Correlation between drug users and household pet

Summary

For our project, we'll be creating a website that displays a graph correlating the number of household pets to the amount of drug use in each state. Users will be able to interact with the graph by moving their mouse to hover over specific points on the graph, which will show more details of each state's drug use and pet ownership. Since raising pets requires a large amount of responsibility for not only yourself, but for another being, we're hoping to see a negative correlation between household pets and amount of drug use to show that pet's can be a good form of addiction therapy.

We'll have a map of the US formatted so that when you click on each state, there's a graph that displays the summarized data from the SAMHDA dataset. For each state, you'll see drug use rates, illicit drug use rates, alcohol abuse rates, marijuana usage rates, etc. We will also have an overall graph displaying all the different usage rates for ALL 50 states, as well as a search interface where users can search for specific things and we create the necessary subqueries to get results.

Our chosen application is useful because it can show the relationship between drug usage and pet ownership for each state. If we're able to show that there's a significantly large correlation between the two, it would also hint at the benefits of having household pets. There aren't any similar websites that have the same features as ours will.

Description of an application of your choice. State as clearly as possible what you want to do. What problem do you want to solve, etc.?

For our project, we'll be creating a website that displays a graph correlating the number of household pets to the amount of drug use in each state. Users will be able to interact with the graph by moving their mouse to hover over specific points on the graph, which will show more details of each state's drug use and pet ownership. Since raising pets requires a large amount of responsibility for not only yourself, but for another being, we're hoping to see a negative correlation between household pets and amount of drug use to show that pet's can be a good form of addiction therapy. We also want to provide some sort of search interface so that people can see which states have greater percentages of household pets (which may help them gauge the amount of animal shelters and resources in that state) and to allow them to search for drug use rates in different states to also gauge safety.

Usefulness. Explain as clearly as possible why your chosen application is useful. Make sure to answer the following questions: Are there any similar websites/applications out there? If so, what are they, and how is yours different?

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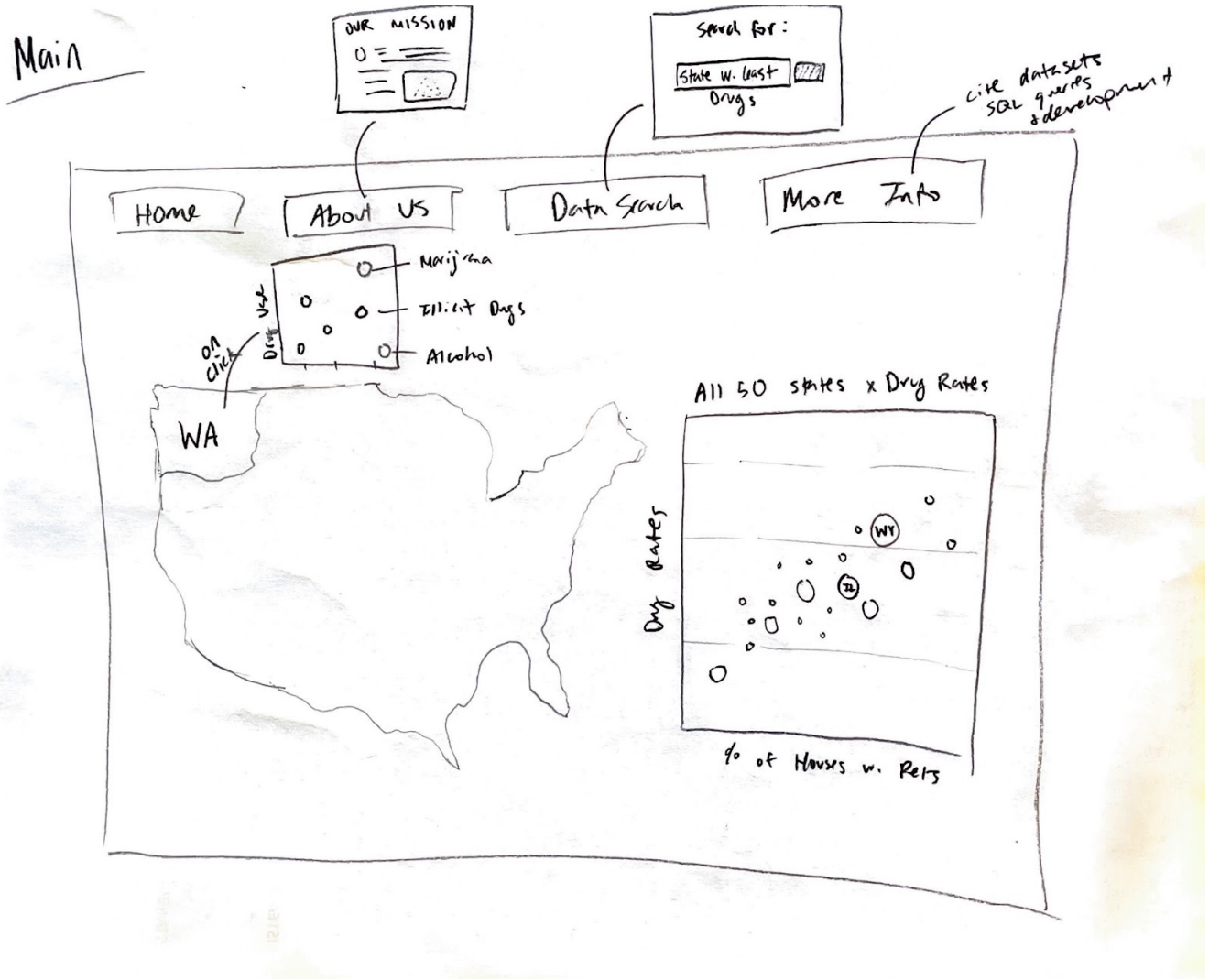
Realness. Describe what your data is and where you will get it.

The data for our drug dataset comes from the Substance Abuse and Mental Health Services Administration, and it is a government study and website which makes the data collected very reliable. The participants who reported their numbers were given incentives of $30, which led us to believe that the data is probably and under-estimate given the fact that $30 may not be enough of an incentive to report illicit drug usage. Our pet data comes from the American Veterinary Medical Association (AVMA), which is also a .org website which made us think the data was very reliable. Also, there is no harm in reporting whether or not you have a pet, so the data should be much more accurate compared to the drug numbers.

Description of the functionality that your website offers. This is where you talk about what the website delivers. Talk about how a user would interact with the application (i.e., things that one could create, delete, update, or search for). Read the requirements for stage 4 to see what other functionalities you want to provide to the users.

Overall, we want our website to be a data-centric and interactive website. Since our database is organized based on states, we were thinking of displaying a graph with proportions of data from our drug database and of data from our pets database. We will have icons that users can click on to learn more about a specific type of data, for example, if a user wants to see the % of households who have pets in Alabama, there should be an icon for Alabama and some sort of icon of a pet where the user can click and thus see the data. They can also search for states that have low drug/alcohol/other bad stuff rates, states that have high pet household rates (which means there might be more animal shelters, more happiness, yadadada), and states with high/low proportions of such. This may help the user in deciding which state they want to live in or move to.

UI Mockup



Project work distribution: Who would be responsible for each of the tasks or subtasks?

Front end work (general website) - this is the general front end work that does not deal with database components. Person will be in charge of organizing all the pages and connecting everything

Database work (connecting the two databases, calculating proportions, and writing script for user searches) - Data collection and analytics and basically prepare the data for it to be shown. Everybody will contribute to this

Front end work for database interactions (create search component and other database interaction components) - this person will gather the data from the database work and work on creating visual front end components to display it nicely

Back end work (connecting front end components to database components) - connect the front end work for database interactions and database work

List of the person responsible for which exact functionalities in section 6. Explain how backend systems will be distributed across members. Be as specific as possible as this could be part of the final peer evaluation metrics

Alice - General front end
Meg - Database work
Ming - Front end work for database interactions
Shinan - back end work connecting Ming's stuff and Meg's stuff

We will all work on coming up with the necessary SQL operations and testing it, but Meg will be the main one to organize it and communicate with Ming and Shinan who are doing the front end work and back end web work. The exact functionalities are described in the previous question.