DSC640 project Milestone 5

Supporting Documentation

Choice of Presentation

We decided to use the material from milestones 3 & 4 with some enhancements for this milestone. The blog and infographics were condensed and were geared toward the public, so it made sense to combine them with audio for this milestone. We moved the chosen material with some enhancements into a power point presentation. We created a moving graph of the number of miles traveled by each country from 1980 to 2020 for this presentation. We decided to refer to this graph at the end of the presentation to show how air travel has increased over the years in almost all countries and highlight the major ones. We aimed to leave something for the audience to remember and wonder about.

Data Preparation

Data preparation for the existing graphs were described in their respective milestone documentation. We transformed "API_IS.AIR.PSGR_DS2_en_csv_v2_4499051.csv" in Power BI and produced the table shown in figure 1. We then used python and pandas to transform the table to the table shown in figure 2. Figures 3 and 4 show the code and the graph.

	Country Name	1980	1981	1982	1983	1984	1985	1986	
0	Afghanistan	76200.0	129100.0	181000.0	200200.0	220400.0	225500.0	184400.0	217
1	Albania	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
2	Algeria	2950000.0	3000000.0	3150000.0	3410500.0	3781000.0	3965900.0	3689900.0	3566
3	American Samoa	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
4	Andorra	NaN	NaN	NaN	NaN	NaN	NaN	NaN	

5 rows × 42 columns

Figure 1 - Before transformation

:

	Country	Year	NumberOfFlights
0	Afghanistan	1980	76200.0
0	Afghanistan	1981	129100.0
0	Afghanistan	1982	181000.0
0	Afghanistan	1983	200200.0
0	Afghanistan	1984	220400.0
0	Afghanistan	1985	225500.0
0	Afghanistan	1986	184400.0
0	Afghanistan	1987	217900.0
0	Afghanistan	1988	201000.0
0	Afghanistan	1989	220000.0

one row per year for each contry for a total of 40 rows for 40 years.

Figure 2-Table after transformation

```
fig = px.scatter(data_frame=flights,
            x='NumberOfFlights',
            log_x=True,
            color='Country',
            title='Number of flights worldwide from 1980 to 2020',
            size='NumberOfFlights',
            hover_name='Country',
            animation_frame='Year',
            height=600,
            size_max=100
            )
fig.write_html("Images/Worldwideflights_movingchart.html")
```

Figure 3 - code to create moving graph

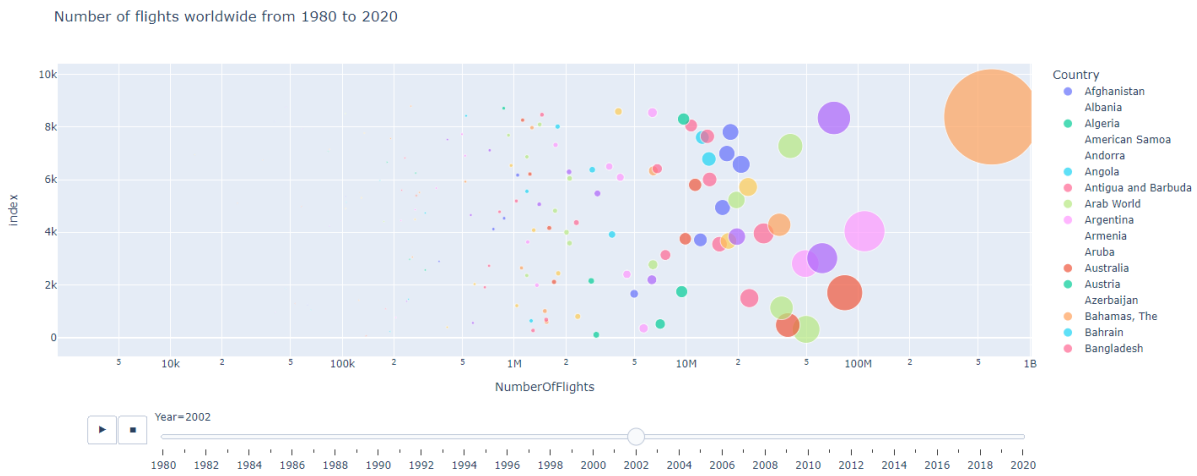

Figure 4- Moving graph

Presenting to General Audience

Presenting to the general audience has challenges of its own. When presenting to a specific audience the challenge is that they are more knowledgeable and can scrutinize the presentation and be more objective. The general audience is the opposite of that, but because of the lack of knowledge about the topic or the methods of presentation, it becomes challenging for the presenter(s) to be concise, clear, informative, and most of all honest. It is not the graphics, the words, colors, sizes, the “oos” and the “awes”. It’s all of them working in harmony. Just like the instruments in an orchestra-all combined give rise to a beautiful concert.

Lessons Learned

Lessons learned from this project must include data gathering and data wrangling. The quality of data and ability to wrangle it to a form and content that can be turned easily into effective graphs. With respect to this study, I would have gathered data on safety measures taken by airlines and show how different measures correlate with their incidents and accidents. More accurate data on the number of flights and passenger per flight would also have been useful.