

# Project Title: SafeStay

## Project Summary

There are a multitude of factors that are taken into consideration when searching for an apartment which can be hard to manage. To assist future Champaign residents with their current apartment search, our application provides a map visualization that includes all apartment buildings in Champaign Illinois that are tagged with 2 scores: an overall 'SafeStay' score which is calculated using three different datasets (number of street lights and police stations within the vicinity of the building and the amount of pedestrian crashes), and a community generated safe score where viewers are able to create their own account on the SafeStay app and contribute by adding their own safety rating for buildings, which helps refine the community-generated score. Alongside this, we include filtering to refine the search for apartments above a certain SafetyScore.

## Problem We are Trying to Solve

Safety is often a top concern for students who are looking for apartments. Oftentimes though, it is very difficult to assess the safety of an area an apartment is located in when you are given just online listings and the address. Additionally, there isn't a platform out there that centralizes this information and lets users comment on their personal experiences regarding the apartment's safety. By providing a community-based version of safety as well as a numerically calculated version of safety, our app provides a comprehensive overview of apartments in the Champaign area, empowering users to make a more well-informed decision of where they want to live.

## Creative Component

Our creative component is an interactive map visualization that allows users to view StaySafe safety scores and Community safety scores for specific apartments in Champaign. This visual would allow users to easily find out how safe apartments in a specific area of Champaign are and understand the exact location of an apartment based on geographical landmarks displayed on the map. The map will also show where there are streetlights, a history of pedestrian crashes, and police stations to give users context on why an apartment has a particular safety score.

Additionally, we plan to use a map library that will allow users to zoom in and out of the map, and drag the map around to view different areas, for a streamlined user experience. We also plan to include filtering options, such as filtering by safety score, so that users who are searching for an apartment can find apartments that they consider safe. Users can also hide features of the map such as streetlight visuals to customize their experience.

## Usefulness

Our application is mainly targeted towards people in the Champaign area who are looking into leasing apartments but don't have a lot of knowledge about the area outside of campus. Our web application will have highlighted apartments in a certain area and have a rating that we give each apartment and have a rating (0-10) that other users have given an apartment. There will be a way to filter by the rating that each apartment was given so that users can find their ideal apartment within a price range that suits their needs.

There will be a way to browse the website without logging in, but in order to submit a rating for a specific apartment, the website would require the user to login. Once the rating has been completed, users can go back and edit their rating based on their varying opinion about an apartment. There are not any very similar websites, the closest website to this would be a crime reporting website, but ours is not similar to that.

## Realness/Data Sources

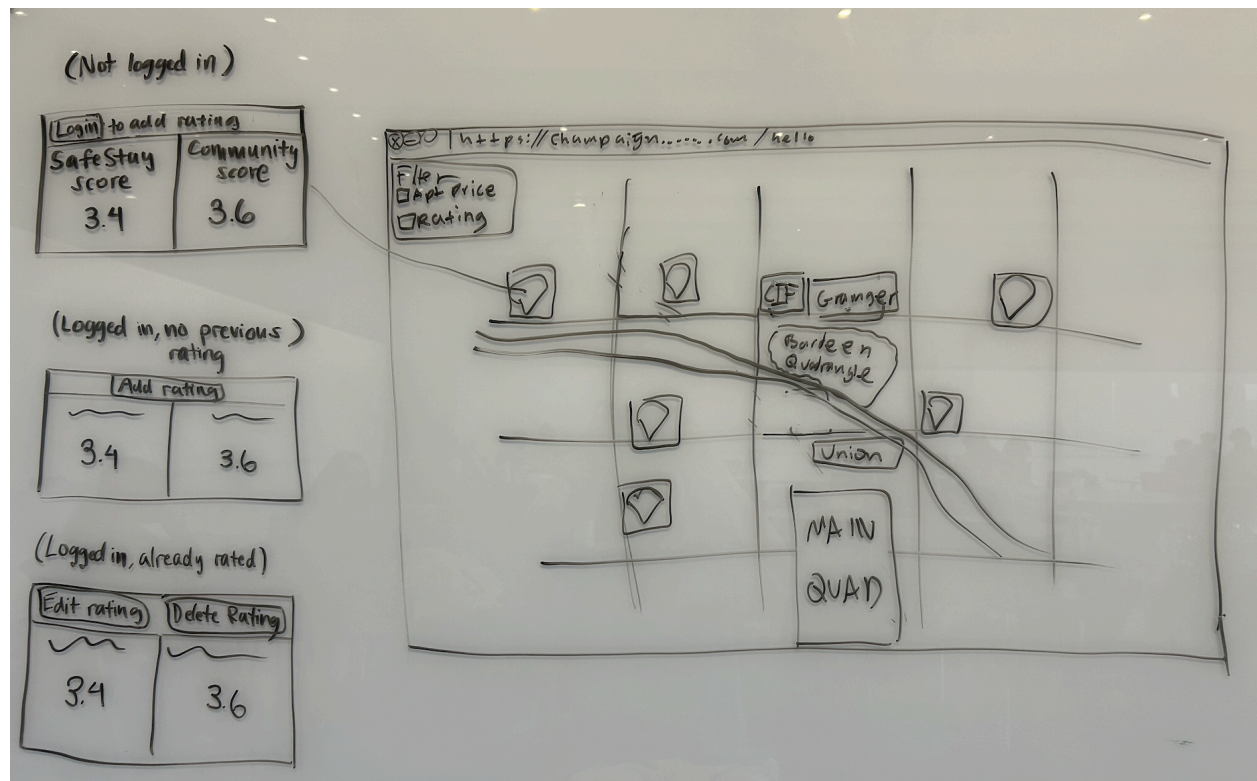
Our data sources are from Champaign County Regional Data Portal, in the format of GeoJSON files. This includes:

- Apartments
  - Rows: 3473
  - Columns: 20
  - This information includes addresses, coordinates, and building types of apartments in Champaign.
- Streetlights
  - Rows: 4557
  - Columns: 25
  - This information includes the coordinates of streetlights in Champaign.
- Pedestrian Crashes
  - Rows: 1000+

- Columns: 10
- This information includes the coordinates, collision type, and crash severity of types of crashes/collisions involving a pedestrian in Champaign.
- Police Stations
  - Rows: 9
  - Columns: 5
  - This information includes the coordinates of Police Beats and Districts in Champaign.

## Functionality/Mockup/Distribution

### Mockup



### Functionality

As a user:

1. I can interact with the map visualization by dragging the map to a desired area.

2. I can click on apartment buildings which will provide two adjacent scores:  
*SafeStay* generated score and a community generated score.
  - a. Two States:
    - i. If a user is logged in:
      1. They will have the option to provide their own input on the hovered apartment building by giving a score of 0-10 inclusive.
      2. If a score was previously inputted by the user for the selected building, they may either edit their previous score or delete their score.
    - ii. User is not logged in:
      1. They will be prompted to log in order to provide their own input on a current apartment building.
  - b. I can filter/narrow my search using the filter functionality in order to look for apartments above a certain *SafeStay* score or community generated score.
3. I can directly navigate to the *Log In* button to create an account using an email and password.

## Project Work Distribution

1. The main algorithm that will be used to calculate a safety score for each apartment in the database
  - a. Steven
2. The interactive map visualization using the Google Maps API to display the locations of streetlights, pedestrian crashes, and police stations, and allows users to filter/narrow their search
  - a. Neha, Vy
3. Creating user accounts and verifying login information
  - a. Vy, Neha
4. The mini “popup” pages that come up when a user opens and clicks an apartment, specifically the not logged in, logged in no previous rating, and logged in already rated pages. This is how we will add, update, and delete user ratings from the database
  - a. Mahima