

# Hack for Social Good: Potential Crime Spots Visualization

**Introduction:** Our project aims to address the issue of safeness for students in Davis by building a website that visualizes crime spots on a map. The visualization will help students become aware of high-risk areas for the chosen period of time and enable them to make informed decisions about their routes and activities. This report will outline the goals, methods, and interpretation of our project.

**Goals:** Our primary goal is to improve students' safeness by providing them with a clear visual representation of crime spots in Davis and notifying students of nearby events in the identified danger spots. By highlighting locations where crimes have occurred, we aim to empower students to avoid these areas and minimize their exposure to potential risks.

**Methods:** To achieve our goals, we have defined three main steps:

1. **Dataset Setup:** We obtained the necessary data from multiple sources. The crime dataset was generated from the crime logs maintained by the Police Department at UC Davis. It includes information such as crime location, date, and crime type. The event dataset was collected from Davis Enterprise, a local news outlet. We classified the recent events into categories, which are used to build the wordcloud.
2. **Crime and Event Location Display:** On the website's map, danger spots are represented by red icons, indicating where crimes have occurred. This visual cue alerts users to potential risk areas. Additionally, event locations are displayed using flag icons, providing event information.
3. **Data Visualization:** We incorporated various data visualizations to build up the user experience by updating the visualization of information based on chosen time:
  - **Event Calendar:** The website features a calendar that marks the dates on which events are scheduled. Furthermore, users can select specific time slots in the date picker input box, and the map updates accordingly to display danger spots and events during the chosen period.
  - **Event Information:** A list of event titles is provided, giving users an overview of upcoming activities in Davis.
  - **Word Cloud:** A visually engaging word cloud is generated to represent the frequency of different event categories, providing students with a comprehensive view of the local event.

*Target Audience: Our website primarily targets students in Davis, allowing them to select time slots on the calendar and view danger spots and event locations from the past month.*

**Interpretation:** Inspired by recent deadly incidents in Davis, keeping all students safe and sound is an issue that is prioritized by the UC Davis community. Our website addresses the challenge of visualizing specific locations of these incidents. By providing a visual representation of danger spots on a map, students have the chance to identify high-risk areas and avoid them if they wish to. Moreover, our website incorporates information about future events and their proximity to dangerous spots, preventing students from unknowingly entering potentially dangerous areas. Ultimately, our goal is to foster a safer environment in Davis and promote social well-being.

**Conclusion:** Our project offers a practical solution to the safety concerns faced by students in Davis. By visualizing crime spots on a map and incorporating event information, we empower students to make decisions more carefully about their activities and routes. Through this initiative, we strive to enhance student welfare and contribute to the overall social good in our community.