INLS 641 NYC Airbnb Visualization Project Presentation

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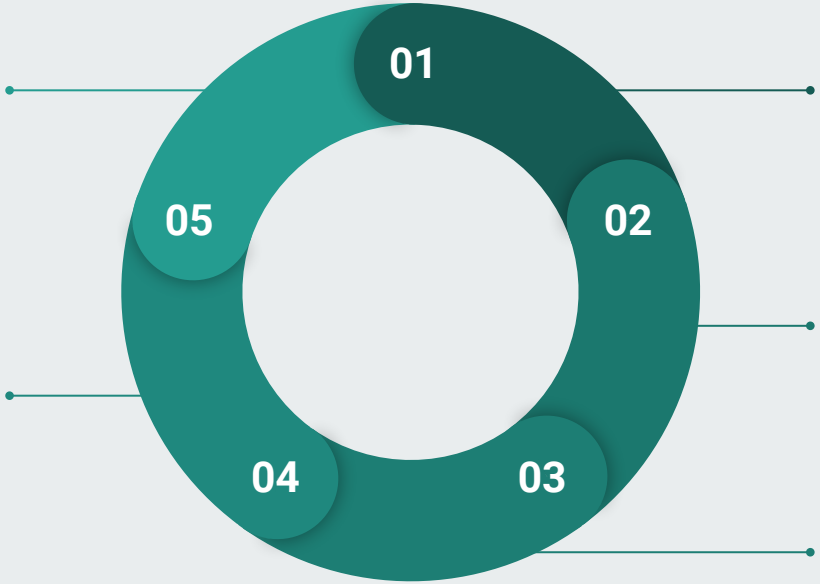
Presentation Outline

Conclusion

Live Demo



Introduction to the data and research questions

Our process to develop solution design

Our final design

Research Questions

- Which neighborhoods in NYC are popular for Airbnb service?
  Which neighborhood has more available rooms for listing?
- What are the average prices of these neighborhoods?
  Which areas are pricier compared to others?
- Which room types are booked more frequently?
  Do people have preference for short term or long term stay in NYC?

Tasks

- Price Trends
- Popularity Trends
- Listings Availability

Dataset from Kaggle

https://www.kaggle.com/dgomonov/new-york-city-airbnb-open-data

Process to Develop Solution Design

- Raw dataset eg. listing ID, host_name, neighbourhood_group, latitude…
- Pick up some of the fields, based on our objectives.

Process to Develop Solution Design

Objective 1: Price in all locations

- Fields: “*latitude*”, “*longitude*”, “*price*”, “*room_type*”, “*neighbourhood_group*”
- Visualization: **Scatter Plot**, color_coded range

Process to Develop Solution Design

Objective 2: Price in five neighborhood areas- Brooklyn, Manhattan, Queens, Staten Island, Bronx

- Fields: "*price*", "*neighbourhood_group*"
- Visualization: **Violin Plot**: show density and distribution of prices in the five neighborhood groups

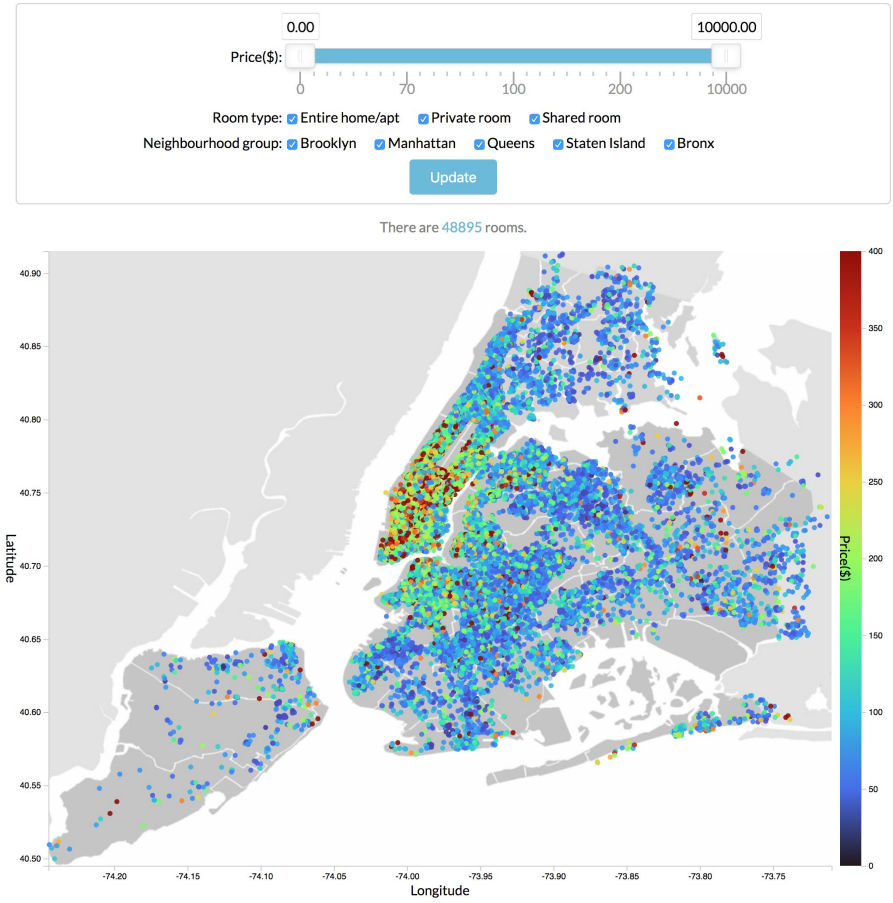
- Fields: "*minimum_nights*", "*id*"
- Visualization: **Histogram**: show number of short term/long term rooms

Process to Develop Solution Design

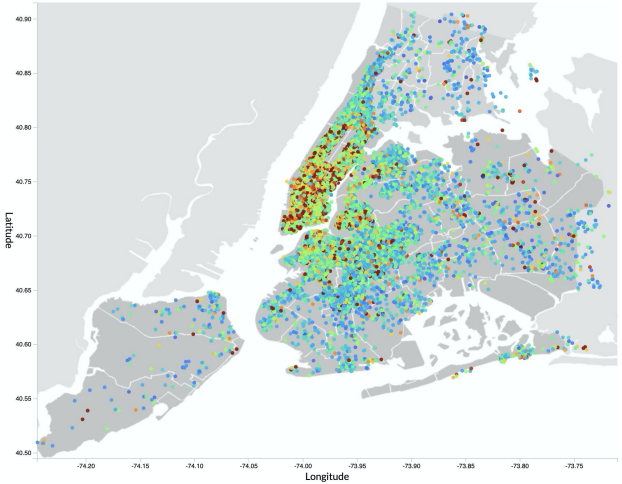
Objective 3: details for availability and popularity of the 200 neighborhoods

- Fields: “*availability_365*”, “*neighbourhood*”
- Visualization: **Bar Chart**: calculate average available days in a year for every neighborhood; show the number of rooms for every neighborhood.

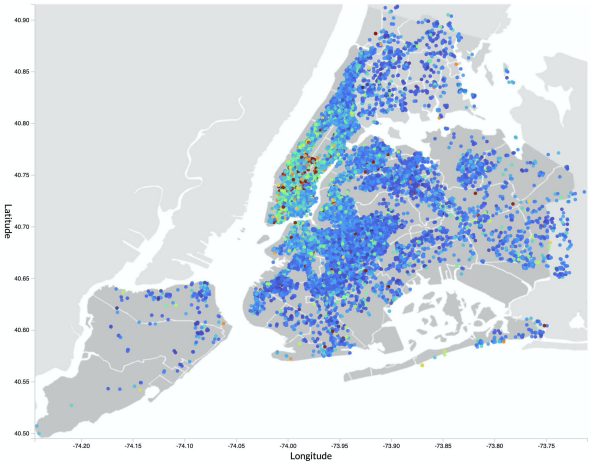
The visualization of NYC Airbnb



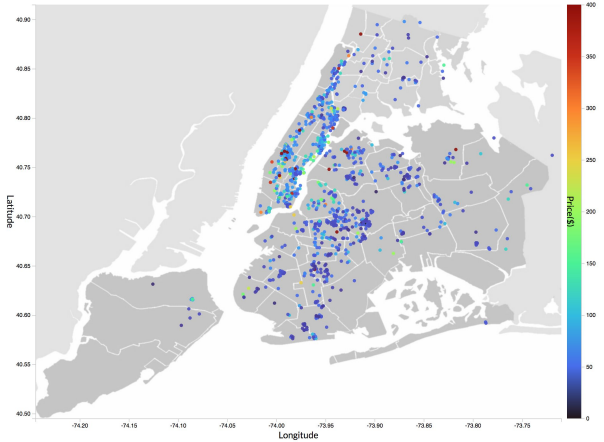
Entire Apartment vs. Private Room



Entire Apt: 25409 listings

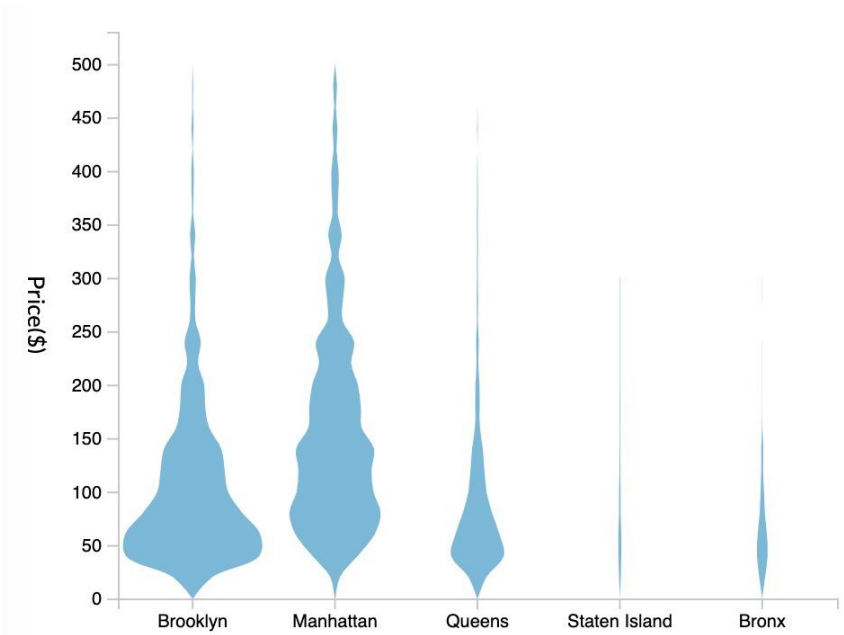


Private Room: 22326 listings

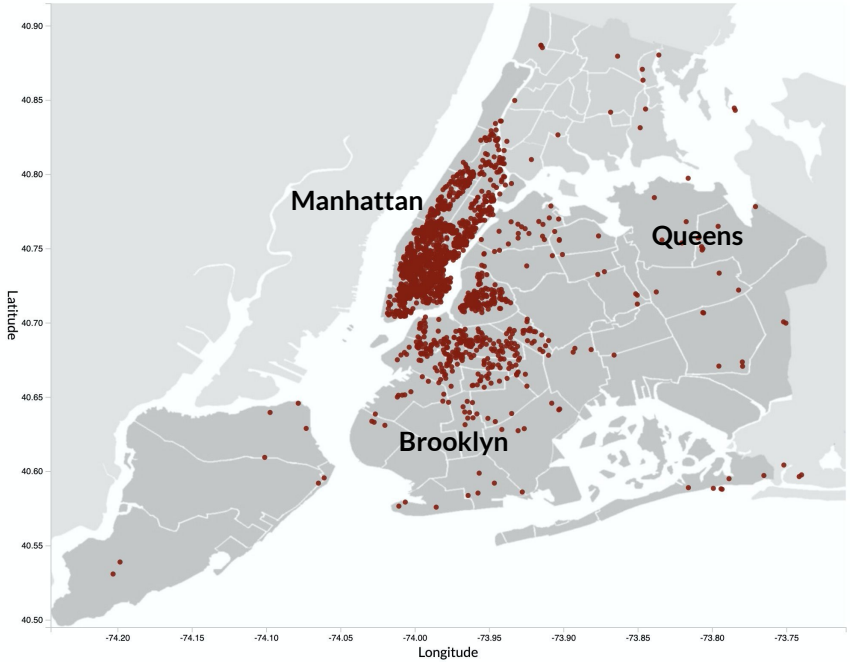


Shared Room: 1160 listings

Price Distribution



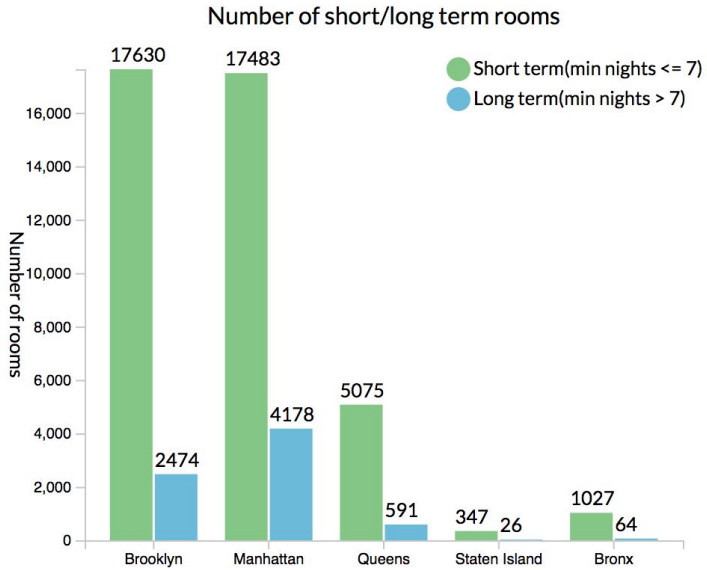
Violin plot of price distribution



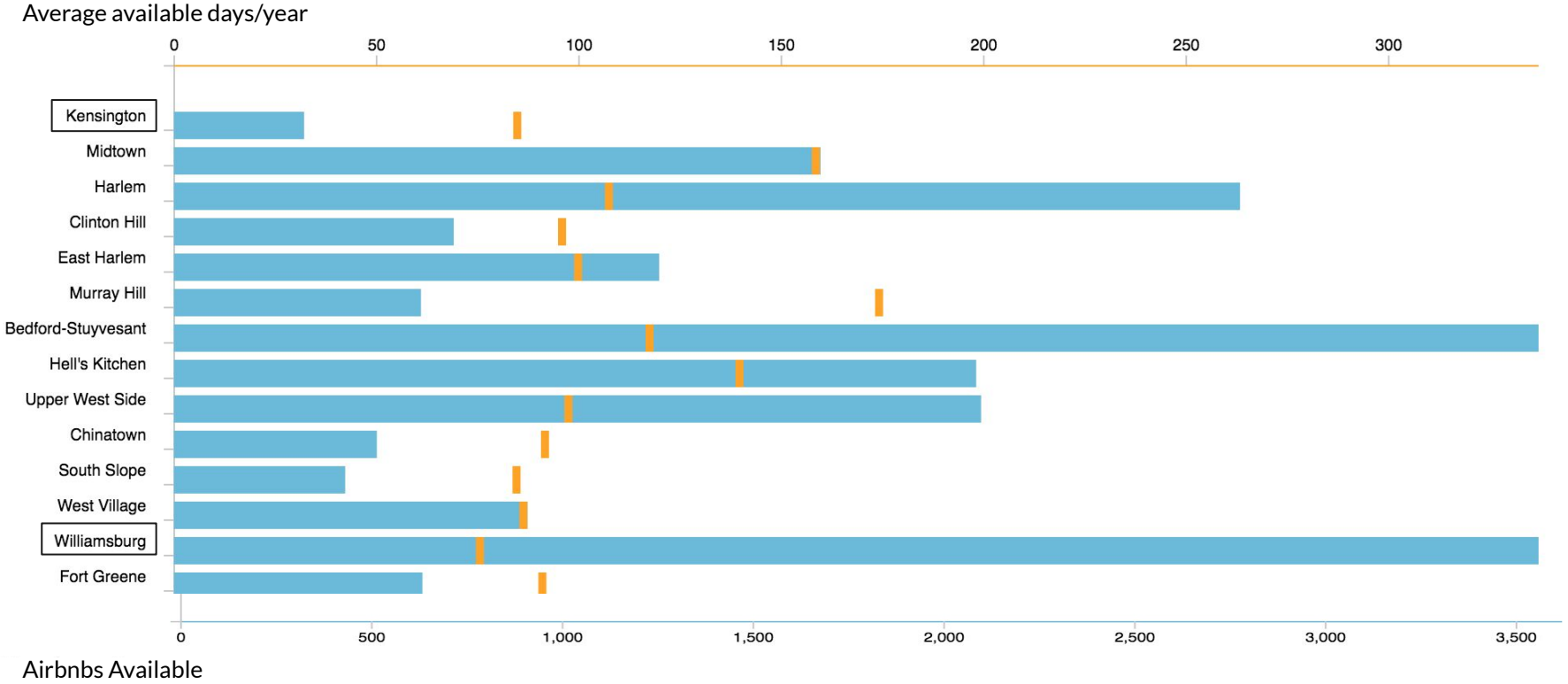
Listings of more than $400/night

Manhattan is pricey!!

Short and long term rooms by Neighbourhood



Neighbourhoods and their availability



Demo

https://github.com/imyuanwen/nyc-airbnb

https://imyuanwen.github.io/nyc-airbnb/

- We put our code, data and assets on a Github repository.
- Use Github pages to present our prototype.

Summary of Contribution

- Suchi
- Rui
- Eddie
- Cody

Conclusion & Lesson Learned

- D3 & SimpleStats
- Different visualizations for different data
  - (scatter plot, violin plot, bar chart)
- Usability

Thank You