Proposal : San Diego Police Vehicle Stop

Problem:
Building a visualization for the geographic, demographic, and temporal distribution and trends of police vehicle stops.

Dataset:
San Diego Data
Police Vehicle Stops (https://data.sandiego.gov/datasets/police-vehicle-stops/)
Police Beats (https://data.sandiego.gov/datasets/police-beats/)

Police Vehicle Stops dataset was made by the San Diego Police Department, which contains all vehicle stops for a given year. Field description of the dataset is the following

Field	Description	Possible Values
stop_id	unique stop identifier	
stop_cause	reason for the stop	
service_area	police service area	
subject_race	race code	see race code dictionary
suject_sex	sex code	M, F
subject_age	age	
timestamp	ISO8601 timestamp	
stop_date	date (mm/dd/yy)	
stop_time	time (24hrs format)	
sd_resident	if subject is a resident of the City of San Diego	Y/N
arrested	if subject was arrested	Y/N
searched	if a search was conducted	Y/N
obtained_consent	if a search was conducted, if consent was obtained	Y/N
contraband_found	if a search was conducted, if contraband was found	Y/N
property_seized	if a search was conducted, if property was seized	Y/N

A geographic information system (GIS) is a system designed to capture, store, manipulate, analyze, manage, and present spatial or geographic data(From Wikipedia). Here, we use GIS to visualize the frequency of police vehicle stops in a certain area.

Proposed Solution and Real World Application :

- Product Description
  The proposed solutions of this product are
    - Map showing most likely places to be stopped by police
    - The time interval in a day when most police vehicle stops happened
    - The correlation between subject race and subject's being arrested
    - The correlation between subject age and stop cause

- Application
    - Discover police bias, discover dangerous zones, alert the consumer of increased likelihood of a police stop and increased likelihood of being around reckless driving

Timeline

Steps	Estimated Completion Time
Extract and clean up data	11.16
Finish correlation chart	11.22
Visualize data (to distribute data statistics on real map)	12.02
Finish presentation documentation	12.05

Division of Labor

Name	Work
Guangjun Xue	Step 1 & Step 3 & Step 4
Lingfeng Chen	Step 1 & Step 3 & Step 4
Raul Pegan	Step 2 & Step 3
Sikai Liu	Step 2 & Step 3

Github Repository
https://github.com/raulpegan/ECE143