Karefa Kargbo, James Deromedi, & Ziyang She

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Prof. Owrang

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American Crime: A Visualization on Data About Police Spending and Crime Throughout the United States

Problem:

Protecting citizens against crime is an important task for any country to tackle, and the United States face a unique problem in doing so. The large size of the country, as well as the various individual states, creates a situation where different states have different cultures and populations, meaning that each state could require a different approach to stopping crime, as the types and amount of crime change.

Goal:

Our project is about trying to find a way to gather a large amount of data about the general state of crime, police presence, and police spending and support. We then found a way to compile this data into a series of interactive graphs that can allow people to see the information they want to see in an intuitive, interactive way. Lastly, we coded a simple HTML site to allow the public easy access to these tools, as well a a search engine to allow people to access specific data if they so choose.

Data:

The data for the project was taken from various sources, such as data.gov and fbi.org. We organized the data, go over all the dataset we have and find out what kind of /type of the dataset is really what we want. Then we used a software called CARTO in order to create the maps. This involved us importing the spreadsheets of data we had, editing them to adapt to CARTO's map structure, and setting up which pieces of data we wanted to be usable on the maps.

Now, our goal is to have comprehensive data from all states of the United States available to both the government and the general public through our website. In the future, we plan to expand our database to not only by state, but also by every cities, area, even screets in the United States. By visiting our website, when you enter the name of the state or city in the search bar and click

the search button, the page will automatically pop up all information and data related to the state or city you entered.

In our website, not only plotting those data into map and visualize these data, we also have all the dataset presented like a table in our database and easy to see and doing analysis.

Intro:

The project started as an idea to create a free standing java project. This will allow the users to download the file onto their computer and have the ability to view it even while offline. This two major downfalls, one is that the data can not be updated without re-downloading the file. And the second downfall is if the user is on a secure network, a .exe file will not be allowed to download for security reasons. We decided to than move our project away a standalone file to a web hosted project. For the website, we were initially going to use PHP to be able to dynamically access the databases. However, after a while, we realized that a simple HTML/Javascript/CSS site was a better fit for our project. We made this decision for security reasons, without the proper security protocols, a PHP site can easily be broken into. With our current setup, all of our data is hosted on a secure server.

CARTO:

The interactive maps were created with a software called CARTO. This is a free visualization tool for students. It works by creating a general GUI and allows someone to import data. Once the data is imported, how the data is visualized is commanded by the user. Each map is broken down by a common variable (states, zip code, etc) and then the data laid onto the map by that variable. This system was chosen because it allows a large degree of freedom in creating the visualization. As well as, it can easily be embed into a website, allowing a more interactive site for our users. The style and actions of each map can manually be altered using Javascript and CSS. This feature allows more fine grained changes to the visualizations.