MIDS Summer 2021 W200 Project 1 Proposal
Student: Don Irwin
Section: Tue 6.30 P.M.

My proposal is to create a small program that will display Real Estate market information based on zip code.

Background:

Three months ago, I wrote a simple data scraper in python which I run every day or every few days, and the program gathers information about Single Family property listings in 13 zip codes. I have saved these data as JSON files. My project will allow a user to select a zip code and render key metrics in the form of a graph for the zip code they have selected.

Sample Data:

Below is sample data for one day, for one zip code.


```
{
            "active_listings": "381",
            "active_listings_up_down": "down",
            "analytics_uri": "https://www.realtor.com/realestateandhomes-search/90046",
            "average_days_on_market": "55",
            "average_days_on_market_up_down": "up",
            "description": "Hollywood West Adjacent",
            "extract_day_id": "20210606",
            "extract_dt": "06/06/2021, 22:55:26",
            "median_list_price": "1,850,000",
            "median_list_price_up_down": "down",
            "median_price_per_sqft": "839",
            "median_price_per_sqft_up_down": "up",
            "price_reduced_status": "https://www.redfin.com/zipcode/90046/filter/max-price-reduced=1d",
            "price_reduced_today": 1,
            "search_uri": "https://www.redfin.com/zipcode/90046",
            "zip code": "90046"
        }
```


User Flow for Proposed Project:

A user will be presented with a main menu which will display all zip codes and the description of that zip code.

From that main menu they will select one of the 13 zip codes.

The system will then render a secondary screen which will present them with several graphing options for example:

1. View Active Listings Graph:
2. View Price Graph:
3. View Days on Market Graph:

Once the user selects a graph option the program will generate a chart showing the movement in the variable they have selected over the period of time for which I have collected those data.

Class Model and Structure:

This project will have five classes.

1. **AreaInformationByZipcode** – This is a nuclear class which will represent information for a specific area (zip code) for a specific day it will contain the properties in the JSON above, and will have some methods for acting on the data.

2. **AreaDataStore** – This class will be responsible for loading the historical data from the file system into objects and making it available to the other classes.

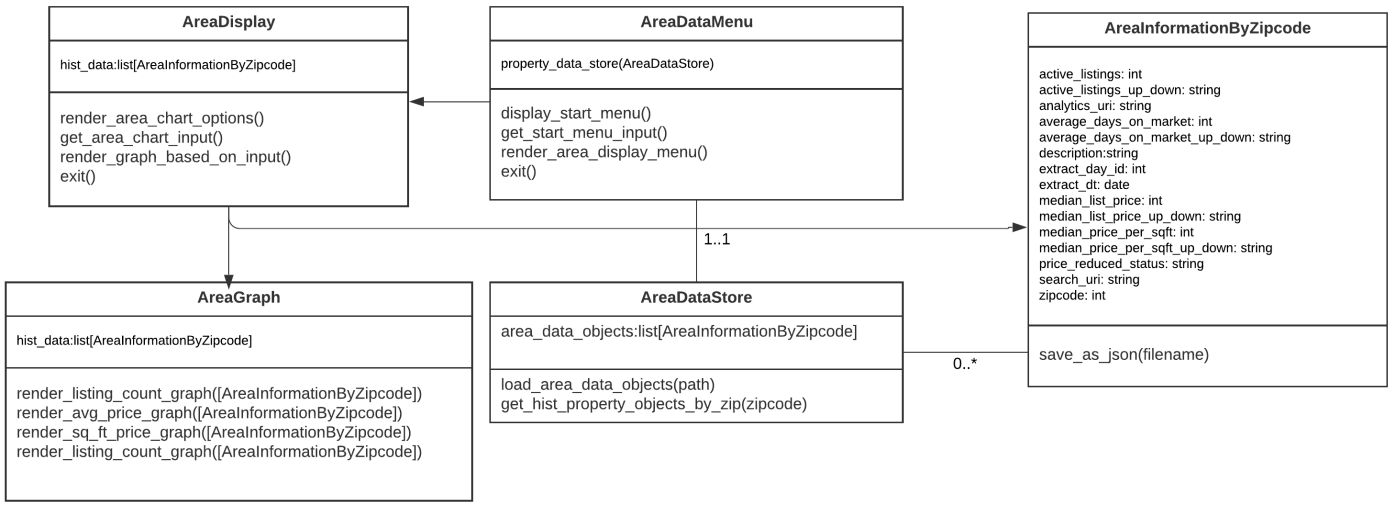
3. **AreaDataMenu** This class will display the main menu of the program and instantiate and invoke the following class as needed.

4. **AreaDisplay** This class will display the graphing options for the area (zip code) and then invoke the following class to render different types of graphs based on user input.

5. **AreaGraph** This class will be responsible for rendering specific graphs the user has requested.

UML Class Diagram:

Below is an initial class diagram of the five classes described above.



Please let me know if you have any suggestions or require clarification on this proposal.

Best Regards,

Don Irwin