causes of delays and cancellations of flights required to be studied to help in decision making to reduce these delays/cancellations, also as a statistical reporting.

Delay/Cancellation Trend Lines



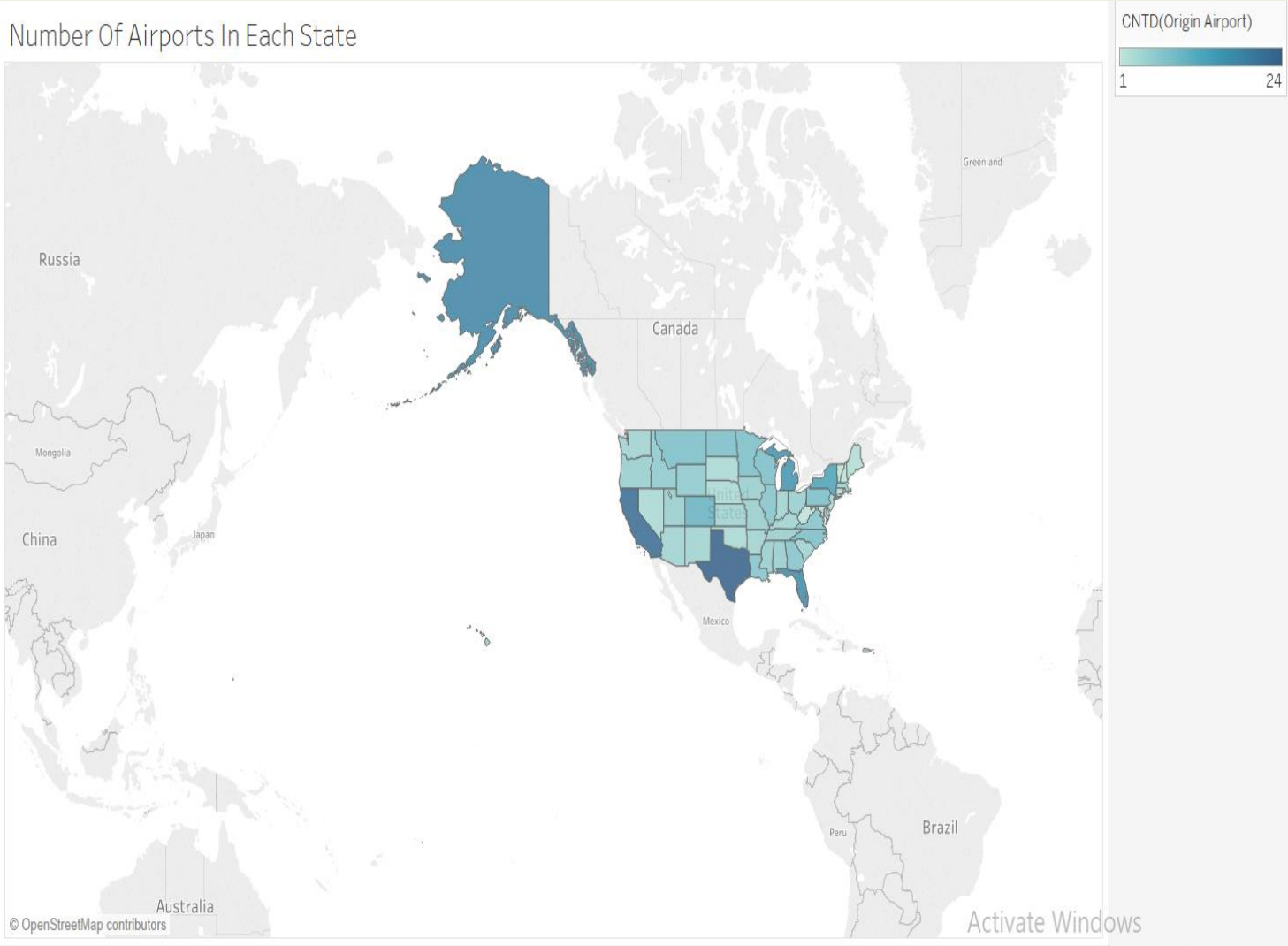
By zooming into the trend lines of delay-time and cancelled flights during each month, some conclusions can be deduced :

- There is a significant rise in the number of cancelled flights during February, and by looking at the trend line graph of cancellation reasons we can see a correlated rise in cancellation due to **weather.**
- Also there is an increase in both delay-time and cancelled flights from November and December, it is also correlated with cancelled flights due to **weather.**

Design Choice :

- Line chart is used to represent the data, to focus on the change happening during and between months.
- Also causes of delay are put into one graph for easier comparison and the color of the line is used to represent each cause.

Number Of Airports In Each State



The visualization on the left shows a map colored according to the density of the number of airports in each state. It is clear that California (CA) and Texas (TX) have the highest number of airports based on the given data. This insight can be useful in deciding from which state we can start solving delay/cancellation problems.

For example taking care of weather conditions of the state, so no flights are assigned to takeoff during days of bad weather.

LIMITATION : The number of airports is deduced based on the dataset, it is possible that there are another airports that are not mentioned in this dataset.

Design Choice :

- A map is used to represent the data to focus on the geographical distribution of airports.
- The color-legend shows that the darker the more the number of airports in that state.

Resources

- N/A. The insights in this file are driven using only the dataset and the concepts learned in the nanodegree.