BreazeHome 4.0 Price Comparison & Hazards

Student: Brandon Cajigas, Florida International University
Mentor: Yuzhou Feng, Research Assistant, Florida International University.
Professor: Masoud Sadjadi, Florida International University

Problem

- BreazeHome is an academic project originated and led by Dr. Masoud Sadjadi to help his students learn Agile Software Development in the context of a real estate application that provides property information and services for home buyers, sellers, renters and realtors.
- BreazeHome’s “Property Details” page lacks any information about nearby properties.
- Data regarding natural disasters around the property is inaccurate and too broad to be useful.

Solution

- Create new API call to fetch a list of nearby properties from the BreazeHome REST API.
- Provide a graphical comparison of the property’s price to the average of nearby listings.
  - Allow the user to toggle between total price and price per square foot.
- Access data from both NOAA and the NWS to provide more accurate and granular hazard data.

Current System

- The current system has no price comparison feature implemented.
- The BreazeHome REST API contains weather data organized by forecast zone but does not list a property’s forecast zone. The current implementation of Hazard information therefore incorrectly searches and displays data as though it were for the entire county.

Screenshots

Price Comparison

Hazard Data

Requirements

- Get list of properties in the same ZIP Code from BreazeHome API to calculate average price and area.
- Create chart that can dynamically toggle between comparisons of total price and price per square foot.
- Find property’s NWS Forecast Zone through NWS API.
- Search NOAA Records (in BreazeHome API) by Forecast Zone.
- Display Forecast Zone on map using GeoJSON data from NWS API.

System Design and Implementation

- Version control: git
- Frontend: AngularJS
- Backend: Django, python

Summary

- User can view a comparison of the property’s total and per-square-foot price against other properties in the area.
- Hazard map now represents accurate data using the same regions as NOAA and the NWS.

Price Comparison Sequence Diagram

Hazard Data Sequence Diagram

Acknowledgement

The material presented in this poster is based upon the work supported by Dr. Masoud Sadjadi and Yuzhou Feng. I am thankful for the help that I received from my group members: Lyda Caballero, Alex Dubuisson, Alexander Mohamer, Alvaro De Castro, Andreina Rojas, Andrew Christiancho, Davi Guerra, Ethel Sierra, Elior Rosabal, Fernando Serrano, Irma Castillo, Jorge Cuna, Lester Hernandez, and Richard Roda.