Problem

There are many people seeking to buy or build a house. However, it takes too much effort to search for information regarding the area that they want to purchase or build a house in. So, we need an easier source of information to help them decide if they want to purchase or build a house at that area. We need to take into the following infomaation in to consideration for this problem:

- crime rate near the house
- shopping facilities near the house
- dining facilities near the house
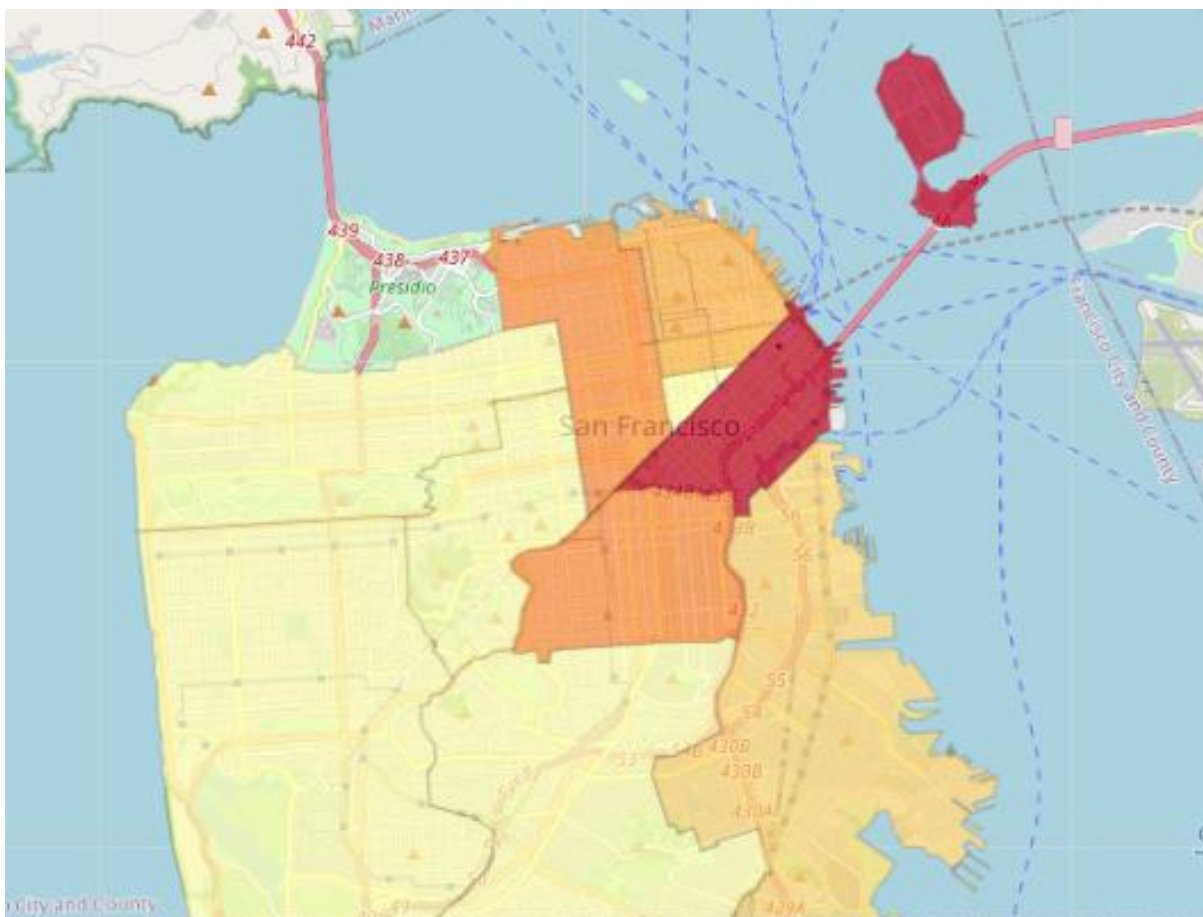- entertainment facilities near the house

Therefore it would be optimal if there was a map that plotted out all the relevant information to aid in house purchase decisions. So this project will render a map of **san francisco** and the crime rate and entertainment facilities to help decision making.

Data

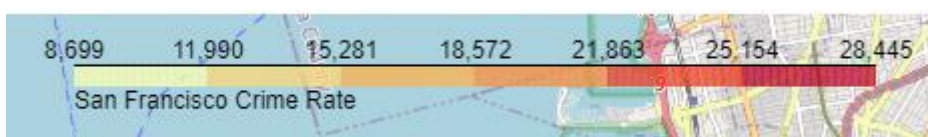We will acquire and use data from:

- Foursquare - facilities
    1. shops
    2. resturants
    3. beaches
    4. entertainments
- Sanfrancisco crimedata
- Sanfrancisco locational data
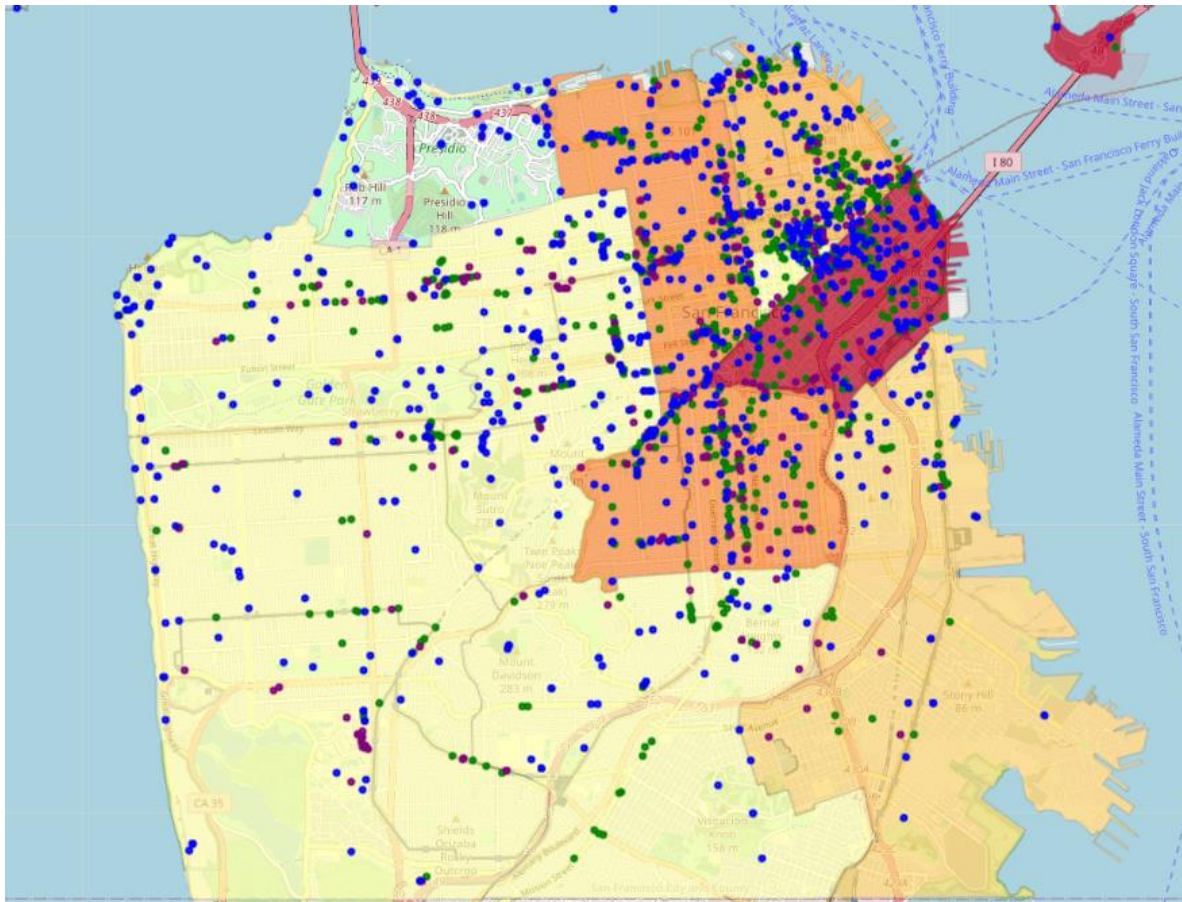
Visualising crime data in San Francisco

The crime rate increase as we get closer to town centre, apart for the tenderloin area in town centre.

The crime rate is also high on treasure island and Yerba, Buena island.

San Francisco Crime Rate 8,699 11,990 15,281 18,572 21,863 25,154 28,445

Visualising crime data and locational data from FourSquare

Purple dots are shops; blue dots are leisure places and Green dots are food places.

There are more locations to go to in town centre and thins out as we get farer away from town centre.

Results and Discussion

As expected, crime rate and access to plenty of food, leisure and shopping places are higher near the center of san francisco. Moreover, the living spaces in town is usually noisy and undesirable. The optimal living spaces are at places with access to plentiy of neccessary and luxury locations while the crime rate is low. Such areas will be discussed in the Conclusion section below. The analysis may be flawed in the following ways:

- the FourSquare api might not have data on all food, leisure and shopping space
- some factors in housing decisions, such as how close the house is to friends/family, is not taken into consideration or cannot be taken into consideration
- the crime data may not reflect the crimes happening now

Conclusion

This research had the aim of finding the best places to buy/build a house in sanfrancisco, but it also yielded the result of where not to buy/build a house for optimal conditions.

First, we need to address the outlier in town center, where there is a triangle of area that has low crime rate compared to the high crimerate city center areas around it. This is the Tenderloin area (figure 1) in san francisco, and because there are several apartments and governmental agency such as town hall and passpord agency in it, there are less people willing to commit a crime in the area. Since it is also in town center and has access to lots of places, it is a good place to build/buy apartment/houses.

However, that might be too expensive for some, in which case I would suggest the area (figure 2) between city center and the city park. It has a low crime rate, decent amount of shopping, food and leisure places that can be reached on foot with town in a few minutes drive.

The unexpected finding is that the area shown in figure 3 is the least desirable place to live. It has a moderately high crime rate, not a lot of places to goto and most areas are quite far away from city center.

figure 1

Figures on the next page

Figure 1

Figure 2

Figure 3