Campus Carpool Application using Geolocation

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Overview

- Develop a mobile application for students on campus that will allow them to carpool with other students that live near them and have similar school schedules in order to help students save costs on gas and vehicle maintenance. The goal of this project is to create an interactive and functioning mobile carpool application using:
- Google maps api
- Geolocation

Features

- User authentication
- User profiles
  - User image
  - Name
  - Schedule
  - Type of car
  - Additional info
- Geolocation to find the users current location
- Matching users with other users based on school schedules and location
- Google map showing the route taken
- History of previous carpools taken.

Google Maps API

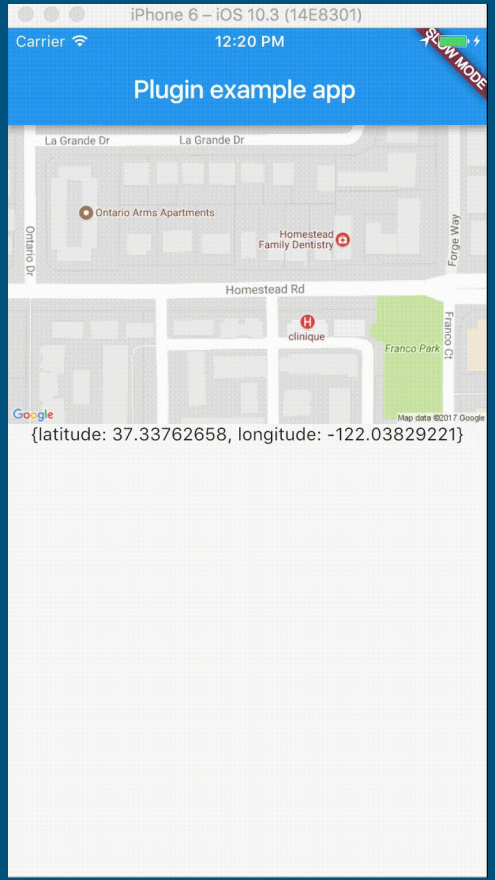
- Map Styling
  - Create a custom map using a JSON style object
- Map Interactions
  - Camera position and view
  - Events
- Map Drawing
  - Markers
  - Information windows

Geolocation

Geolocation is the approximation of a users location based off of the gps of their mobile phone or an IP address.

Using this we will find the location of the student in longitude and latitude which we can then use to determine their current street address.

Once we have the street address we can use it to match students based off of that location.



Tools

- Flutter
  - Cross platform mobile development
  - Using Dart
- Github

- Visual Studio Code
  - Free code editor for mac and windows
  - Flutter extension for editing, running, and reloading flutter mobile apps
  - Support for dart programming language

Challenges

- Learning how to use Flutter
  - Using widgets
  - Laying out widgets
  - State management
- Learning a new programming language
  - Dart

Goals

- Build a user friendly UI
  - Easy to navigate
  - Responsive
  - Efficient
- Real time interactive map
  - Update content on map