FuelFinder Project Presentation

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Motivation

- Not any dominating recommendation applications for refilling gas
- Help users decide which gas station is the best for them
- Application will provide information about nearby gas stations:
  - Distance from desired location
  - Name
  - Address/Phone number

Related Work

- Two main popular existing applications, Google Maps and Gas Buddy
  - Google maps have a very clean UI, but only recommends users to the nearest gas station, it does however have gas price and reviews available to view
  - GasBuddy takes into consideration distance, expense, and rating, however it is a very bloated application spammed with advisisement
- Our goal is to create a mobile application that uses a clean, simple UI and takes into consideration not only the distance, but the expense and rating as well

Design

Frontend Design

- Minimalistic, Intuitive User Interface
- User Input fields to collect search fields:
  - Location (Latitude, Longitude)
- Results displayed in list format and on integrated map

Backend Design

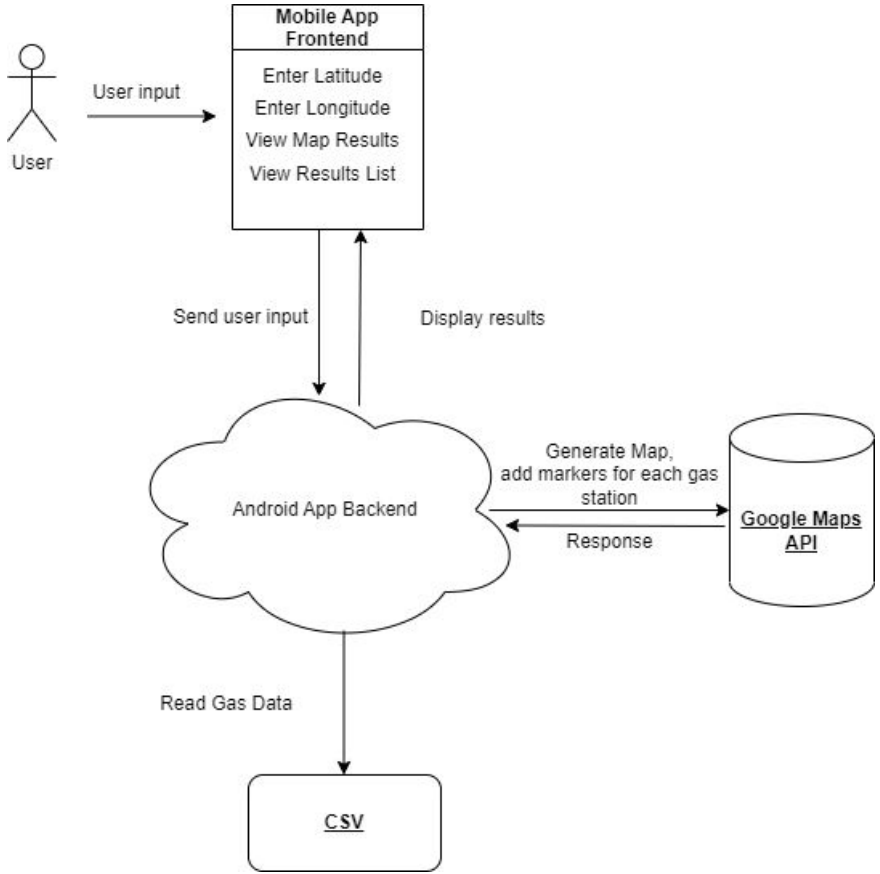
- Backend will receive requests from frontend based on User Input
- Step 1 - collect User input (i.e. Lat/Long coordinates
- Step 2 - read gas data from Xavvy database
- Step 3 - send responses to be displayed on frontend (Map/List view)

Database considerations

For the scope of this project we use a free sample subset of the *Xavvy Gas Station POI Data USA* database that contains gas station info from only North Carolina. We did not have access to the funds required to access the full version. Upgrading to full version would provide access to over 113k gas stations and corresponding data across the country, with live updates. Our application is compatible with this upgrade so it is merely an issue of cost, not capability.

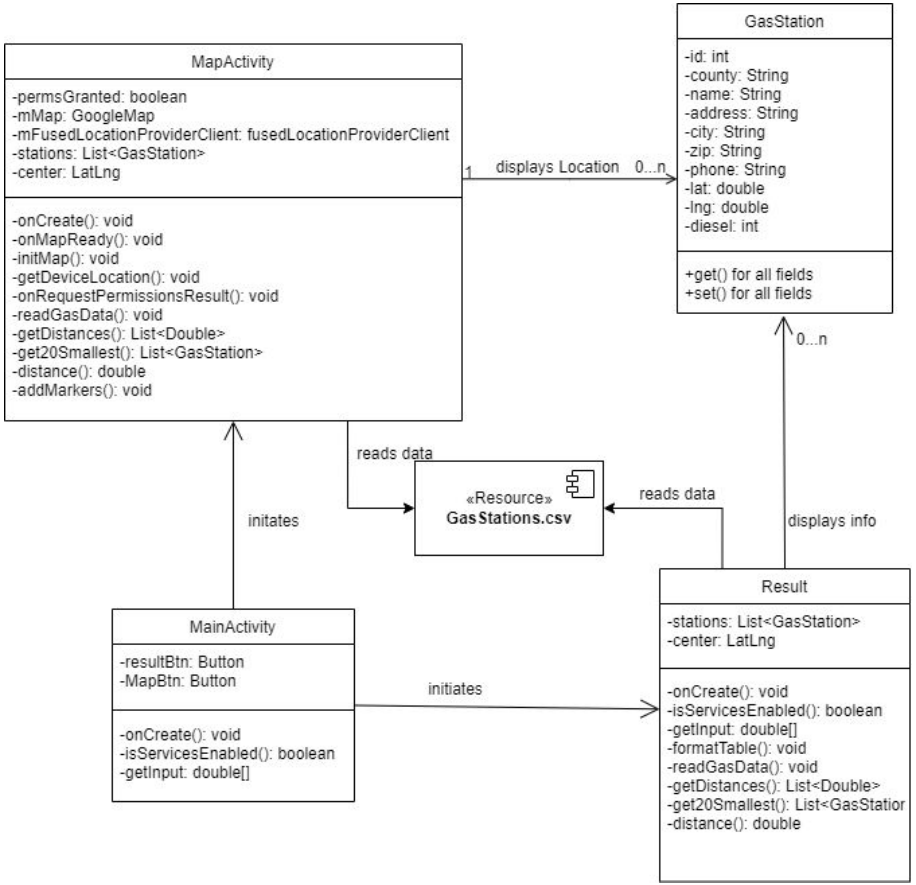
System Architecture

High level overview how our system components will work together to provide user with accurate fuel data.



Implementation

- MainActivity
  - Landing Page. Accepts lat/long coordinates from user to run search
  - Buttons to Access Map/List views
- MapActivity
  - Instantiates GoogleMap object
  - Reads gas data
  - Displays gas stations
  - Displays User Location
- Result
  - Reads gas data
  - Formats information as table



DEMO

Future Work

- More information about each gas station
  - Type of pump, does it contain convenience store
- Filter system
  - Filter out gas stations with low ratings/high prices
- Development for iOS