Project Title: Apartment safety metric maker

Project Summary:

Our project is focused on developing an apartment search application aimed at assisting tenants in finding suitable rental properties in Chicago based on price and crime rates in the area. The application will leverage real-time data and analytics to provide users with accurate and up-to-date information on rental prices and neighborhood crime statistics. Users will be able to set preferences for their budget constraints and safety concerns, allowing them to filter and prioritize available apartments accordingly. The application seeks to streamline the apartment search process, enabling tenants to make informed decisions that align with their financial and safety priorities. Ultimately, the goal is to provide a user-friendly platform that enhances the efficiency and effectiveness of the apartment hunting experience for tenants in Chicago.

Description of an application of your choice:

As said above, our goal is to simplify the process of looking for an apartment by providing tenants with clear metrics of price and crime in the area. It can be very overwhelming looking for an apartment in a city as big as Chicago, especially for people not familiar with the city and its different areas. It can be even more overwhelming when on a budget. By letting users filter based on price and crime rates, they can make an

informed decision on their apartment, saving them from unnecessary stress and giving them peace-of-mind.

What would be a good creative component (technically challenging function) that can improve the functionality of your application?

We think it would be cool to also give apartment recommendations based on the leasing company's reputation. This would allow the user to make an even more informed decision on their apartment and potentially save them from trouble in the future. We would need to use an apartment company rating API to get metrics. Something similar to this [Apartment Ratings Reviews API (zembratech.com)](#)

Another possibility would be to list attractions in the area. For example, one's decision may change based on if there are good restaurants or bars in the area, or if it is close to sports venues. This could be especially useful for people not familiar with the city of Chicago. For this we would likely need to use a maps API and filter based on the user's interests.

Usefulness. Explain as clearly as possible why your chosen application is useful.

We wish to help someone find the safest neighborhood to find an apartment inside their budget. This is useful for families to know which neighborhoods are dangerous to raise children in and avoid these areas while still being in their price range. The user

would be able to put in their budget and an ideal neighborhood type and we can provide them with statistics on how many crimes have taken place as well as recommendations on other neighborhoods inside their budget. The map on the chicago police department data portal has data points on the number of crimes in each area which could be compared with our website, however we will make recommendations on top of being more user friendly to sort the data for them.

Realness. We want you to build a real application. So, make sure to locate real datasets. Describe your data sources:

Crime https://data.cityofchicago.org/Public-Safety/Crimes-2022/9hwr-2zxp/data
https://data.cityofchicago.org/Public-Safety/Crimes-2001-to-Present-Map/ahwe-kpsy

The dataset we plan to use will give us 22 columns that we will condense down to the most relevant topics which will be the Date, Location, Primary Type of crime, Description, and whether an arrest was made or not. There are many years to choose from dating back to 2001 so we plan on using the most up to date table of 2023. This can be exported in a number of formats including CSV, JSON, RDF, RSS and XML.

Average Rent Prices
https://www.rentcafe.com/average-rent-market-trends/us/il/chicago/

This website collected the average price of rent in all the neighborhoods of Chicago. We will use this data to make a table to use in order to find the lowest prices.

This can not be exported, however we can make a data table that will be compatible with our website.

A detailed description of the functionality that your website offers.

The user would open our website to see the opening boxes asking their budget for house hunting and their ideal couple neighborhoods they were interested in. Then we would process that data and give statistics on the amount of crime as well as a map that would show the closest matches from what they inputted. They can see nearby neighborhoods to where the location they entered and see if a different nearby neighborhood is a better match for them or not. They can then keep searching by putting in new metrics such as a different location they wanted to check. Ideal matches would be represented on the map by green markers, whereas matches with fewer preferences met would be in red.

UI mockup:
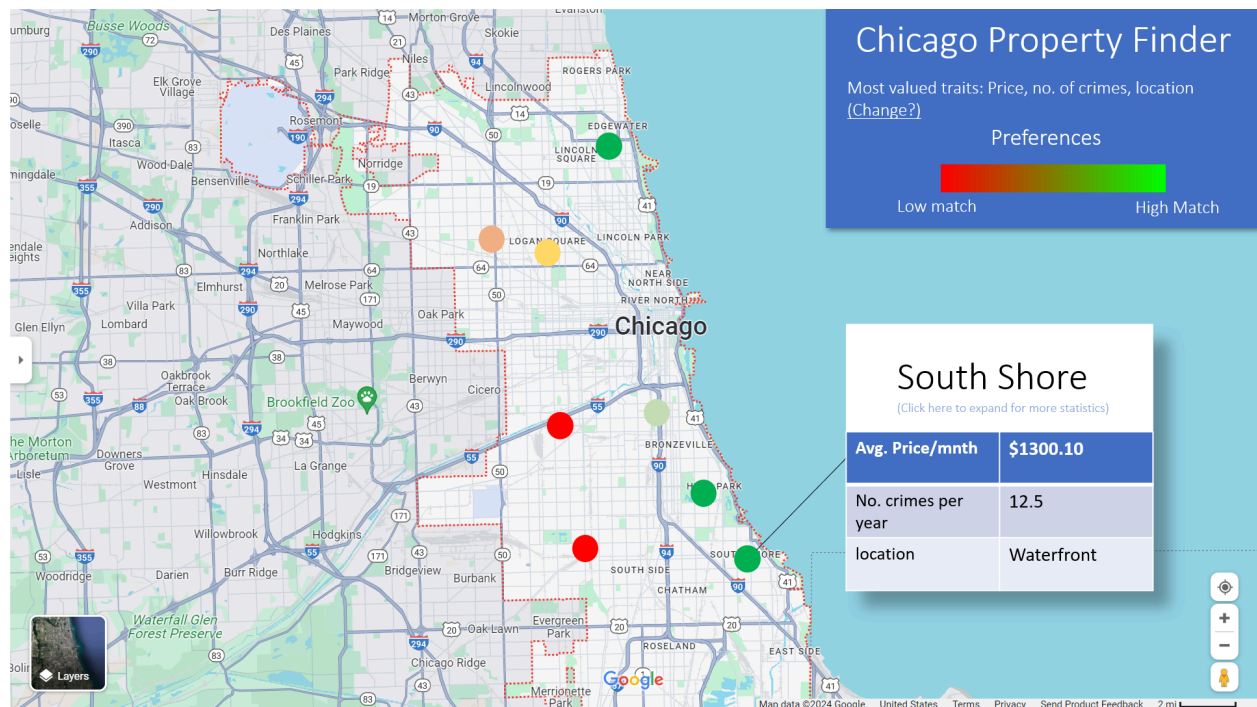
Project work distribution:

      For collecting datasets, Andrew has already begun to gather some sets on Chicago's crime rate and rent prices, and will continue with assistance from Srijan and Joe. Additionally, some information which cannot be exported into a dataset will be input manually as SQL tables by all 3 of us. Srijan will be responsible for the front end UI work, specifically in regards to the map display, points of interest and information on said points. The backend systems will tentatively be done using MySQL by Joe and Srijan with the datasets provided by Andrew, with reviewing of work being done by all 3 of us as seen fit. Finally, pushes to Github and any other changes on Github will be handled by Andrew as he is the group manager.