Members:
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1) **Describe what data is stored in the database. (Where is the data from, and what attributes and information would be stored?)**

Our data is crime information in Los Angeles from 2020 to the present. The data is a transcription from crime logs typed up initially by the Los Angeles Police Department. Information such as the type of crime, victim description, weapon used, and location are provided in the logs. Our web application is designed primarily for knowledge. Therefore, attributes that can help us discover trends will be stored. For instance, storing the aforementioned information enables us to uncover patterns within the myriad number of crimes relating to the types of crimes, victims, weapons, and location.

2) **What are the basic functions of your web application? (What can users of this website do? Which simple and complex features are there?)**

Our significant goals involve spreading awareness of criminal activity and facilitating research through a comprehensive website. Therefore, concepts that present information clearly and concisely will be utilized. Essential functions can include a map of Los Angeles, graphs, and tables. A complex feature is to design a filter that can query the dataset for relevant crimes of selected attributes and then only display crimes matching the selected attributes. For instance, this filter can involve a time range, showing only crimes that occurred during that period. Other possible filtering categories may be types of crimes, weapons used in crimes, and crimes in a specific area. We also intend to add a color-coding feature that shows the map of LA with a three-colored system based on crime density.

Although less of a priority, another feature that can be added is data comparison by incorporating other regions in addition to Los Angeles; this requires us to find another dataset. Furthermore, our primary focus is Los Angeles, which is among the cities with the worst crime in the United States. Thus, while this feature is optional to our project vision, we are considering it.

3) **What would be an excellent 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?)**

A creative component allows users to simultaneously display information on different attributes, such as the crime data of other neighborhoods, periods, or crime types. The report can be displayed side by side, and data visualization elements will be incorporated to assist comparative analysis. The filter feature we mentioned earlier will query the database, providing information on selected preferences. Then, we simply need to display the filtered data.

4) **Project Title:**

Watchful Eye LA

5) **Project Summary**

Our project is a tool for law-abiding citizens to remain informed of local crimes in their hometown of LA. We utilize a crime log of police-documented crimes to interface the user with interactive maps and graphs that can be filtered to user interest. Our focus is on offering detailed analytics to develop a more informed community. We intend to be user-friendly and allow easily accessible filters, sliders, and keywords alongside an updatable map. Users can use our information to decide what time of day is optimal for their navigating needs and avoid certain high-risk areas. Some crimes remain unsolved, so providing an exclusive status on these is also a priority.

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.?

We want to solve the problem of crime awareness. We intend to inform residents and law enforcement of crimes in their area. Data visualization is a significant aspect of our application that can assist law enforcement in lowering crimes in highly active regions by allocating their resources more efficiently. We want the community to understand how safe their area is with inclusive features that report ongoing crimes and so on.

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?

This project aims to display the various trends of crimes in Los Angeles during this period. Considering that Los Angeles is one of the cities with the highest crime rate in the United States, providing a more comprehensive visualization of the trends in this area will help instill crime awareness and uncover the roots of these patterns. These trends can include the most impacted community or area, patterns among the profiles of the perpetrators and victims, the rate of weapons used, the location of the crimes, and other insights that can be derived. There is so much potential for correlations to provide the user with a better understanding of staying safe, such as when or where a crime is more likely to happen.

Other applications are out there, but they need more specific, detailed information on the actual crimes that have occurred. They use a traditional three-color system (green, yellow, red) to highlight a map based on how violent the area is. Beyond scrolling capability, there is a disconnect between the specific types of crime that define a color. There is no detailed information, such as the perpetrator information or logistics related to the crime. Our application intends to be more informational and uses a crime log directly from the police department.

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

Our data is a TA-provided dataset transcript from the LAPD's crime logs. If we choose to pursue a feature like region or community comparison, we may have to see if we can get information from the Champaign-Urbana police department for contrast. Provided is a link to the dataset for crimes in LA:

https://www.kaggle.com/datasets/susant4learning/crime-in-los-angeles-data-from-2020-to-present?resource=download

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 one could create, delete, update, or search for).

The user has access to all of our data visualizations, including the interactive map and other supporting charts that cover a range of statistics corresponding to unique aspects of the crimes.

UI - Mockup
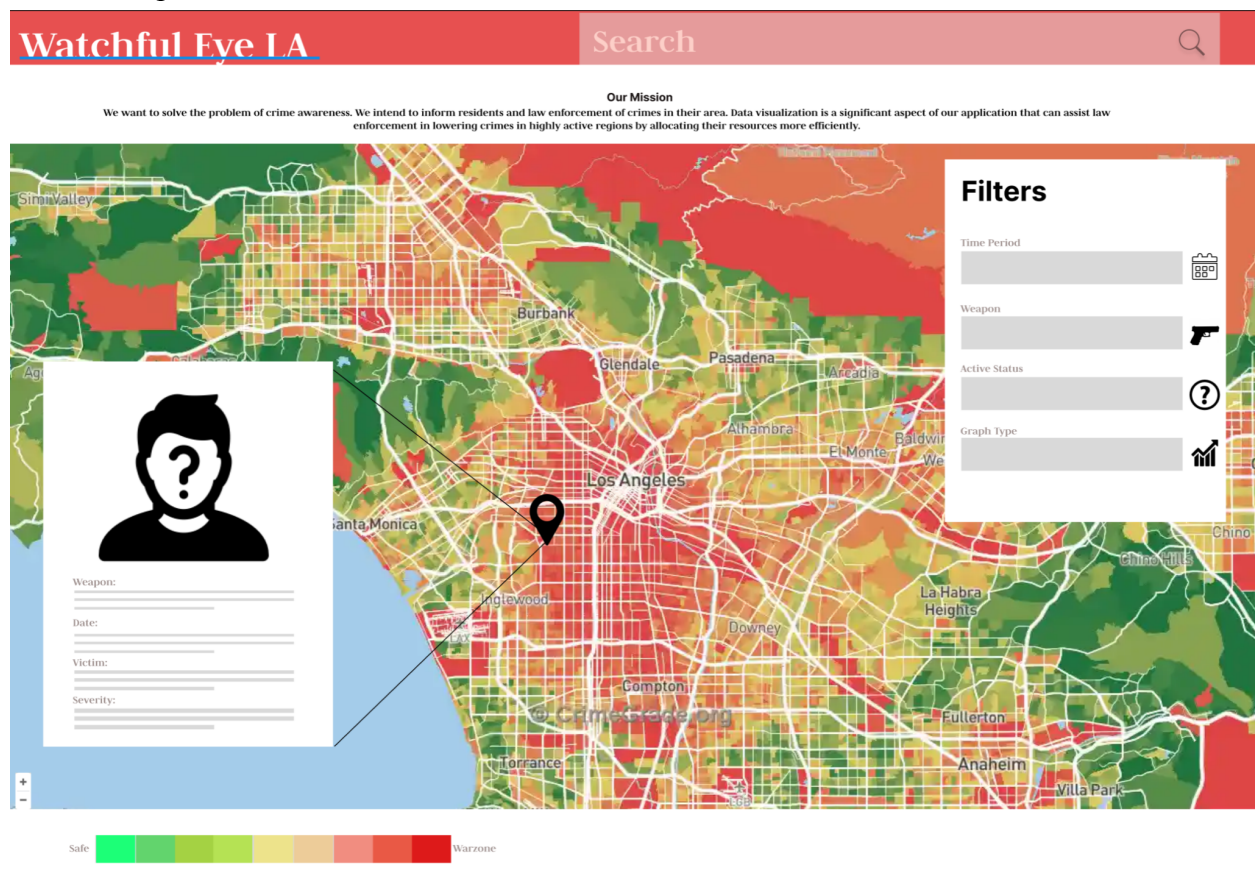
<u>Project Work Distribution</u>

Julio - Responsible for frontend components, including the implementation of data visualization elements and the user interface
- Implementing data visualization components (map, graphs, etc.)
- Creating a versatile and user-friendly filtering feature

Owen - Responsible for coordinating the connection of frontend and backend components in addition to establishing functions to query the database and utilize the information for data visualization
- Querying the database to obtain relevant information of selected attributes (filter feature)
- Relaying information to data visualization components and other features

Nakul - Responsible for the database part of the backend, such as setting up and managing the storage
- Importing and converting dataset information into a database
- Managing the database by storing and deleting certain attributes of the dataset