Flashlight: Property Assessment Visualization for the City of Boston

Tyler Brown, Sicheng Hao, Nischal Mahaveer Chand, Sumedh Sankhe

Summary

As a new home-buyer, it's easy to find out about your home but hard to get an understanding of your neighborhood. Flashlight makes it easier for you to see your potential neighborhood in Boston. This discrepancy is because current real estate websites emphasize individual properties rather than individual neighborhoods. Our group communicates the differences between Boston neighborhoods using an interactive data visualization called Flashlight.

Our dataset includes Property Assessment history from 2014-2017 [1] using Boston's Open Data Hub. We enriched the property assessment data with coordinates from Open Addresses [2], and neighborhood boundaries from Zillow [3]. These combined datasets provide unique insights to new home-buyers in Boston. As open data becomes more prevalent in cities across the United States, we can scale our insights and models.

Methods

We used methods for collecting, preparing, modeling, and presenting our data. Each step of the process is detailed here.

0.1 Data Collection

We started with Boston's Property Assessment data from 2014-2017 [1]. This dataset "[g]ives property, or parcel, ownership together with value information, which ensures fair assessment of Boston taxable and non-taxable property of all types and classifications."[1]. We wanted to use this information because it helps us capture changes in Boston properties over time. For example, a remodeled property would change it's property tax assessment value we have this variable available to us.

After starting with the Property Assessment dataset, we brought in additional datasets to increase the value of our data collection. Neighborhoods in Boston were not named or geographically demarcated in the Property Assessment dataset so we brought in Neighborhood

Boundaries from Zillow [3] to make this distinction. Additionally, geographic coordinates for each assessed property's address were occasionally not coded correctly or included at all for 2017 so we had to bring in those values using Open Addresses [2]. Once neighborhood names, boundaries, and missing coordinates were available, we were able to proceed to data preparation.

0.2 Data Preparation

0.3 Data Modeling

0.4 Data Presentation

Results

We had some results.

Discussion

Let's discuss what we did.

Statement of Contributions

Together everyone achieves more.

- **Tyler Brown:**
- **Sicheng Hao:**
- **Nischal Mahaveer Chand:**
- **Sumedh Sankhe:**

References

[1] C. of Boston, "Property assessment - datasets - analyze boston." https://data.boston.gov/dataset/property-assessment. (Accessed on 10/26/2017).

[2] OpenAddresses, "Openaddresses." https://openaddresses.io/. (Accessed on 12/09/2017).

[3] Zillow, "Zillow neighborhood boundaries." https://www.zillow.com/howto/api/neighborhood-boundaries.htm. (Accessed on 12/09/2017).

Appendices

Appendices here.