CS 4460 - P5 Putting it All Together

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Dataset Chosen:
Aircraft Incidents

Supported Analytic Tasks:
Find extremum
Find anomalies
Determine range
Correlate

Design Overview:
The goal of our model was to show users and interested persons the risks of flying planes. We originally began with the idea of showing all of the plane accidents over the years and how that has affected people's comfortability with flying. People are afraid to fly and would rather drive because of media and news of airplane crashes and high death tolls. We wanted to know whether people's fear of flying was warranted and whether data proved this? This drove our communicative objectives which were to first shape people's attitudes, reducing their fear directed at air travel by show that air travel is not as dangerous as people imagine it to be and second to impart knowledge by supporting this fact with data. We showed how most of the plane incidents were not fatal and how a majority of resulted in few or no injuries.

The main idea behind our visualization is to show people the risk they are taking when traveling by plane. We did this by showing past data on aircraft incidents and visualizing trends and variables that might lead to a higher aircraft incident rate. To achieve this, we had to study and analysis the information given, and see which subsets of the data proved suitable for our purpose. In particular, we decided that it is best to convey the information we wanted mainly through comparison with the type of incidents. Fatal, Non-Fatal or Incidents(Incidents means no injuries) as it highlights to us, if you ever get into a plane accident, what is the chance of you being injured, or possibly dying as a result.

Screenshots:

AIRCRAFT INCIDENTS
HELLO!

WELCOME TO A VISUALIZATION OF AIRPLANE INCIDENT DATA FROM THE YEARS 1995 TO 2016.

ULTIMATELY THESE VISUALIZATIONS AIM TO PROVIDE INSIGHT ON WHETHER OR NOT AIR TRAVEL IS AS RISKY AS MOST PEOPLE IMAGINE IT TO BE.

CS4460

SCROLLYTELLING OF AIRPLANE INCIDENTS!

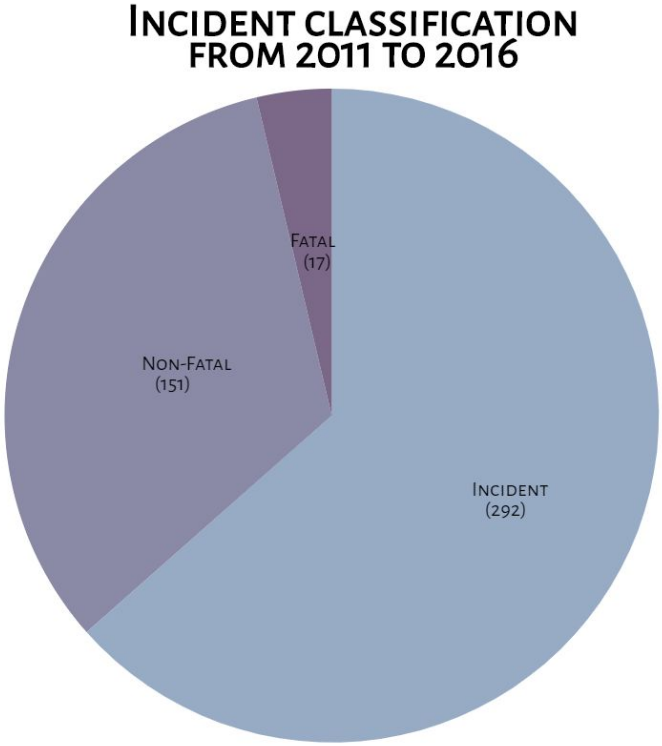
SECTION 1
THIS IS SOME FILLER TEXT!
DOES SPACING WORK?

Aircraft accidents in the recent years
From 2011 to 2016 the majority (63.48%) of airplane incidents were classified as incidental which means they did not involve any injuries.

Within the same amount of time, data showed that only 32.8% of airplane incidents were non fatal which means that no one onboard died.

However, just comparing the number of fatal, non-fatal and incidental accidents don't really give us much insight. It is possible that the few fatal and non-fatal accidents could potentially have a large amount of casualties.

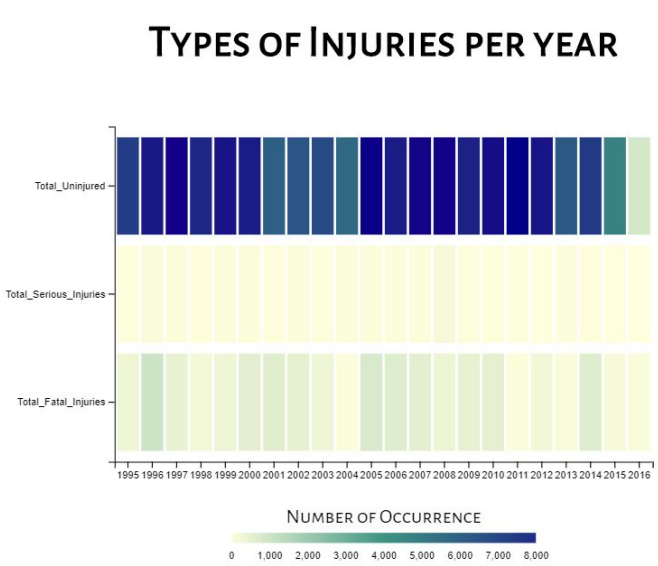
Therefore, let us split the data by the type of injuries incurred in the next chart.



Types of injuries
This heatmap shows that from 1995 to 2016 that a majority of plane incidents did not result in any injuries.

The following heat map specifically shows that of the injuries that occurred more resulted in people dying than they did of people being seriously injured.

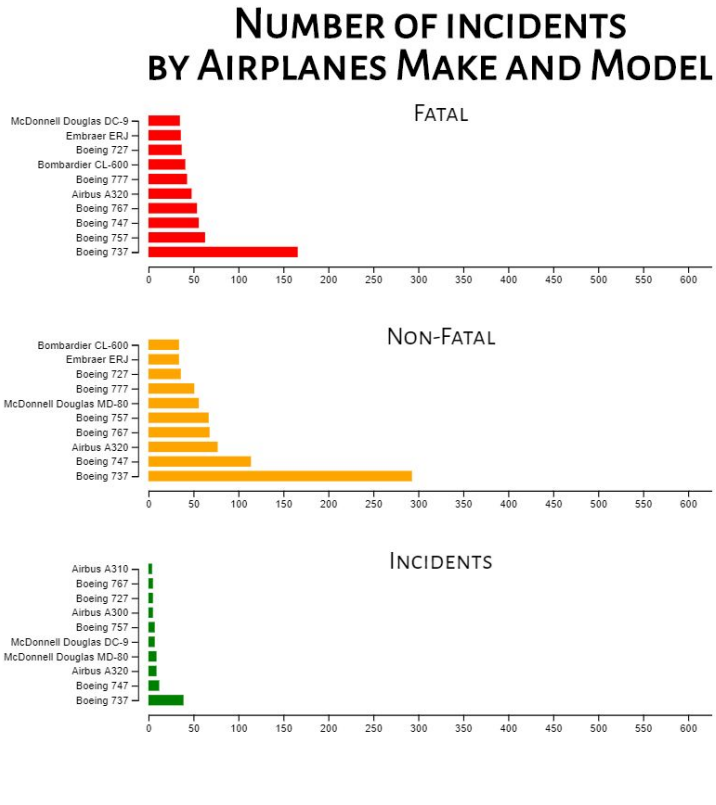
Although the total fatal injuries is higher than total serious injuries, it is important to note that in most of the non-fatal accidents, majority of the passengers are uninjured with a few being seriously injured. On the other hand, in most of the fatal accident, most of the passengers end up dead. This shows that in most situations, unless if the plane ends up in a fatal crash, injuries are actually very rare in aircraft accidents.



Does airplane make and model correlates to frequency of accidents?
The number of accidents attributed to an aircraft model is often driven by the popularity of that plane, the routes it flies, and how many people fit onboard.

For these reasons, the most popular planes are usually the ones with the most fatal accidents, hence why the Boeing has the most injuries both fatal, nonfatal, and incidental (non injurious).

Particularly, the Boeing 737 is a very popular plane and because of this year and its two fatal accidents within a span of 5 months, nearly every aviation authority around the world with plane oversight has grounded their Boeing 737s.



Looking forward

2010 was the worst year for plane incidents. The worst accident in 2010 involved an Air India Express Boeing 737-800 in May, when 158 passengers and crew were killed after the aircraft overran on landing at the Indian city of Mangalore.

Researchers agree that even though 2010 was a rough year for air safety, overall industry trend was still one of improvement, with only 2009, 2007 and 2006 producing better accident rates.

The fatal accident rate in the 1990s was one per 700,000 flights while the rate for the 2000s was one per 1.2m. Air safety is still improving and this has resulted in 100 fewer fatal accidents during the last decade than in the 1990s - on average, 10 fewer fatal accidents a year