LINK to GITHUB REPO:
https://github.com/rituroy19/rituroy19.github.io/tree/master/PUI%20Final

LINK to WEBSITE: https://rituroy19.github.io/PUI%20Final/

PART 1

I made an information tool for educating the viewers about the busiest airports of the world. From my Data Visualization class, I gained some skills to create impactful and interactive graphs, and the airport based dataset has always caught my interest. The aviation industry has had a dramatic growth in the last two decades and I was curious to see the growth patterns and share that information with others.

The information that I convey through this website are mainly number of passenger statistics across different airports in different periods of time. All of the information is conveyed via following interactive visualizations: trends of world passengers across time, marathon of busiest airports rank across time, comparison of connectedness and passenger trends for some airports. These are supported with some texts for each visualization.

The graphs present a unique perspective over a large dataset collected through time that enables a user to understand the trends and growth of the aviation industry and how powerfully it is becoming dynamic and dominant. A user can engage with each graph and use the various interaction points to learn specific parts of data or as a whole, drawing their own conclusion in an exploratory manner.

The audience is anyone who is interested to learn more about the aviation industry or someone who is interested to see cool visualizations.

PART 2

The interaction type that I implemented:

- The user of the website can scroll and click on the various visualizations to interact with it.
- The interaction is more like a standard web-page where a viewer can scroll through the page and see the different types of content.
- There is only a single page and each section is fairly visible so as to give the viewer the knowledge that more content is available below and they can scroll.
- As the user scrolls through they can click/select an area (by clicking and dragging the mouse) on the graphs to see an updated form of graph which gives

them a narrowed down information, helpful to focus on one information at a time or see it from a different perspective.

An Interesting Use-case:

- The user arrives to the webpage and sees a big heading of the busiest airports in the world. The descriptions give them a context about what the page is about.
- They see more text below and scroll through the page to arrive at the different sections of the web-page.
- They arrive on the introduction text and learn some statistics about the aviation industry in general.
- They scroll further to arrive on the first visualization. They select a portion on the second graph (the one below the other) by clicking and dragging their mouse and see a magnified view of the same data on the above graph with more clarity. And they read the text on the side to make their views about the data.
- They scroll further to arrive on the second visualization. They see the moving bars of the graph in a race-like fashion. They can click on replay to start the visualization again from the top. They read the accompanying text to understand better the behavior shown on the graph.
- They scroll on one last time to arrive at the third visualization now. They read the text and observe the graph. They further click on each bar of the left graph and see a highlighted focus of that airport to compare the two graphs for just one airport. They can do this for all 5 airports and form their understanding and views.

PART 3

External tools used: D3, Vegalite and Bootstrap.

D3

- I used D3 to make the second visualization. D3 is powerful in making animated and interactive graphs. I loaded the D3 libraries and wrote the script in JS based language to create visualization. It adds value to my website as it makes the graphs interesting and engaging allowing people to learn more about Aviation.

Vega-lite

- I used Vega-lite to make the first and third visualizations. Vega-lite API is a simple to use grammar for making visualizations filled with interactions. I loaded the Vega-lite libraries and wrote a script in JS to describe the JSON objects of Vega-lite which makes the visualization. This made my website engaging.

Bootstrap

- I used bootstrap to make my website responsive and to put less effort with styling and CSS code writing. I linked the bootstrap library onto my HTML and used the class names to organize my content on the webpage. It made my website responsive which will allow mobile users to have a good experience viewing the website.

PART 4

I greatly shifted from my assignment 7 idea as I realized that I'll be able to create a more meaningful project by using my data visualization skills to educate viewers on an interesting topic. Also, I wasn't prepared to put any interesting projects in my portfolio, hence I decided to make the switch. The concept and design changed from animation to click/mouse based interactions in assignment 8.

PART 5

The major challenges I faced were accommodating to the responsive layout. It was difficult to make sure that content didn't overlap. The next challenge was to embed the graphs in HTML as I was doing that for the first time and ended up running to errors frequently. Lastly, D3 was challenging to use as the learning curve is steep.