

Public Utility Finder

By Utiliteam

Advanced Projects, Period 5

Brian, Mikey, Sahil, Viraj

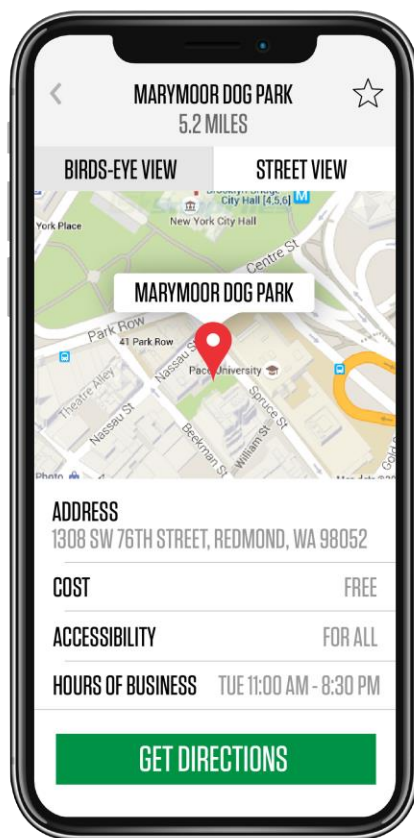
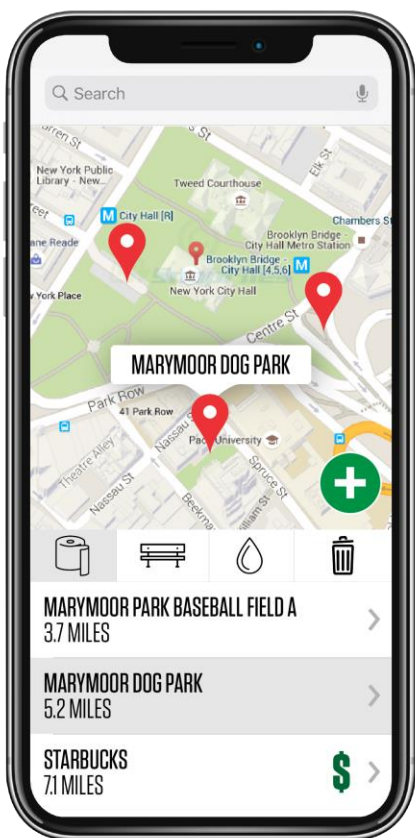
1. **Problem Statement:** People don't have a convenient way to locate nearby public utilities such as a bathroom or trash can. Often, they're forced to wander aimlessly until they locate one.
2. **Elevator Pitch:** If you're like me, then you probably find yourself needing to go to the bathroom at inconvenient times when you're in public. But the problem is, you don't know where to go! We can solve this problem by building a very special mobile app. Think Google maps, but for public restrooms. The app provides you with a comprehensive list of public restrooms near you at any given time, sorting them by proximity for your convenience. But why stop there? Why not add some more important public utilities, like a trash can to throw that gum wrapper away that you quickly snuck into your mouth before meeting your crush! This app will serve me, you, and anyone else that values convenience at the tip of your fingers. With a clean UI and an accurate database of public utilities, this app will solve all of your doodoo dilemmas in a doozy.
3. **Key Insights – from your Market & User Research:**
 - Existing Alternatives:
 - Various restroom maps in public buildings and spaces (ex. Malls, schools, airports, etc.)
 - Only provide restroom locations for that specific place, not relative to user's location
 - Google Maps, Bing Maps, and other web-based mapping software:
 - Allow user to find nearby restaurants, stores, transportation, etc.
 - Based on relative location
 - Don't show location of restrooms or public utilities; only useful for finding businesses/points of interest
 - Online restroom maps (ex. MoDE Foundation's Restroom Map)
 - Address: <https://www.restroommap.com/>
 - May not always show that many restrooms (ex. MoDE Foundation's map website shows no restrooms in some big cities like Seattle)
 - Also only somewhat useful for finding restrooms, not for finding trash cans and other public utilities
 - Flush app that displays restrooms near a user:
 - Employs Apple Maps to provide users with directions to nearby restrooms
 - Flush app only focuses on toilets; it doesn't show other utilities such as trash cans, water fountains, and benches.
 - Lacks a range selector (1 mile, 5 miles, etc...) --> highlights all bathrooms within a large radius instead of letting the user choose the radius.
4. **User Personas: 4 main target groups**
 - Tourists --> App assists them in understanding the new location they are in because they are likely unfamiliar with it.
 - Tourists travel around the city for most of the entire day, thus requiring them to find bathrooms and other public facilities they may need at some point in the day.

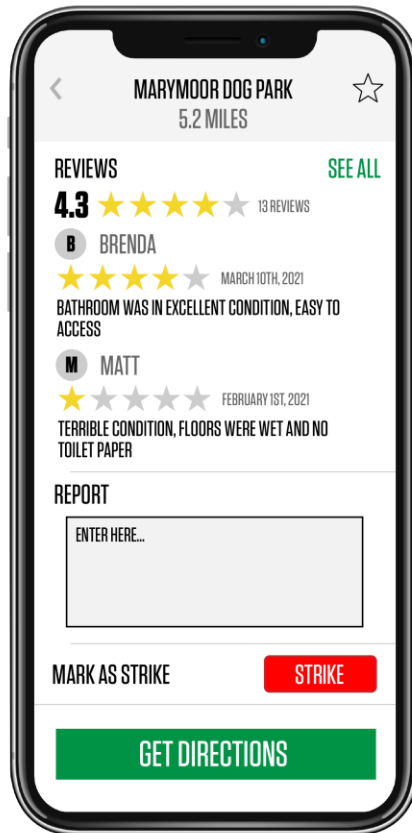
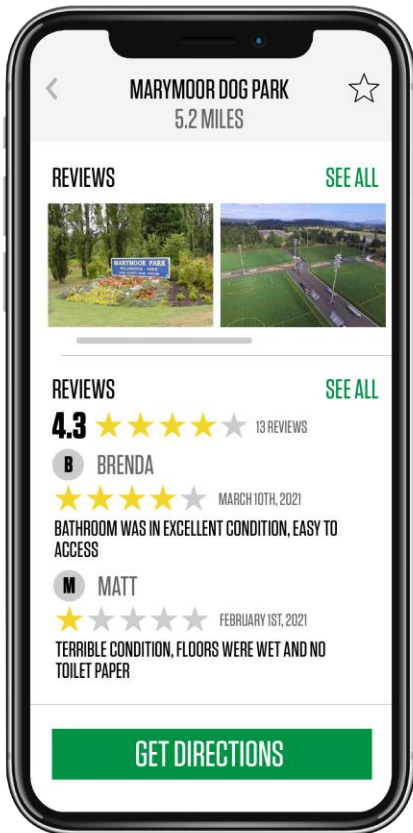
- Families with children --> This app can help families find the nearest bathroom for their kids to go, such as in unfamiliar places where parents may not necessarily know restroom/toilet locations (ex. When traveling to a foreign country).
 - o Kids may not be able to wait as long to go to the bathroom, especially in times of inconvenience.
 - o Additionally, kids (especially little ones) may be more likely to wet themselves if they are unable to find a convenient restroom.
- Time-saving people --> People that are in a rush especially can't always think straight, so this app will enable them to quickly find the facilities they need to use.
 - o Time is money and everyone has places to be, so it is essential that anyone can find public utilities anywhere as fast as possible.
- New migrants --> The app can help people who have just settled in a new community, when it comes to finding public restrooms (such as in nearby parks or commercial areas).
 - o Although the migrant would know the locations of the bathrooms in their new house, they won't necessarily know the locations of the nearest public restrooms to them when they go out of their residence.

5. Minimum Viable Product (MVP)

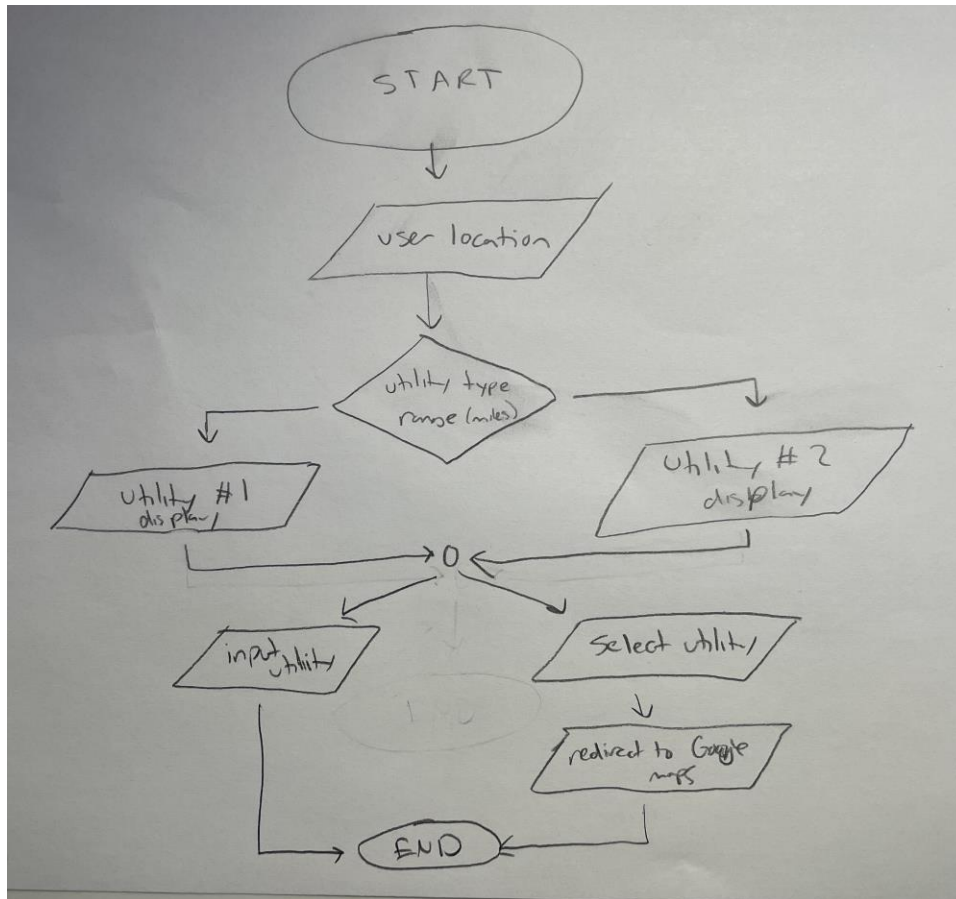
- a. Working Google Maps (implement API)
 - i. We will use a map to store utility locations and redirect users to the Google maps app
 - ii. Will track user's location and give accurate list of utilities nearby
- b. One utility implemented (probably toilets)
- c. User can add their own utility and reviews.

6. Wireframes of MVP:





Flowchart:



Utilities that we want to include:

- Bathrooms
- Benches
- Trash cans
- Free wifi
- Water fountains

Features

- Can add a feature where people leave reviews or a rating about the utility
- Possibly if you click on a bathroom, it will take you to a page where pictures are included of the facility
- Can also include the amenities a bathroom contains, including changing table, etc.
- If you click on a location, it will redirect you to apple maps or google maps for the directions
- Tabs to filter between different utilities
- Include descriptions of the relative distance to each restroom on the map (from the user's current location)
- Creating a user profile, user authentication
- Map on home screen where locations have pin
- Search bar to search for locations that aren't where you are
- Allow the user to have a list of saved restroom locations

- Ratio system to ensure that the utility actually exists (confirm: strike, set min # of strikes)
- Adding a utility
 - Name
 - Location
 - Free/Paid/Exclusive access
 - Accessibility
 - Option to add photos (can consider)
 - Description (can consider)
 - Hours of business if relevant