BreazeHome 4.0: Filters and Refined Search

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Problem

BreazeHome is an academic project originated and lead by Dr. Masoud Sadjadi to help his students learn Agile Software Development in the context of a Web-based real-estate application that provides property information and services for home buyers, sellers, renters and realtors.

The UI to filter properties based on certain options was not implemented. Users would like a UI that is simple to use, and that also provides advanced options and features that are not available in other real estate websites.

Solution

Implement a filters UI that remains simple, but also includes advanced features. The UI is based on a predefined design that includes sliders, buttons, dropdowns, and density charts displaying the amount of properties in each set of intervals over the whole selectable range for each available filtering option.

Current System

The initial system had some very basic UI elements defined for the filters. Most elements were either not present or not compliant with the planned design. Backend queries for each filter option were also not implemented.

Screenshots

Finalized Feature

Requirements

- Model UI based on provided design.
- Applying filters displays correct filtered properties list and map.
- Applying filters displays correct density charts information and counts as described in provided design.
- User can see selected filters for price, bedrooms and bathrooms.
- User can reset all filters.

System Design and Implementation

- Desktop Frontend: AngularJS (HTML, JavaScript, CSS)
- Backend API: Django REST framework (Python)
- Database: PostgreSQL
- OS: Linux (Ubuntu)
- Version control: git

Software Architecture

Verification and Object Design

Unit testing:
 Covered all filter options.
Integration testing:
 Covered conflicts with other results page features.

Summary

- BreazeHome needed a way to filter properties in the results page.
- The filters UI developed has a simple design, is easy to use, and also contains advanced options for more sophisticated users.
- Density charts for numerical filter options and a commute time filter are the most valuable improvements encompassed by the filters UI.

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