Group 4 Project 3

Title: State of Texas COVID 19 Cases, Vaccination Rates, and Vaccine Sites.
Team Members:

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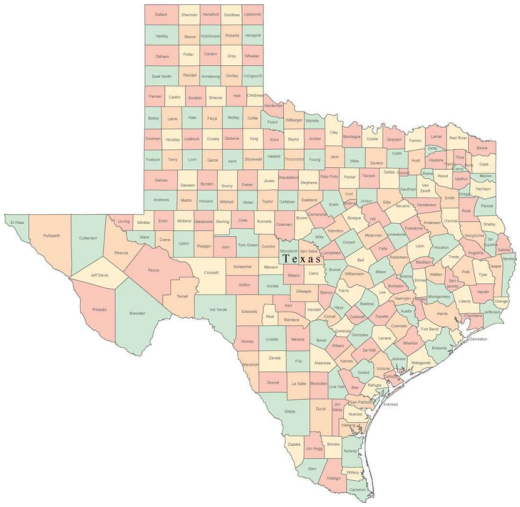
Project Description/Outline:

The objective of this project is to analyze the trends of COVID 19 infections to predict a spike in infection rates, and inform the general public in the 254 counties in the state of Texas. We will create a tool that will show how the trends are behaving in their specific counties, giving the user the ability to create informed decisions about when and where to get a vaccine. The user will be able to use the map to locate vaccination sites near them as a preventive measure.

We will create an interactive environment (map and graphs) using a Phyton Flask-powered API and HTML with JavaScript. The interactive environment will have a drop down menu with the different counties to choose from. For each one of the counties it will show the following information:

- Number of confirmed COVID 19 cases by date.
- Number of hospitalizations by date.
- Number of fatalities by demographics (also by date).

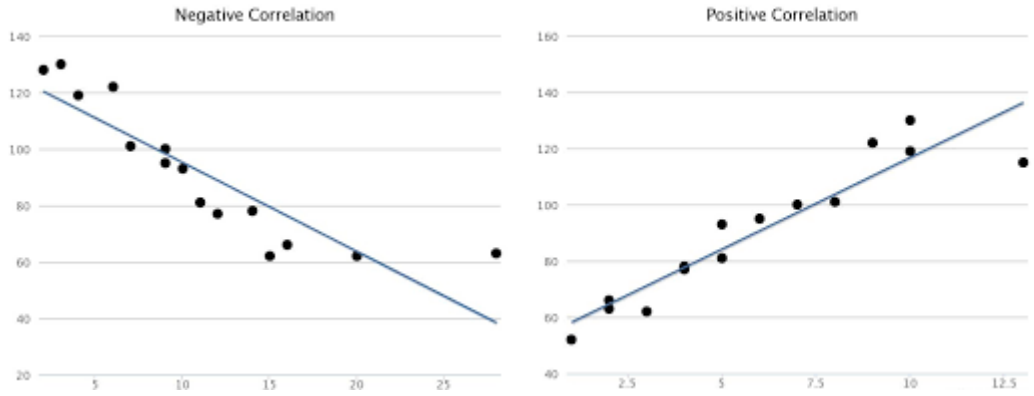
A map, along with graphs with interactive size and color bubbles to categorize the severity of the spike (red, yellow and green) will show the user the latest trends.

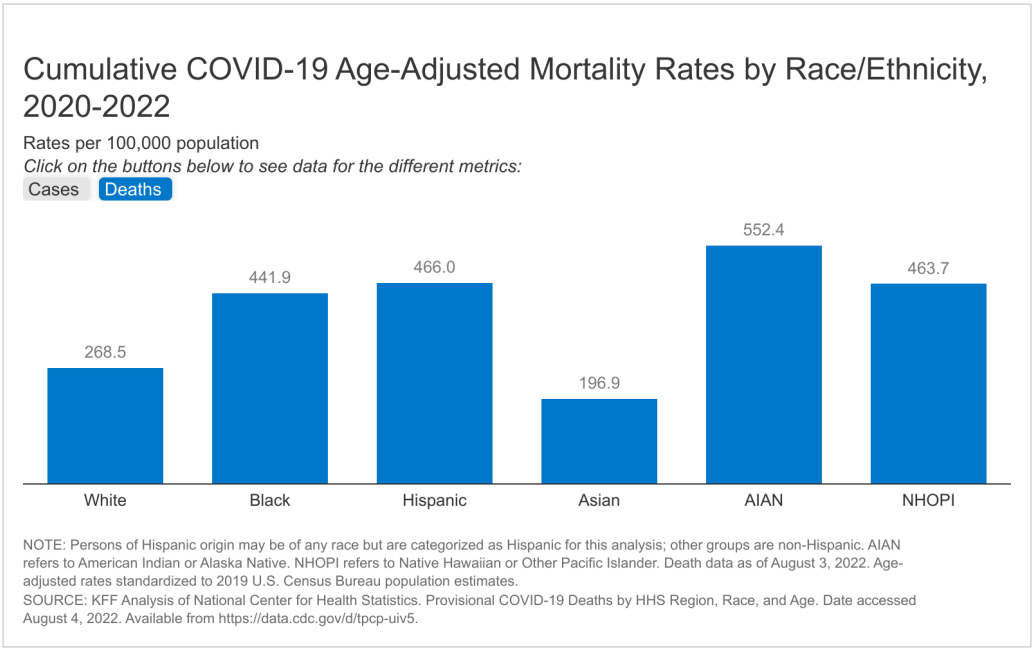


SQL will be used to organize and categorize the specific information needed from the data sets available.

We will also create the following visualizations:

- Correlation between infections and vaccinations (line graph).
- Fatalities by demographics (Bar graph).





This with the aim to encourage the population to make an informed decision about when and where to get vaccinated (if this is something they are interested in).

Dataset to be Used:

1. **COVID 19 cases in Texas:** Texas Department of State Health Services. This data base contains thousands of records from January 2020 to date. https://www.dshs.texas.gov/covid-19-coronavirus-disease-2019/texas-covid-19-data

2. **Web scraping:** Web scraping will be use to locate and extract information about vaccination sites in each county. The four main providers that we will include are: CVS, Walgreens, HEB pharmacies and Walmart pharmacies.

Rough Breakdown of tasks:

1. Data Collection & Preparation: Gathering and formatting the necessary data for analysis.
2. Analysis & Visualization: Interpreting data through various analytical tools and graphical representations.
3. Acknowledging Limitations: Recognizing and documenting any constraints and limitations of the study.
4. Conclusion: Summarizing findings and providing insights into potential applications and future research.

Target Audience:

- General audience that would like to know the trends of COVID 19 in their area as well as location for vaccines.

What Would Be Accomplished with this tool?

- The general public will have a one stop location to visualize the trends of covid 19 locations in their county, and take preventive measures by locating vaccination sites near them.