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DATA FOUNDATIONS NANODEGREE PROGRAM
DATA VISUALIZATION PROJECT

Insight 1-Flight cancellations per state and month

https://public.tableau.com/profile/tableauuser5008#!/vizhome/Book0_43/Sheet2?publish=yes

This visualization is a shaded map. I choose this visualization, in order to give a better representation of the states. When someone hovers over the map, they can see the country, the state and the number of cancelled flights in this state. Besides there is a filter with a range of values between 1 and 12. This filter let us choose the month or the range of months we want, and see the results in the map. In this way the filer allows us to interact with the map and understand the measures more easily. The color of the states is brighter for the states with less cancellations, whereas it is darker for the states with most cancellations.
As we can see from the visualization, the states with the most cancelled flights are Texas (TX) with 668 and Illinois with 563 cancelled flights for all the months, meaning for a whole year.

Insight 2-Most frequent reasons of delay over months

https://public.tableau.com/profile/tableauuser5008#!/vizhome/Book0_43/Dashboard1?publish=yes

This dashboard's goal is to show the most frequent reasons of delay over a year' months. The first visualization is a bar chart where we can see the most frequent reasons of a delay.
I chose the bar chart because the message I want to pass, hides in the size, so the bar chart was the best choice. In addition, I used only one color because there wouldn't be any additional message, if I used different colors; it would be rather confusing.
As we can see the top reason is the late aircraft delay with 1.231.193 cancelled flights and the less frequent reason is the security delay with just 4.702 cancellations. What is really surprising is that the weather delay is not as frequent as many people would expect.

The second visualization of the dashboard is a line chart, which shows us the different delay reasons' trend over the months of the year. In this chart I used different colors in order to differentiate the reasons of delay. I did not use red and

green color, so as to make the visualization' s palette work for colorblindness. Besides, I chose the line chart, because I wanted to show the trend of each delay reason over time.
We can notice that there is a big raise of cancellations during June in the late aircraft delays, the airline delays and the air system delays. The weather delays increase during December, February and June and decrease during fall.

Insight 3-Delays per Airline

https://public.tableau.com/profile/tableauuser5008#!/vizhome/Book0_43/Dashboard2?publish=yes

In this dashboard we can see the airlines with the most delays.
In the first visualization we can see a bubble map with the departure delays per Airline. In the second visualization of the dashboard we can see the the arrival delays per Airline.
In both of the visualizations, the size of the bubble represents how big was the delay (in minutes). The bigger the delay, the larger the bubble.
The color palette gets darker as the flight number increases.
In the right side of the visualizations there are two filters, one for each visualization. They are a range of values filter for the minutes of the delay (departure delay for the first visualization and arrival delay for the second one). We can choose a range of the minutes of delay and see the results in the visualizations. For counting the departure and arrival delays, I only took into account the positive delays. I also excluded the cancelled or diverted flights.
We can also choose specific Airlines from the Airline filter.
As we can realize from the dashboard, the state with the most delays is California with 123.830 min departure delay and 114.862 min arrival delay and the Airline was the Southwest Airlines Co.

Resources

- https://github.com/alex-modyil/Udacity-DFND/blob/master/Project%204%20-%20Build%20Data%20Dashboards.pdf