

## Background

### Barriers

Table 2. Names, Coding, and Descriptive Statistics: Dependent Variables (Barriers to Volunteering)		
Variable	Coding	Percentage of Nonvolunteers of All Respondents
Volunteer status	1 when response was no; 0 otherwise	100.0 67.5
What would encourage you to volunteer?		
More time	1 when response was yes; 0 otherwise	43.4
Nothing	1 when response was yes; 0 otherwise	27.1
Health	1 when response was yes; 0 otherwise	14.0
Better information	1 when response was yes; 0 otherwise	4.3
Match between activity and skill	1 when response was yes; 0 otherwise	3.4
Child care	1 when respond was yes; 0 otherwise	3.1
Transportation	1 when response was yes; 0 otherwise	1.8
Paid expenses	1 when response was yes; 0 otherwise	1.0
Employer	1 when response was yes; 0 otherwise	0.9
Other	1 when response was yes; 0 otherwise	12.8

The most common barriers to volunteering are a lack of time, a lack of interest, health issues, a lack of information, and a perceived lack of skill (Sundeen, 2007). A mobile application can help remedy the lack of interest and the lack of time problem through efficient scheduling and a variety of opportunities. By providing easy to access location data for each volunteer opportunity, volunteers will be able to find opportunities that they can efficiently commute to fit within their schedules.

### Motivations



77,900,000 Americans volunteer each year

The Volunteer Functions Inventory is a tool used to assess the motivations driving volunteers to volunteer. The six motivations it defines for volunteering are values, understanding, enhancement, career, social, and protective. My application aims to allow users to seamlessly browse volunteer opportunities to find one that sparks one of these motivations.

Table 1. Functions served by volunteering and their assessment on the Volunteer Functions Inventory (VFI)		
Function	Conceptual definition	Sample VFI item
Values	The individual volunteers in order to express or act on important values like humanitarianism.	I feel it is important to help others.
Understanding	The volunteer is seeking to learn more about the world or experiences that are often unused.	Volunteering lets me learn through direct, hands-on experience.
Enhancement	One can grow and develop psychologically through volunteer activities.	Volunteering makes me feel better about myself.
Career	The volunteer has the goal of gaining career-related experience through volunteering.	Volunteering can help me to get my foot in the door at a place where I would like to work.
Social	Volunteering allows an individual to strengthen his or her social relationships.	People I know share an interest in community service.
Protective	The individual uses volunteering to reduce negative feelings, such as guilt, or to address personal problems.	Volunteering is a good escape from my own troubles.

## Engineering Goals

- Create a volunteer platform that allows a wide variety of different organizations to collect signup information and post volunteer opportunities. This will ensure there will be a large selection of volunteer opportunities available.
- Make the app accessible through both iOS and Android. This will allow the application to reach broadest range of potential users while also still being able to have notifications (unlike websites).
- Include location-based notifications. Notifying users of opportunities near them will make them more aware of what is happening in their community and more likely to lend their help.
- Design an easily navigable interface with a scrollable map as the homepage. This will give users a clear view of the amount and variety of opportunities around them.

## Purpose

Creating a multi-organizational location-based volunteer recruitment application to allow communities to easily find and access volunteer opportunities in their local areas.

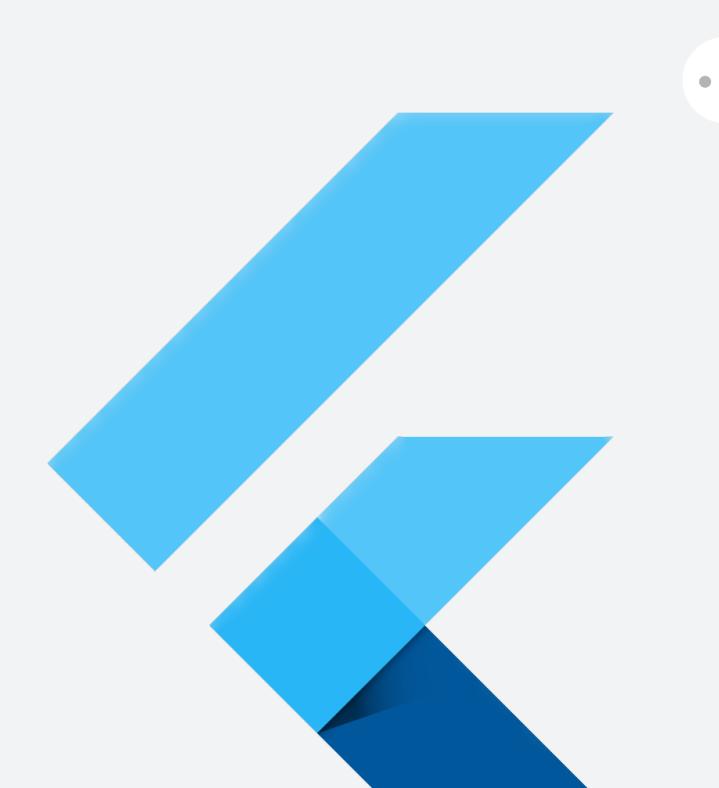
# A Geolocation-Based Multi-Organizational Volunteer Application

## Methods



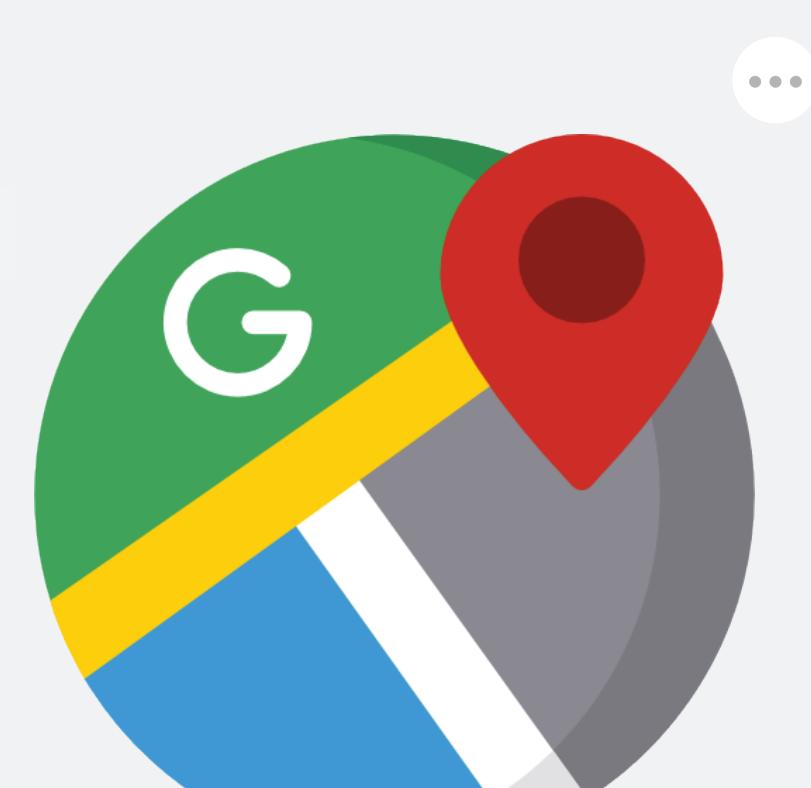
### Visual Studio Code

Visual Studio Code is a source-code editor that supports debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, embedded Git, and a variety of extensions. These tools help in the coding process and allows errors to be fixed more easily. Visual Studio Code also works in tandem with Xcode, Apple's integrated development software, to simulate the applications on an iPhone.



### Flutter

Flutter is an open-source UI software development kit created by Google. Flutter allows applications to be developed that work on both Android and iOS. Flutter development works by stacking widgets together to create a UI. Flutter also allows access to a wide variety of packages that aid in the development of the application. Some of the most useful in developing the app is the Material, CustomInfoWindow, and Triangle packages.



### Google Maps API

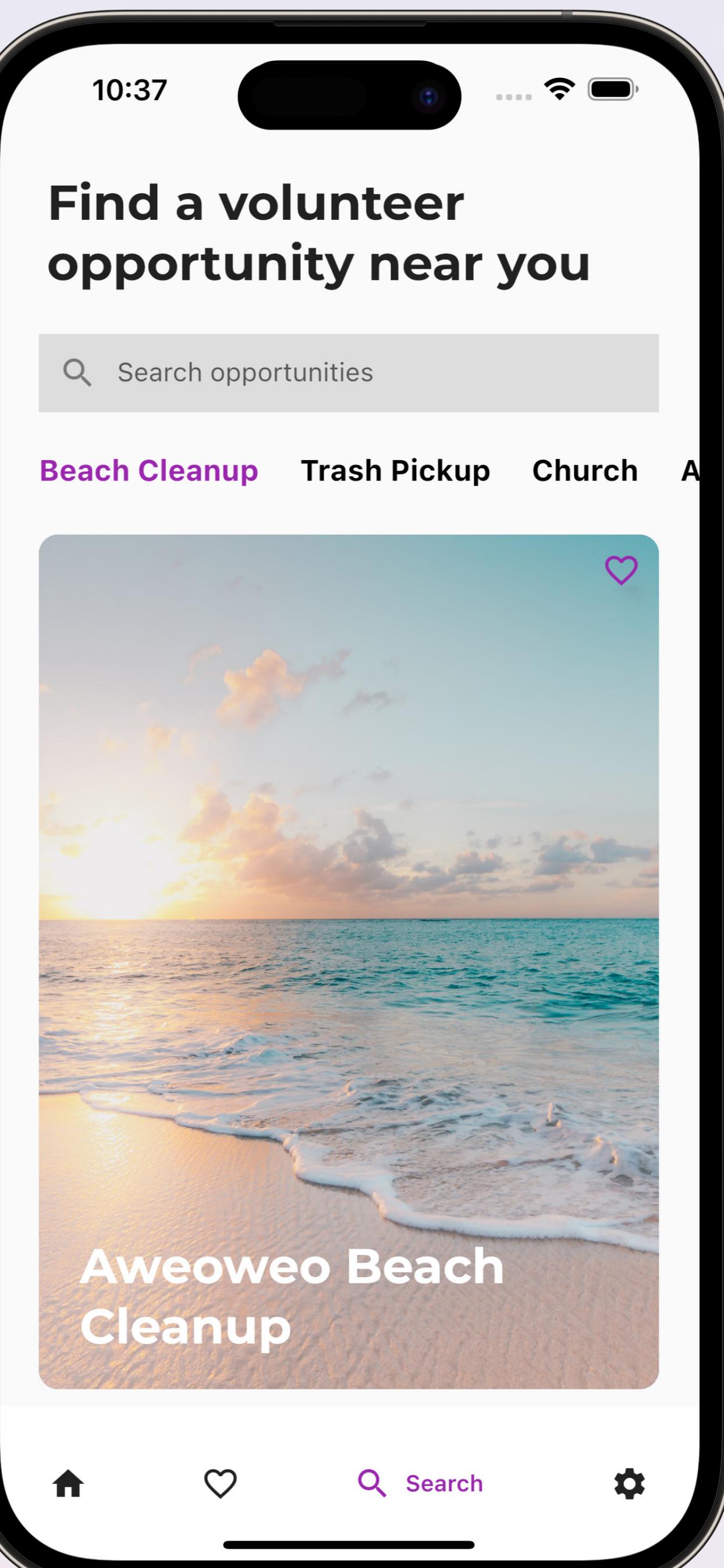
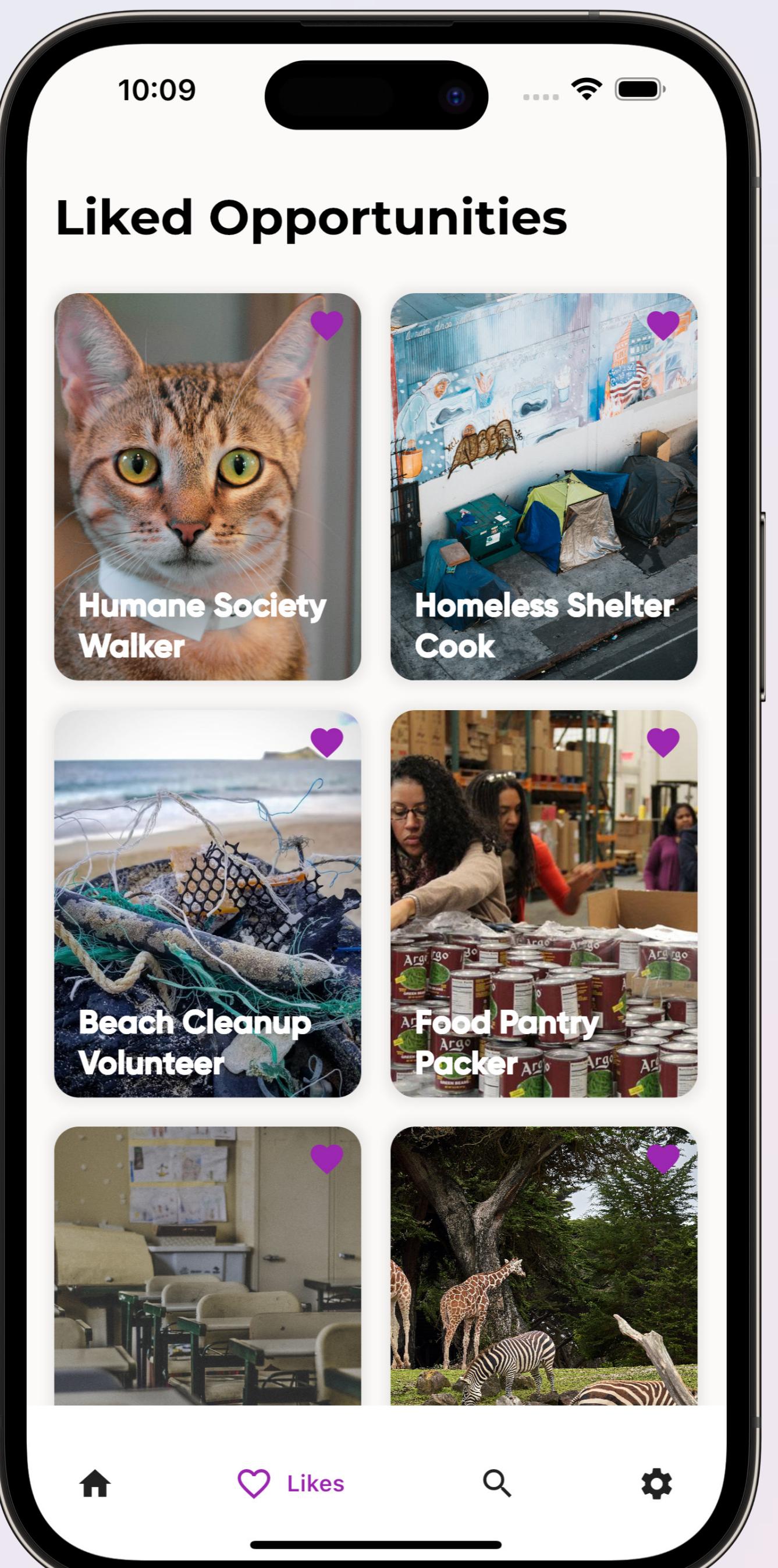
The Google Maps API allows the application to have a fully functioning map as the homepage of the UI. The map is available around the world. By using the Google Maps API in my application, users will have a clear view of which volunteer opportunities are available near them. The Google Maps API allows live customization of the map and updates across all devices linked to the map through Google's cloud network.



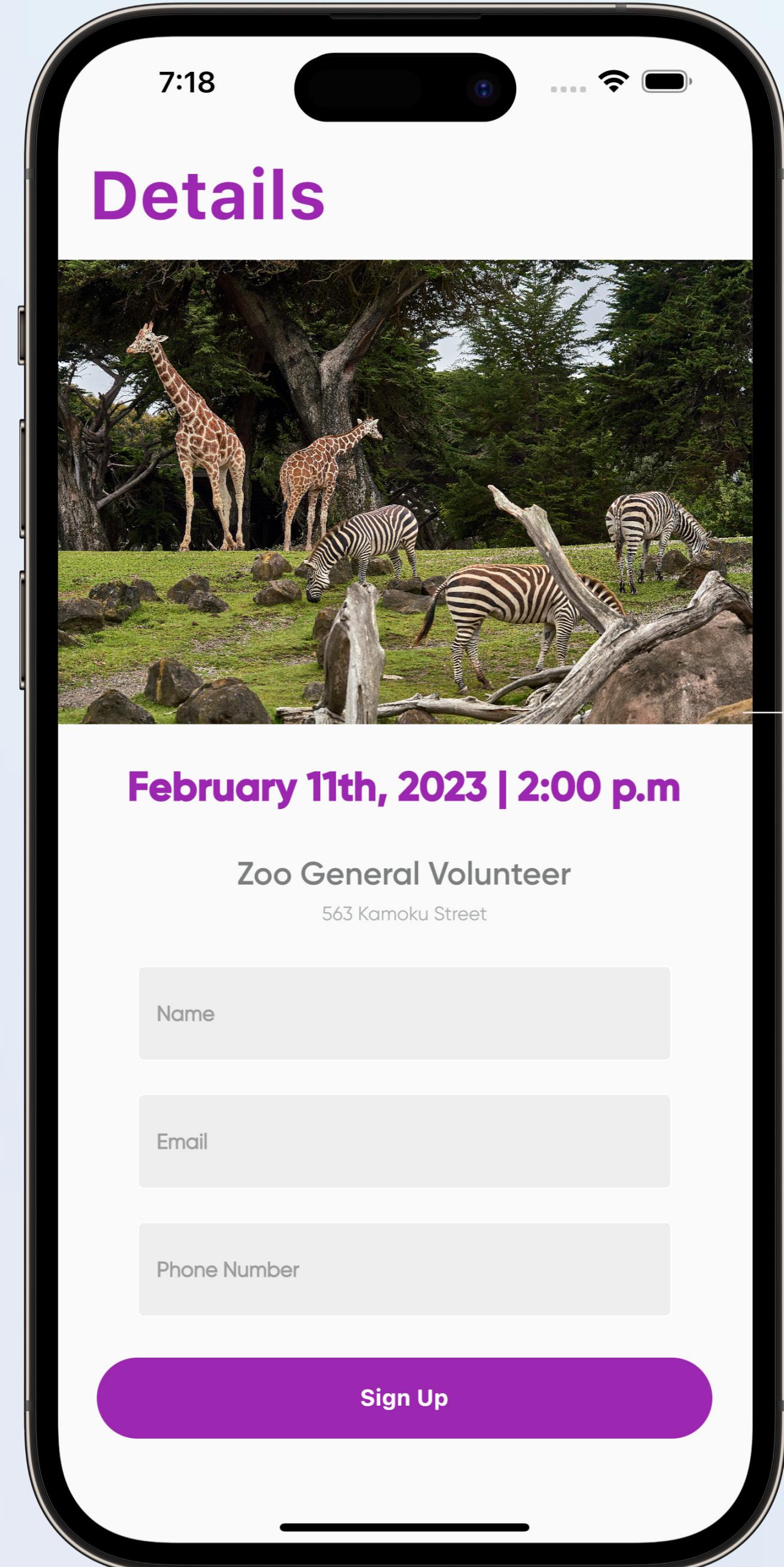
### Firebase

Firebase is Google's realtime database for storing application information in the cloud. Firebase allows information to be saved securely, while at the same time being able to access it efficiently. Firebase enables the application to sync across all devices when any updates are made. This is useful especially when new volunteer opportunities are updated to the application which will enable users to always have the latest information on their app.

## Application



## Implications



1. Volunteers will have a one-stop-shop to find volunteer opportunities. Instead of searching through a variety of websites and postings from different organizations, volunteers will simply have to browse this application.

2. By having location based notifications and UI, the application will allow volunteers to find opportunities near them. This will bring together local communities and help ensure smaller organizations' needs are met.

3. Volunteering will increase because volunteers will be able to find opportunities that interest them and fit within their schedules. This helps reduce the amount of people who cite lack of time and interest as their barrier(s) to volunteering.

## Future Updates

- Version 1.1** Add further categorical sorting for the volunteer opportunities within the app
- Version 1.2** Allow messaging between volunteers and organizations
- Version 1.3** Gamify the application to allow users to gain points for every volunteer opportunity they participate in
- Version 1.4** Automatically import any new volunteer opportunities from the internet