Project 4: Build Data Dashboard
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SUMMERY

In this dashboard, we tried to answer four questions about the delayed flights in the year 2015.

DESIGN:

1. Which Airport has the highest number of delayed flights?

A map was chosen to represent the answer to this question where we want to know which airport has the highest number of delayed flights. The color is diverging depending on the number of flights. As you can see, Chicago airport had the highest number of more than 23K delayed flights during 2015.

However, in the data source there is no measure with the number of delayed flights, but there are ***xxx_Delay*** measures where x is the delay reason, and its value is the answer of how long the delay was. Positive values mean there was a delay, while negative and zero values mean there was not. So, a calculated field was created using this formula

```
NumOfDelayedFlights = [AS_DelayCount] + [Airline_DelayCount] +
[Secur_DelayCount] + [Wth_DelayCount] + [Late_DelayCount] +
[Depar_DelayCount] + [Arrival_DelayCount]
```

where,

xxx_DelayCount is also a calculated field that is created to count only positive values with the formula

```
COUNT(if ([xxx Delay] > 0 AND NOT ISNULL([xxx Delay])) THEN [xxx
Delay] END)
```

2. Which Airline has the flights with the longest departure delays?

Here we only focus on the departure delays. You can hover on the bars to see the amount of time each flight delays and in which airport it was. Colors depend on the amount of time. The dark color in (AA) says that its flights had the longest delays, with a delay of more than 20 hours or a day.

3. WHEN

There are two questions we tried to answer about when was the highest number of delayed flights, which month and which day of the week.

The first answer was about the changes in the number of delayed flights over the year from one month to the other, so it was designed with a line graph. The second answer was about the number of delayed flights on each day of the week, so it was visualized with a bar graph. Both of them do not provide us with values that need a color diverging. As you can see, June and Thursday had the highest number of delayed flights during the year.

Note: day of the week is represented in the data source with numbers (1-7), we considered 1 as Monday depending on two pieces of information: first, US weekdays start with Monday. Second: the flight on 2 November 2015 is on day 1, which it also happens that it is Monday on the calendar.

4. Common reasons of flight delays at 2015

We used a pie chart to represent the percentage of each reason at that year. It shows that the top two reasons were departure and arrival delays with a slight difference in the percentage for the departure delay.

A calculated field were created for each reason for the same reasons that we mentioned above (question 1).

The formula is :

```
([xxx_DelayCount]*100) / [NumOfDelayedFlights ]
```

Resources:

N/A