Project 3: Group 10
Project Proposal

I. Dataset

Our dataset is the “Border Crossing Entry Data” from the U.S. Department of Transportation. This dataset is available at:

https://data.bts.gov/Research-and-Statistics/Border-Crossing-Entry-Data/keg4-3bc2/data

It is a dataset that covers a large span of time–from the 1970s until the current year–and as one might expect from a dataset spanning decades, there are a vast amount of entries within to work with.

Since the data is about border crossings at ports of entry in the U.S., there will be no issue making an interactive map visual that is useful for displaying the data. In addition to that, the information that we need to plot the data onto a map is given to us–the latitude and longitude of each of the ports of entry in the U.S. This ease of use appealed to us when deciding to use it.

There are a lot of categories, a lot of data, and a large span of time covered within the dataset, not to mention the locational nature of the data, and we believe that this will all work in our favor when creating visualizations for the project. There are a lot of dimensions to work with and we will be able to create useful and attractive data visualizations for our dashboard.

II. Research Questions

- Has the overall traffic at U.S. ports of entry increased or decreased over time?
- Are these changes localized to specific ports or regions?
- What are the patterns and volumes of the various modes of transport at entry ports into the U.S.?

III. Inspiration

We found a blog post online in which a student from Toronto uses the same dataset to create a map-based visualization about the border crossing information. From their work, we can look at what we think works well in their project and craft our own version of it. There is also the chance to see what parts of their project we don’t think we will use and avoid those for our visualization.

https://spatial.blog.torontomu.ca/2020/11/30/interactive-map-and-border-travels/

We might also use the official bureau of transportation’s site to inform about the various modes of transport, meta information about ports of entry, and limitations of their own data collection.

https://www.bts.gov/explore-topics-and-geography/geography/border-crossingentry-data#1

IV. Possible Visualizations

We believe the following possible visualizations would tell us a lot about the dataset.

- A line chart showing the change over time of the various categories of border traversal.
- A bar graph of total volume comparing the northern and southern borders by month.
- A pie chart or donut chart of the various transportation categories.
- A heatmap that shows the density of border traversal in the United States.
- Individual leaderboards for each port of entry in the United States.

V. Color Palette

VI. Roles and Responsibilities

All group members will be participating in the data cleaning and loading so that we are all on the same page about the database and what it contains.

We will then branch off and make unique visuals in our exploratory data analyses of the research questions. Each group member can have an entire question for themselves, but we have not assigned questions at this time. It is possible that we could have multiple members work on the same questions.

After, we will all be giving input and participating in creating the flask app and webpages for the site and the javascript and css to go along with those pages.

For the presentation, we will be making slides on the portions of the project that we each completed and compiling it into one cohesive presentation.

VII. Github

The Github link to our project is:

https://github.com/BramSunner/project-3-group-10