SaveTravelLA - Team042

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Summary

Our project aims to offer our users better access to a safer and more comfortable experience while travelling in Los Angeles. We utilize the "Crime in Los Angeles Data from 2020 to Present" database (Source: **Los Angeles Police Department,** https://data.lacity.org/Public-Safety/Crime-Data-from-2020-to-Present/2nrs-mtv8) to create some practical tools that anyone can use. We place most emphasis on the visualization on the crime occurrence and safe travelling path both in time-scale and space-scale. However, our platform will also serve our users in more aspects. Other safety tips not covered by the dataset and useful information regarding safe travelling in Los Angeles will be integrated in our platform. We are committed to creating a comprehensive webtool that ensures our users a secure and enjoyable experience while exploring the city.

"SafeTravelLA" is a comprehensive platform designed to proactively address the safety concerns of Los Angeles residents and travelers. By providing secure route planning, safety zone and road delineation, and Crime Peak Analysis, our project contributes to the creation of a safer, more informed, and more resilient travelling service platform.

Description

Our application is useful for those who are concerned about their personal security in LA, especially for tourists who travel alone and are unfamiliar with Los Angeles. The application can provide users with security situations in nearby neighborhoods according to the database of LA crimes data, helping users to choose the fastest and safest way from one location to another.

Usefulness

Available navigation software such as Google Map can only consider the fastest way of traveling, while sometimes ignoring the need for security of travelers. Although some crime maps of Los Angeles are already available online, they're still lacking some of the core functionalities that our application has. For instance, our application can do navigation as well as considering the security situation, so that it can plan a safe and time-saving trip. It can also filter nearby regions by input criteria, such as current time and current location. With the help of our application, travelers will find planning their trip in LA becomes much easier.

Realness

The data we use includes the .csv from dataset "Crime in Los Angeles Data from 2020 to Present", administrative maps and real-time map of LA. The crime dataset is provided by teaching staff, and it can be found from here: https://www.kaggle.com/datasets/susant4learning/crime-in-los-angeles-data-from-2020-to-present?resource=download

The administrative maps can be found on the official website of county of Los Angeles: https://lacounty.gov/, Or on LA open data website, https://data.lacity.org/

The real-time map can be found from google map, or can also be found on LA open data website, https://data.lacity.org/

Functionality

Basic Functionalities:

We plan to implement these key functionalities in our project:

1.**Rank and Present Los Angeles' High-Risk Neighborhoods:** Create a chart that ranks neighborhoods in Los Angeles based on the frequency of criminal activities. This will help our website users make informed decisions about which areas to avoid.

2. **Identify and Present Peak Crime Periods in Los Angeles:** Analyze crime data to pinpoint the times when crime rates in Los Angeles are unusually high. This analysis aims to uncover potential correlations between public safety and social events or public festivals, enabling our users to plan their visits accordingly.

3.**Highlight the Most Common Types of Crimes in Los Angeles:** Display a list of the most prevalent crimes committed in Los Angeles. This information will assist users in understanding what to be vigilant about when visiting the city.

4. **Enhance User Experience with Music:** Enhance user engagement and enjoyment on our website by incorporating music.

5. **Copyrights and Acknowledgements:** Provide appropriate copyright information and acknowledgments for any content used on our website.

6. **Offer Additional Safety Tips for Los Angeles:** Include contact information for local police departments and offer other safety recommendations for visitors to Los Angeles.

Extend Functionalities:

Additionally, we endeavor to create the following valuable features on our website:

1. **Reassuring Navigation:** Utilizing the geometric crime data referenced earlier, we are working towards the development of a secure walking system. This system will automatically generate the shortest path between a user-input source and destination while avoiding high-risk neighborhoods in Los Angeles.

2. **Danger Level Visualization:** Leveraging location data related to criminal incidents, we aim to construct a map of Los Angeles that visually highlights areas with red dots denoting crime occurrences. The density of these dots will serve as an indicator of neighborhood danger levels.

Project work distribution

Kaicheng Yu will be responsible for the front end. Ziye Deng and Yuxuan Li will be responsible for the back end. Zhijun Zhao will be in charge of the database. And all of us will participate in the database development

UI Mockup
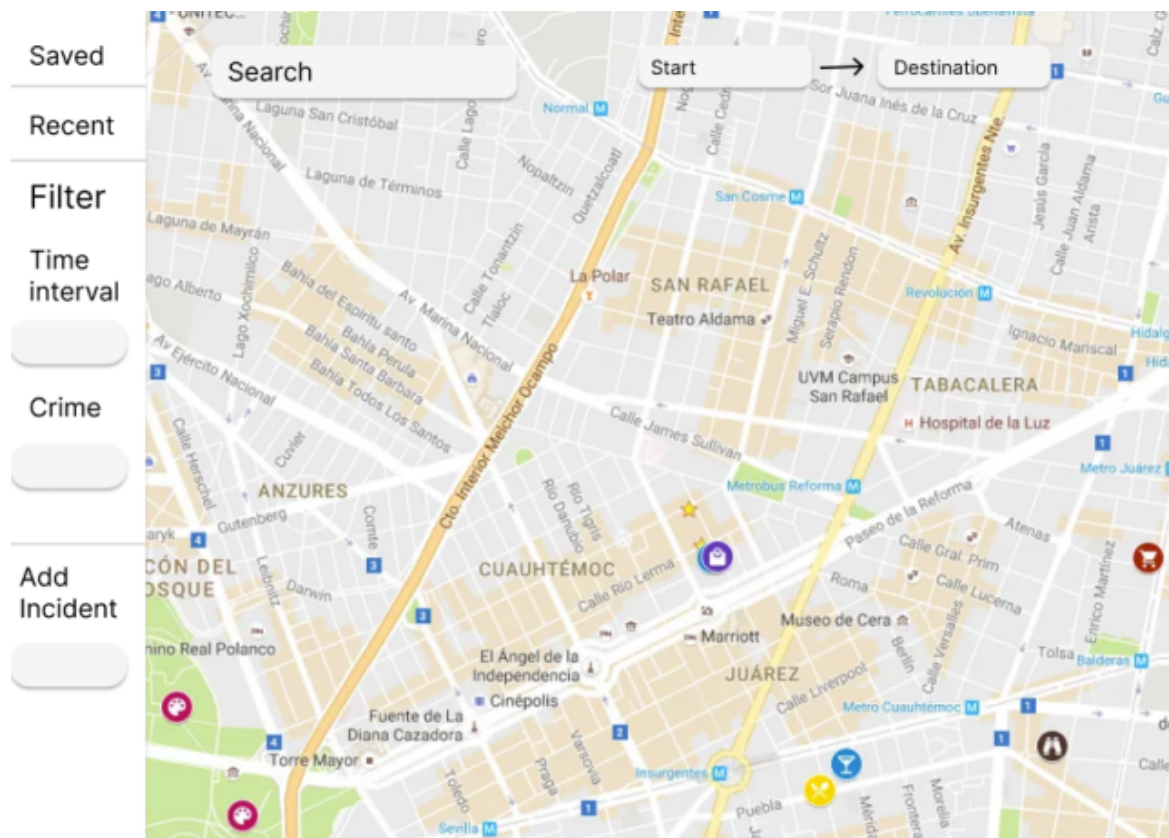
The left bar includes functionalities such as looking up the saved places, search history, two filters that can be applied to the map, and adding new incidents to the data set. At the top, we have a search bar, which allows the users to search a particular place, and start to destination, which shows the safest path between the two places.