Team NNCW Project Stage 1: Detailed Project Proposal
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Project: SafeLA

1. **Describe what data is stored in the database. (Where is the data from, and what attributes and information would be stored?)**
    i. https://www.kaggle.com/datasets/susant4learning/crime-in-los-angeles-data-from-2020-to-present
    ii. The data that our group is using is one from the TA proposed data sets, and is stored on Kaggle. Our group chose to use the data set of crime in LA from 2020 till the present. Each row in the data set represents a single crime that has been committed in LA and for each given crime there are a number of different attributes that further describe the crime. These attributes include the record number of the crime, the date and time that the crime was committed, the location of the crime, the crime that was committed, descriptions about the victim, the premises of the crime and the weapon used for the crime.
2. **What are the basic functions of your web application? (What can users of this website do? Which simple and complex features are there?)**
    i. We will be creating a web application that allows users interested in neighborhoods in California to find out about the types of crimes and relative safety levels of those neighborhoods. For each of the 21 neighborhoods contained in this dataset, we will allow users to choose a neighborhood of specific interest to them through a drop down menu, and then learn more about that neighborhood. Facts we will provide to the users include the relative location of that region on a map of LA and written information on the most common and recent crimes that have occurred in that area.
    ii. Based on the crimes that occur more often in each region, we will allow users to then use another drop down menu to learn more about the nature of specific crimes, and what neighborhoods they occur in most often. This will lead users to a page where they are given information on the type of crime that it is, what it means, and what neighborhoods within those provided in the dataset it occurs most often in. This will allow users to learn more about the areas they might be interested in visiting or living in, and make plans to decide how to stay safe in those areas. It also allows anyone

interested to learn more about crime in Los Angeles, and types of crimes in American neighborhoods overall.

3. **What would be a good creative component (function) that can improve the functionality of your application? (What is something cool that you want to include? How are you planning to achieve it?)**
    i. We originally wanted to create heat maps for the different areas of Los Angeles, with the heat signatures signifying the levels of crimes in the various neighborhoods. However, given the time constraint, we decided to implement the API for Google Maps in order to input images of the maps for both Los Angeles and the neighborhood the user is currently interacting with on the multiple pages of our website. For example, on the starting/home page, we will have the dropdown for the neighborhoods of Los Angeles that the user can choose from to view information about the statistics of the neighborhood. We will have a map of Los Angeles taken from Google Maps posted on the homepage, with the individual neighborhoods highlighted. This will allow the user to gain an in-depth understanding of where each neighborhood is located within Los Angeles and in relation to one another, which is especially helpful for users who are not familiar with California and the greater Los Angeles area. Then, once the user has made the selection for the neighborhood they wish to view information about, they will be taken to the second page of the website. This will have both the statistics about the neighborhood as well as another drop down to select specific crimes that occur, which the user can select to view further information about any given crime that occurs frequently in the area. The second page will also have another map imported from the Google Maps API, which will highlight the selected neighborhood among the Los Angeles district. This will also help the user gain a better understanding of where these crimes occur in relation to the larger city, and a better experience to really visualize the information that they are receiving.
4. **Project Title**: SafeLA
5. **Project Summary: It should be a 1-2 paragraph description of what your project is.**
    i. Our project will be a web application that allows users to learn more about the types and nature of crimes by neighborhood in Los Angeles, California. Users will be allowed to pick specific neighborhoods within the city they might be interested in, and learn more about that part of the city specifically, along with the crimes

that occur most often there. Additionally, users will also be allowed to filter the information they see by crime. If there is a particular crime they are looking to avoid, users will be able to select that crime, see the damages it may cause, and the neighborhoods that it occurs in most often.

ii. This project allows users to have the information necessary to make the choices that can keep them most safe. Whether it be taking precautions while on a walk because of the high rates of crime in a specific neighborhood, or choosing to move to a specific neighborhood based on the security and crime rate, the information and data provided by this web app will allow users to make the decisions that feel right for them. Specifically, that information will include a visual of location, crimes that occur most often in a specific area, and crimes that occur regularly across different regions.

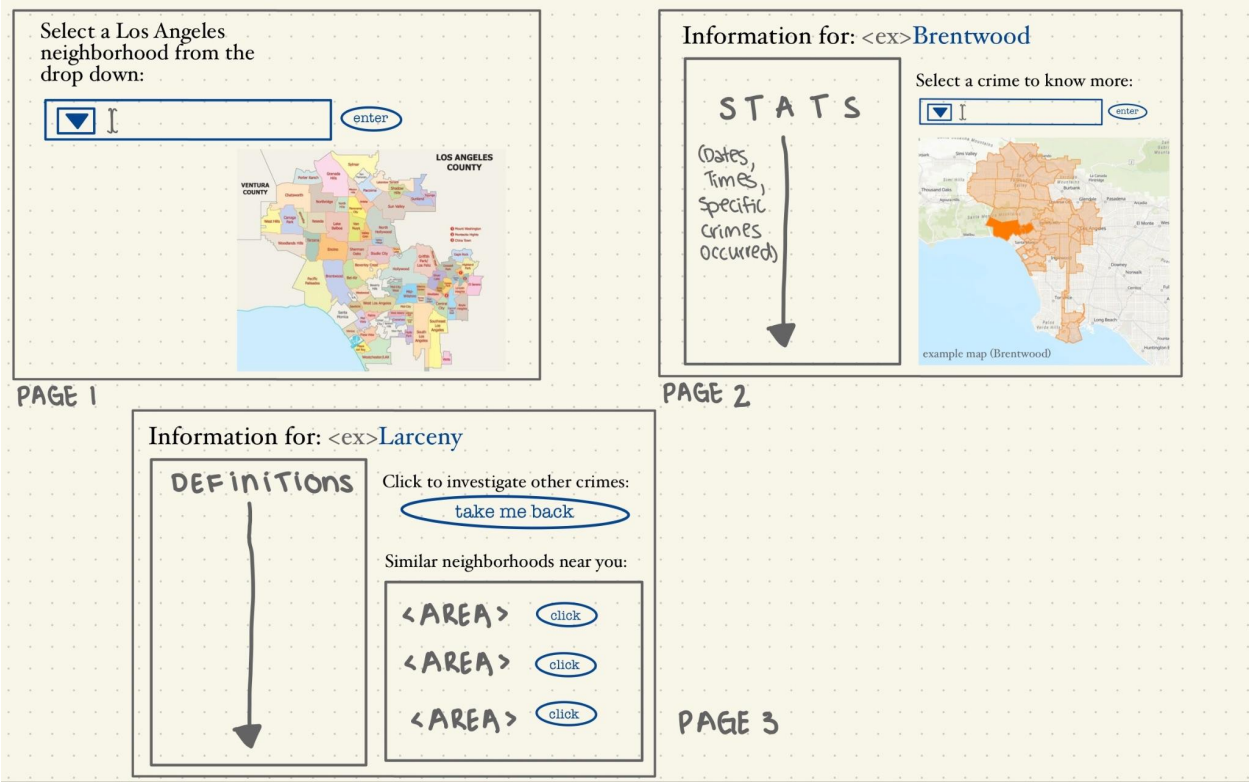
6. ***Description*** **of an application of your choice. State as clearly as possible what you want to do. What problem do you want to solve, etc.?**
    i. By categorizing and visualizing crime data in LA, our users can know the relative safety index of this area by intuitively looking at our map, so that they can avoid certain areas or be more vigilant when passing by.
    ii. Our project aims to archive these crimes and provide a visual representation of crime data in a specific geographic area in order to enhance community safety, monitor crime trends, public awareness, and the effectiveness of crime reduction strategies.
7. ***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?**
    i. This project can visualize the crime data to display the frequency and concentration of criminal activity in a specific geographic area. It is used to identify and analyze crime patterns, hotspots, and trends. It can be used to help law enforcement agencies and city planners better understand crime patterns and allocate resources more effectively. By visualizing the crime data and providing detailed information about the crimes, decision-makers can make more informed decisions about where to deploy police officers, install surveillance cameras, or allocate funding for crime prevention programs. Also, for local residents and travelers, they

will be able to identify some dangerous areas and avoid these places.

ii. https://spotcrime.com/ This website could only spot near crimes around their users by locating their current location. Our SafeLA will be more statistically significant by integrating all the data together to profile the city's crimes. Also, SafeLA can trace all the crimes that happened before in this area and categorize them by different types of keywords (Type, Time, Frequency, etc.).

8. ***Realness*****. Describe what your data is and where you will get it.**
    i. The data that we are going to be using is crime reports of the city of Los Angeles. From the data set that we are using, there will be four main components from the data that we will be using. The first component will be the location of the crime. This set of data will include the area, district, premise and location of the crime. The second component will be the date and time of the crime. The third component will be data pertaining to the crime itself such as the type of crime commited and also the weapon used for the crime. The last component will be the victim of the crime, which includes the age and gender of the victim.
    ii. All of the data that we are going to be using will be obtained from the ta proposed data set, particularly the data set relating to crime in Los Angeles from 2020 until the present.

9. **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 stages 4 and 5 to see what other functionalities you want to provide to the users.** You should include:
    i. **A low-fidelity UI mockup**: What do you imagine your final application's interface might look like? A PowerPoint slide or a pencil sketch on a piece of paper works!



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

1. Our web application will be split up into 2 major sections: frontend, and backend. We will all contribute to both portions so that each one of us has full ownership over the project overall, and are able to learn more about web development, frontend, and database design and management over the course of the semester. Our frontend will consist of a website which will be built using ReactJS. This website will have 3 main pages, which are described above. Aghalya and Sailaja will split up the development of the frontend, since the web app will only be a relatively simple way to output data relevant to users based on their input.
2. Our frontend will also involve displaying a map of the user's selected region and potentially outputting neighborhoods in close proximity to the current one. This will be done using a Google Maps API, which Calvin will work with. It will be integrated into the system and output visuals relevant to users.

3. Our backend will consist of a database to manage and maintain information provided by the dataset we will be using or other external sources we may find, and REST APIs to connect this data to visual and informational outputs on the frontend. Aghalya, Sailaja, and Matt will work on cleaning this data, populating the data, and creating commands to filter the dataset in ways that are useful to users. Matt and Calvin will also work on integrating the 2 portions together through REST APIs.
4. Though we have clearly defined tasks for this project, we will all work together and help each other troubleshoot and meet deadlines whenever needed.