Team Name: Amazing Edamame
Devos: Emerson, Anjini, May, Daniel
Target Ship Date: 05-24-23

SUMMARY OF MVP

We propose an app that specifically shows data relevant to residents of New York City, specifically for those that are interested in the real estate market. Once the user logs in, they will be able to complete a survey where they can rank their factors of preference in terms of what they are looking for in a potential home (however the actual recommendations will not be part of the MVP product).

Then, they will be able to access the home page. There, they will be able to browse an interactive city map where each data point is a neighborhood. By simply hovering over the neighborhood, they can see statistics like average household prices. If the user wants to learn more about the neighborhood, they can click on the More Info Link available in the pop up, which will bring them to a separate page where they can see graphs and historical trends regarding each category.

PROGRAM COMPONENTS

- __init__.py: app for website
- templates/
    - survey.html
        - Allows users to respond to questions about preferences for living area and search for matching results
        - Categories are: Borough Preference, Price Range, and House Type
        - Leads to the sales page, which shows houses matching the specified filters and the prices that they sold at.
    - home_page.html
        - Toggle to switch databases, subsequently changing which dots are plotted on the interactive map
        - Lists neighborhood name in a custom pop-up, as well as a link to learn more (link only available for the Demographics database)
        - Includes search bar that autocompletes neighborhood names
    - financialInfo.html
        - Shows concise summary of poverty indexes and average incomes for all neighborhoods in NYC (both in tables and histograms)
        - Accessible via nav bar
        - Data from Demographic and Financial Info Database
    - moreinfo.html
        - A separate page that goes into more detail about the selected neighborhood
        - Show pie chart of demographics in that neighborhood

    - searchResults.html
        - A separate page rendered upon submission of the neighborhood name in the search bar
        - Show Statistics about sale prices for that neighborhood in 2019, 2020, and 2021
    - Sales.html
        - A separate page rendered upon submission of the survey page that asks for the user's preference on what borough they would like to live in, their price range, and their ideal house type
    - Error.html
        - Displays a custom error message
- Setup_db.py (ran once)
    - Functions that makes calls to each database to populate tables
    - Functions that will get relevant information based off the user query
- geo.py
    - Helped provide latitude and longitude data for neighborhoods in the financial info / demographics database
    - Already used, it does not need to be run again.
- js/modules
    - histoCharts.js
        - Fetches the /info endpoint and makes histograms that are used in financialInfo.html to show average income and poverty indexes
    - incomeTable.js
        - Fetches the /info endpoint and makes tables for average income and poverty index shown in financialInfo.html
    - NYCMap.js
        - Toggle to switch databases (which entails clearing the existing layers so new circles with popups representing neighborhoods can be plotted)
    - pieChart.js
        - Gets URL encoded neighborhood name from the selected neighborhood
        - Renders moreinfo.html to show demographics of that neighborhood
    - salesCharts.js
        - Gets the returned data from the survey response about the preferences of the user for a neighborhood
        - Makes tables of matches found
    - Search.js
        - Gets data from the neighborhood entered in the search bar
        - Makes table showing sale history of that neighborhood in 2019, 2020, and 2021

PAGE BREAKDOWNS

Home Page (Accessed through a button on the home page, financial info page)
Has a search bar to search up a specific area in NYC.
Has an Interactive City Map with the different neighborhoods of NYC. When users click on a neighborhood in the map, the name will pop up. Users can press more info about to be directed to the More Info Page.
Has a button to direct users to the survey page in the nav bar. Also, a button to directly view the average income/poverty index of all neighborhoods. Finally, a search bar with dropdown values.

Survey Page (Accessed Through a Button on the Home Page):
-Potential Answers will be in Pre-Populated Drop Down Menu
-Questions would be: borough preference, price range, and house type

More Info Page
-Accessed Through Clicking A Link Generated By Selecting a Neighborhood on Interactive City Map

Financial Info Page
–Accessed by clicking on the nav bar for a quick summary of NYC Neighborhoods' poverty index and average household income

Search Page
-Accessed by entering in a neighborhood from the search bar dropdown menu

Sales Page
-Accessed by entering in preferences on the survey page

Geolocation API: We used Position Stack. Allows us to turn addresses in longitude and latitude and place them on the map. It was used in app construction, but not required for the user to run the app.

DATABASE ORGANIZATION

Financials Table Column Names:
Year_Published
PUMA
Borough
Neighborhood
Community_District_No
Poverty_Index

Median_Income
Percent_White
Percent_Black
Percent_Asian
Percent_Other
Percent_Hispanic
Latitude
Longitude

Sales Table:

Borough	Neighbor-hood	Type	Sales_ Amount	Lowest	Average	Median	Highest	Year

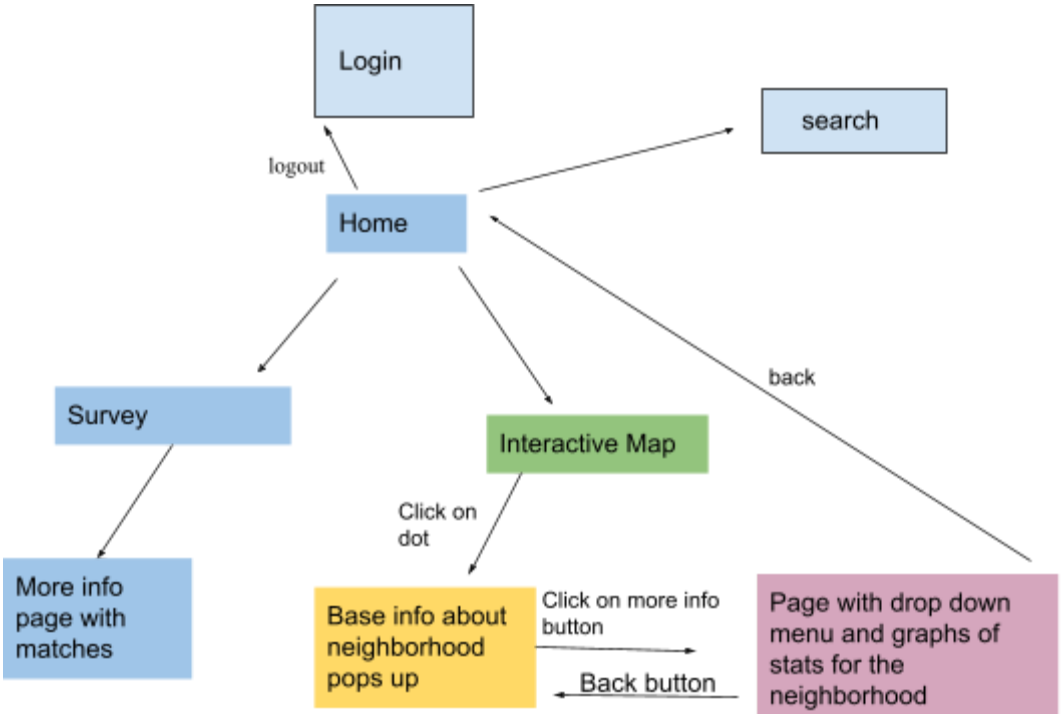
Neighborhood:

Latitude	Longitude	Name	Borough

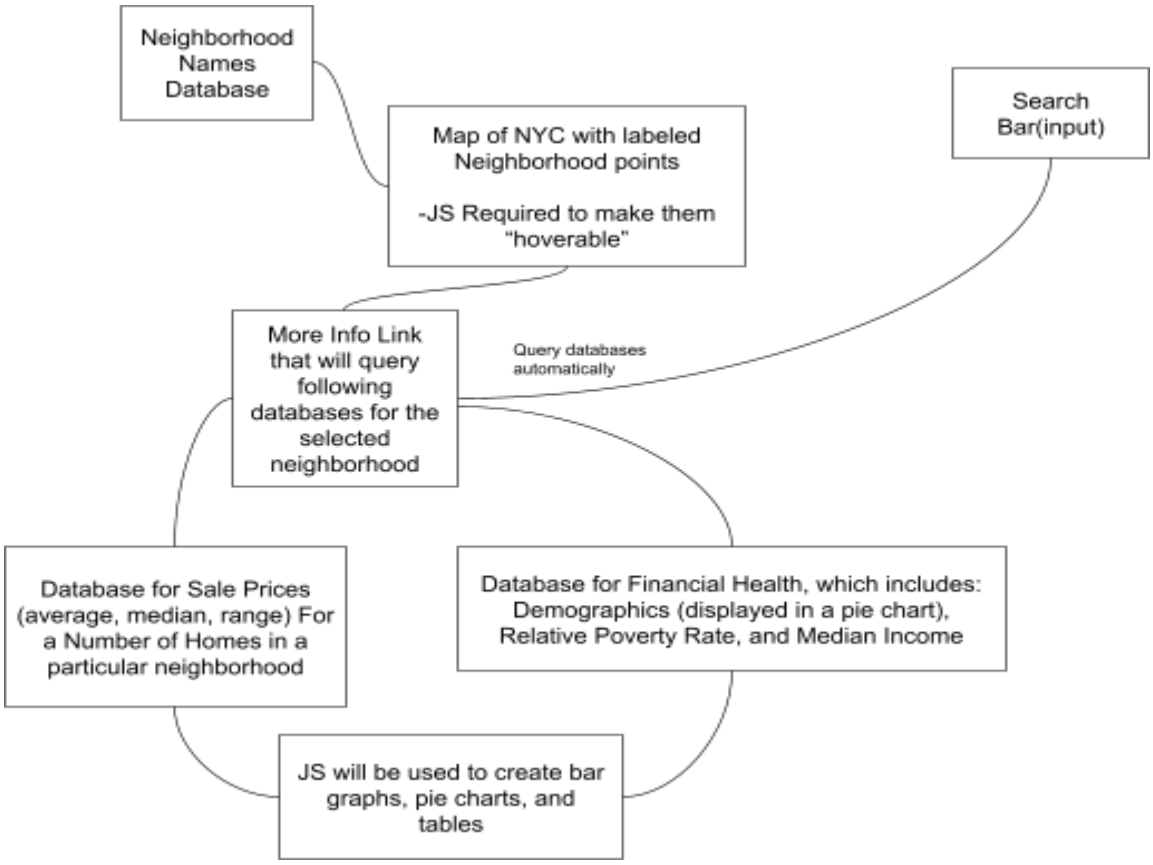
FRAMEWORK

We will use Bootstrap because it offers us better customizations to our site that make our site look more professional. Such features include: progress bars, sliders, loading buttons, various colored/shaped buttons, customizable tables, collapsibles, forms, search bars**, and tooltips/popovers(hovering will show text).**

USER MAP



COMPONENT MAP



BREAKDOWN OF TASKS

Emerson: Work on API calls for Distance calculations, and dropdown, menu/graphing of trends with JS and bootstrap

Anjini: Work on survey and how to take preferences in account when displaying recommendations

May: Work on API calls for populating the database for Cost of Living Data. Work on user databases (login, password) as well as survey response database.

Daniel: Work on API calls for populating the database for Financial Data. Worked on an Interactive Map of NYC with JS.

Checklist:

- ☑ ~~Create each html page~~
- ☑ ~~Create database, then connect it~~
- ☑ ~~Incorporate usage of APIs~~
- ☑ ~~Create visuals for the data~~
    - ☑ ~~Pie charts for demographics~~
    - ☑ ~~Bar graphs to compare income by neighborhood~~
    - ☑ ~~Tables to show data by time~~
- ☑ ~~Create Survey~~
    - ☑ ~~Filter for matching results~~
- ☑ ~~Interactive Map~~
    - ☑ ~~Basic info like name when clicking in pop-up~~
    - ☑ ~~Toggle databases~~