Cost of Buying/Renting Algorithm (COBRA)

CSE 6242 Data Visual Analytics - Fall 2019

LA Team

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COBRA Overview

Objective

Use data visualization methods to help home seekers decide if they should buy or rent a home in Los Angeles based on their financial information, housing preferences, and available housing price data.

Current Practice

- People depend on Zillow's Zestimates and real estate advisors
- Zillow's Rent-or-Buy tool along with other competitors' lack a spatial visualization component, which we intend to create

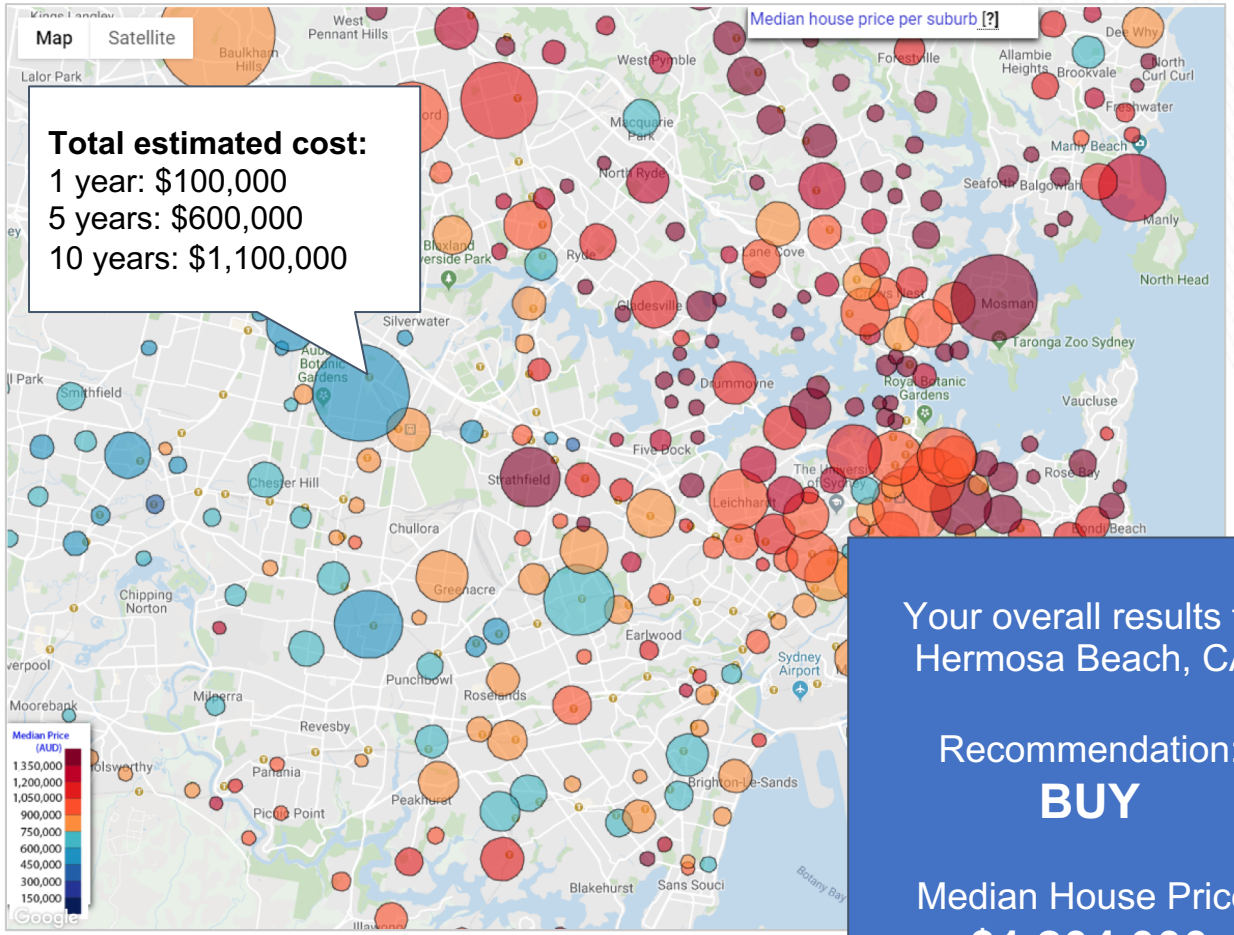
Our Methodology

- Create a D3-based visualization tool supported by a Python algorithm

Features

COBRA provides users with:

- A recommendation for rent-or-buy
- Median house price and cost of living in the desired city
- Total cost of buying or renting a specific home for various time periods

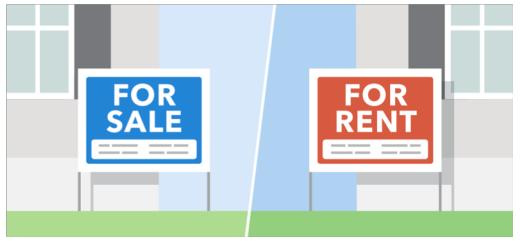


Example User Interface

Detailed Approach and Impact

Tools and Techniques:

- Cost comparison model shapes our rent-or-buy decision framework
- Multiple regression models power our total housing cost predictions
- D3.js used for interactive, user-friendly visualizations



COBRA can help users:

- Quickly determine if it's a better investment to buy or rent
- Focus on what is financially practical, rather than what is socially expected
- Invest their money efficiently

Our success will be measured through quick pulse surveys via our website.

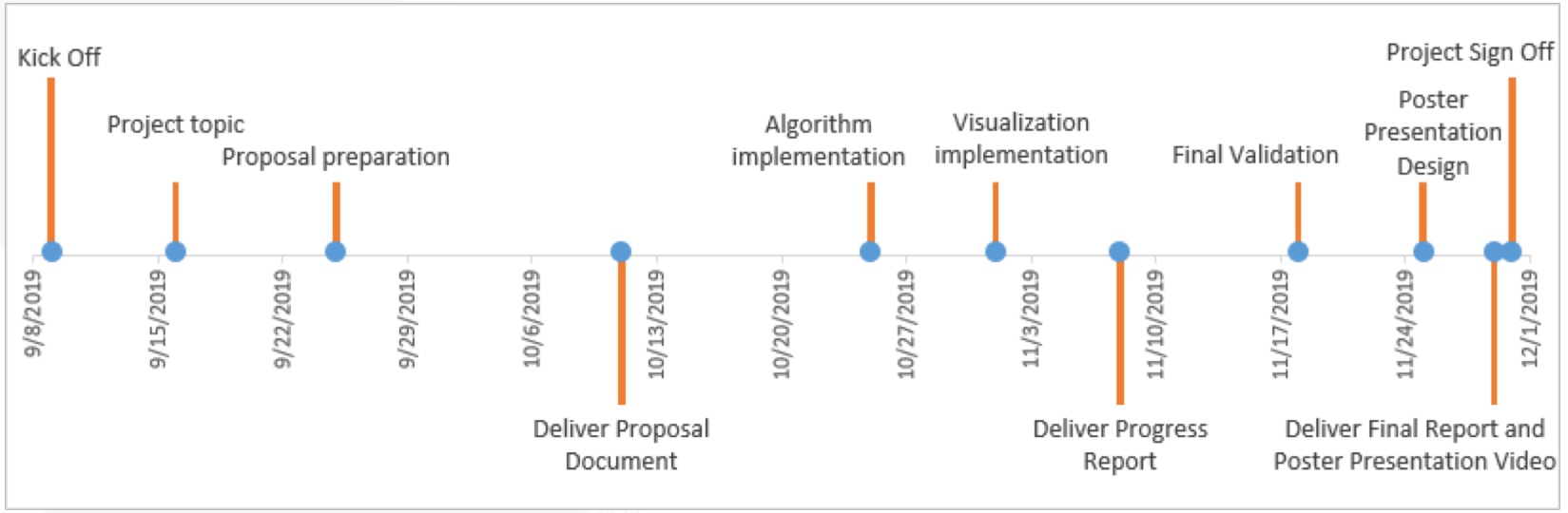
Risks and Costs

Risk	Mitigation
Lack of access to extensive historical data	Leverage historical data provided by Zillow through Kaggle in addition to Zillow's official database
Cost analysis guiding rent-or-buy recommendation is complicated	Collaborate within team to keep the algorithm simple, yet robust
Information conveyed by COBRA could mislead a user	Provide a disclaimer on the website detailing the experimental nature of the tool
COBRA interface could be difficult to digest	Apply learnings from CSE6242 to create simple, yet compelling visualizations

Costs:

- A website domain costs approximately $20. No other costs anticipated.
- Estimated 3 months development for each team member. See Project Plan on next slide for details.

Project Milestone and Activities



Milestones/Deliverables Planning	Delivery Date
Milestones 1: Researching to deciced project topic.	9/16/2019
Milestones 2: Proposal preparation	9/25/2019
Milestones 3: Deliver Proposal Document	10/11/2019
Milestones 4: Algorithm implementation	10/25/2019
Milestones 5: Visualization implementation	11/1/2019
Milestones 6: Deliver Progress Report	11/8/2019
Milestones 7: Final Validation (testing and fixing defect)	11/18/2019
Milestones 8: Poster Presentation Design	11/25/2019
Milestones 9: Deliver Final Report and Poster Presentation Video	11/29/2019

Project activities include:

- A plan to organize objectives, milestones, deliverables, risks
- A task schedule to keep progress on-track
- Weekly meeting to update tasks, risks, issues and testing results

Thank you!

If you have questions about COBRA, contact a member of our team:

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