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CS411 Assignment 2
User Stories

1. A user who is travelling alone and/or in unfamiliar parts of Boston (e.g. via walking, running or biking) will first want to be able to identify whether the area they are travelling in is safe, based on historical crime data for their nearby radius (e.g. 0.25 miles). This can be achieved through some calculation of a "safety index" for the user's geographical area that taps into Boston's crime database and takes into account factors including frequency of occurrence, type of crime committed and time of day. The user does not need to see the specific numerical outputs of this algorithm, but should be able to see a display of the relative safety of their area compared to areas near them; perhaps via a color-coding scheme overlaid on a map of their location.

2. A user who is trying to navigate from one location to another in Boston (again, by walking, running or biking) would want to see their optimal route to their destination. This optimal route would ideally factor in both convenience (i.e. distance) and safety as calculated by the algorithm in the previous use case. This route will appear to them as a highlighted path on a map and will display features including distance and estimated times to walk/bike (from Google Maps prediction). In the case that all routes appear to be under a designated "safety threshold," the user will be prompted to nearby MBTA stops for public transportation (see 3) or will be asked if they want to utilize the ride-sharing app Lyft (see 4) to navigate to their destination instead.

3. If a user decides that their area is too unfamiliar or unsafe and they no longer wish to travel on foot, the user will be shown a list of their nearest public transportation options within a certain radius of their current location. A user will be able to select the closest MBTA stops and view a prediction of when the next bus or train is arriving. Once the user decides which stop they will go to, the application will use the algorithm from the first user story to return a walking path to that stop. If there is no MBTA stop within 1 mile of the user's current location, the app will not return any stops.

4. If the user decide that their area is too unfamiliar or unsafe and they no longer wish to travel on foot, they would want to have the option to utilize a ride-sharing app (Lyft) to navigate away from the area and to their destination. Upon first use of the app, the user is prompted to connect their Lyft account via a third-party login. Even if they decline at the first instance and proceed as a guest, they can opt to connect their Lyft account at a later instance. Once their account is connected, they will always be displayed an option to "call a Lyft from my location." This feature will provide price estimates for a ride as well as a hyperlink to the Lyft web app that has details of the user's travel already filled in, including pickup and destination locations