



GT RENT

----house rent web app for GT students

#20 The Incredibles

Kai Lu, Qi Ge, Jiahao Luo, Shuo Huang, Cheng Chen

03/10/2016

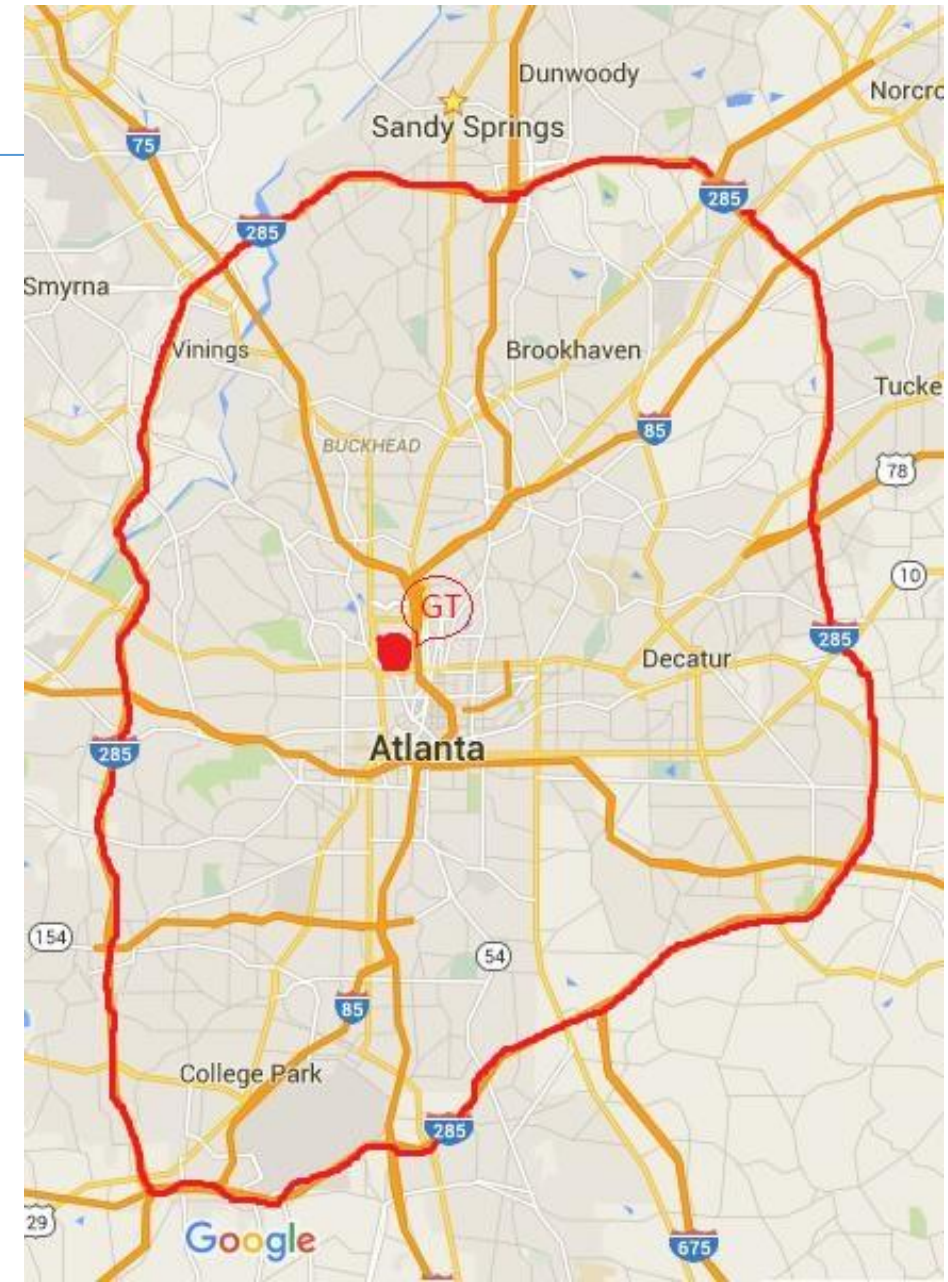
Index

- Introduction
- Method
- Progress
- Future plan
- Discussion
- References



Introduction

- Most students live off campus
- Empower students with data, inspiration and knowledge around the school local and find a better and satisfying living place
- Collection range within the area surrounded by I-285 highway
- Affecting factors include position, price, crime rate, restaurants and entertainments



Introduction

- Data source:
Zillow, Google, Yelp, Atlanta local crime
- A web application platform can visualize and provide best local information to Georgia Tech students



Method

- Build up the Density based clustering and HDBSCAN-1D model in the decision making system^[1]
- Google API:
Hybrid cumulated kNN searches^[2]
- Zillow API:
Rental fees
GetDeepSearchResults API: Property details



Method

- Yelp api:
 - (1) Search base point: longitude and altitude of property
 - (2) Search radius: one mile for walking and five miles for driving
 - (3) Locations and reviews of retailing and entertainment services in the range



- Atlanta local crime database:



- (1) Google Maps Geocoding API, Geocoding to convert addresses into geographic coordinate
- (2) Five years



Progress

- Survey
- Plans
- Data search and clean:
 - (1) Collect and clean the target property locations and their vicinity details
 - (2) Fetch the related rental information of the objective addresses
 - (3) Gather the crime informations within Atlanta for last five years
 - (4) Collect rating and categorical informations of surrounding services



Future plan

- Mar.9 -Mar.18:
 - (1)Discover the correlation coefficient between different affecting factors
 - (2)Design a best model for renting rank
- Mar.19 - Apr. 19:
 - Build a webapp which provide the flexible choices for each user to reweight the factors to reflect personal opinion
 - (1)Build web app with Django on AWS.
 - (2)Design the data visual effect with d3.



Discussion

- Limitation
 - (1) APIs (Zillow and Trulia)
 - (2) Law restriction
- Cost
 - (1) Time management
 - (2) Crawling more data than the bar each day



Discussion

- Compare with others tools

(1) Zillow and Trulia: For general home sales and rents, Not target for college students

(2) Our aim: Combining all necessary features and information in a more concise and dedicated way for GT students



Discussion

- Extension

(1) For Emory students?

(2) For employed people's accommodation?



References

- [1] Rahman, Md Farhadur, et al. "*HDBSCAN: Density based Clustering over Location Based Services.*" *arXiv preprint arXiv: 1602.03730* (2016).
- [2] Bae, Wan D., et al. "*Web data retrieval: solving spatial range queries using k-nearest neighbor searches.*" *Geoinformatica* 13.4 (2009): 483-514.



Q&A

Team # 20

Thank you!