Project Proposal

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Project Name: Airbook

Project Overview

Why Airbook?

As airbnb does not provide users the whole overview of the places in the list, users need to search a lot information before making the decision which is inefficient and unreliable. Airbook designed to present an overview of the neighborhoods in NYC to help travelers efficiently make a wise choice of stay place through organizing,computing and visualizing the comprehensive data represented as map.

What is Airbook?

This project aims to build a website for users to get a roughly view of the neighbourhood environment and Airbnb market in NYC.Travelers can take price, safety and convenience into consideration in order to make a wise choice. Hosts can make better pricing strategies according to the market conditions e.g. availability.

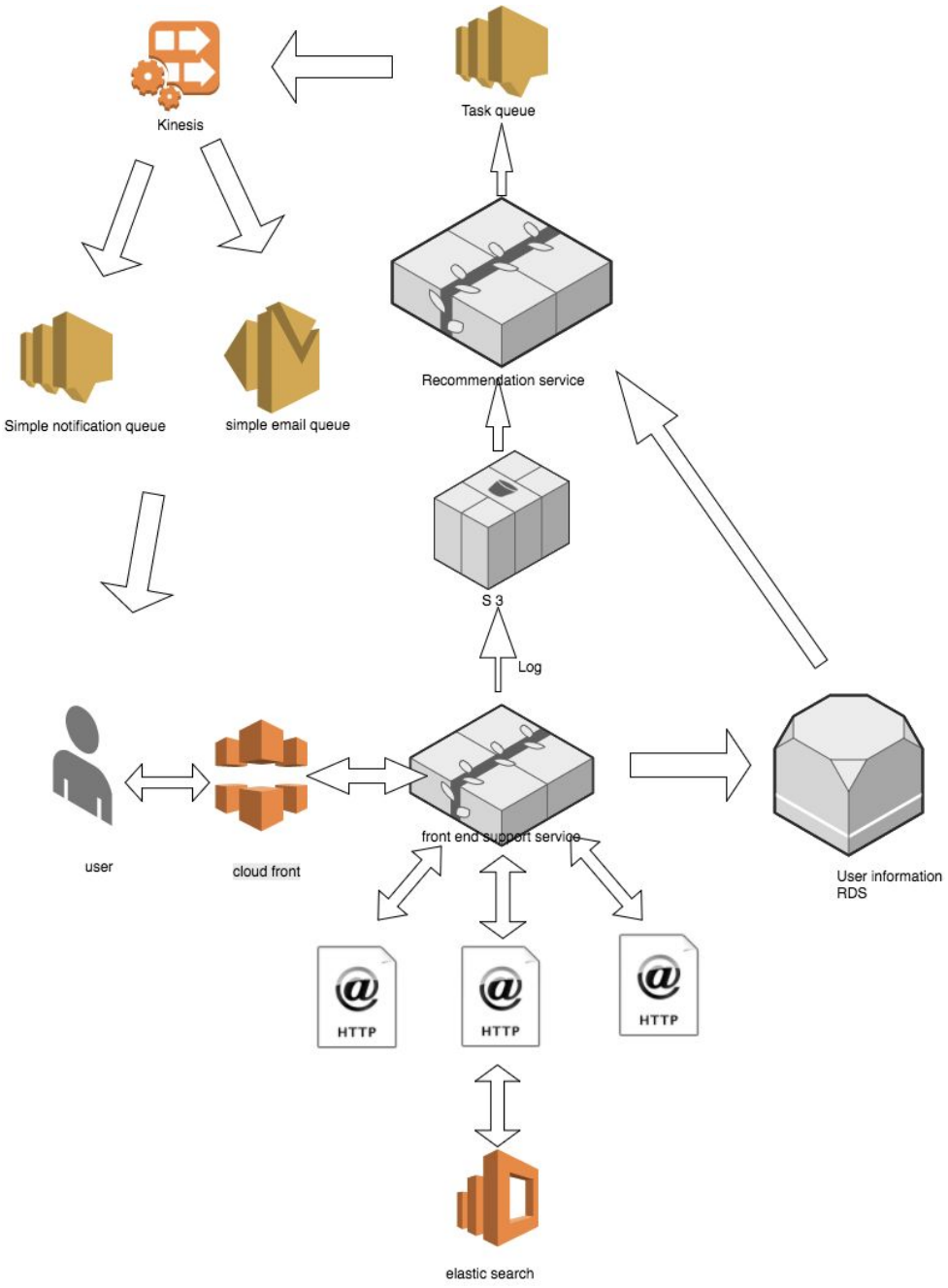
Project Detail

This project is going to be implemented as a web service deployed on Amazon Web Service(AWS) with elasticsearch, elastic beanstalk and other services. Getting scraped data from Airbnb and crime data provider websites, classify, analyze and visualize the data. The backend is proposed to follow Django framework. The frontend will be involved with some fashionable JavaScript tech stack such as AngularJS, React.

Architecture Diagram

- **Elasticsearch**: Filter the original data
- **Front End Support Service:** Deal with the request from the front and back end

- **User Information RDS:** Database to save user information
- **Cloud Front:** front end display to the user
- **S3**: Save the logs and static files
- **Recommendation Service:** Analysis the logs and send email of the preference analysis to the user
- **Kinesis:** Analysis the logs



Schema(Relational database)

User.table is used to store the basic information of user

User	
Field	Type
useremail	varchar(45)
username	varchar(45)
password	varchar(45)
phone	varchar(45)

Tag table is used to store the user preferences which will be used in recommendation function.

Tag	
Field	Type
tagid	int
useremail	varchar(45)
location	varchar(45)
roomtype	varchar(45)

Achieved Goals

1. Fetched the data from Insight Airbnb and store it into elasticsearch
2. Reindex the data in elasticsearch for easier searching
3. Implemented basic backend website framework and front-end style
4. Implemented search function in elasticsearch with python based on geographic location and other filters
5. Display the search result with an front-end Ajax call and google map api, which makes the website interactive
6. Deigned Schema for recommendation system

Further Goals

1. Integrate with Airbnb and fetch the real time search result from Airbnb
2. Display the criminal level color on the search result of Airbnb
3. Display the review level spots on the search result of Airbnb
4. Display the price level spots on the search result of Airbnb
5. Display the price trend analysis page of the search area

6. Implement the preference recommend email system

Github Initial Release

https://github.com/lilixu93/AirBook/releases/tag/1.0

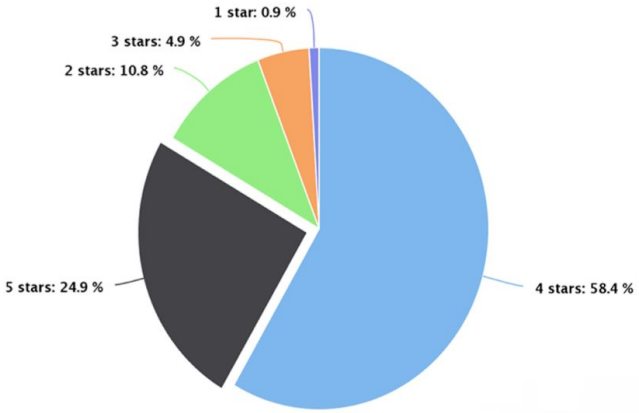
Screenshot of Prototype

https://invis.io/B5B4KSW9Q

NYU Tandon | Private Room | Help | Sign Up | Log In

SEARCH RESULT | CRIMINAL MAP | OVERALL REVIEW | PRICE TREND

Customers Reviews About this Area



Gloria
March 2017

Fantastic host!! Went above and beyond to check my daughter and myself in, I was almost 3 hours late (thanks to the parade that was going on). The view from our room was fabulous and super clean. Walking distance from just about everything someone can be looking for (literally). I highly recommend Bar's place, so much better than a hotel. Thanks again for hosting us.

Report | Helpful

Martin
March 2017

We enjoyed another fine stay. Thank you!

Report | Helpful

Martin
February 2017

Perfect place as a home for my stay in NYC. Host is great!

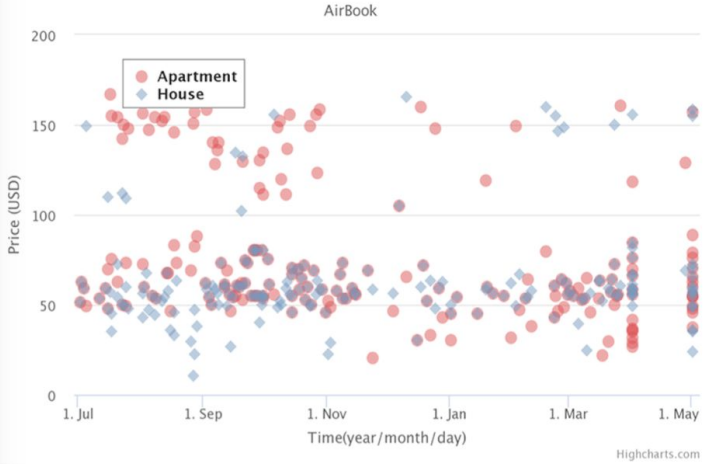
Report | Helpful

Language and currency

NYU Tandon | Private Room | Help | Sign Up | Log In

SEARCH RESULT | CRIMINAL MAP | OVERALL REVIEW | PRICE TREND

Month Versus Price of Housing by Type



Room Type

Only entire homes/apartments

Airbnb hosts can list entire homes/apartments, private or shared rooms.

Depending on the room type, availability, and activity, an airbnb listing could be more like a hotel, disruptive for neighbors, taking away housing for New Yorkers, and illegal.

49.5%
entire homes/apartments

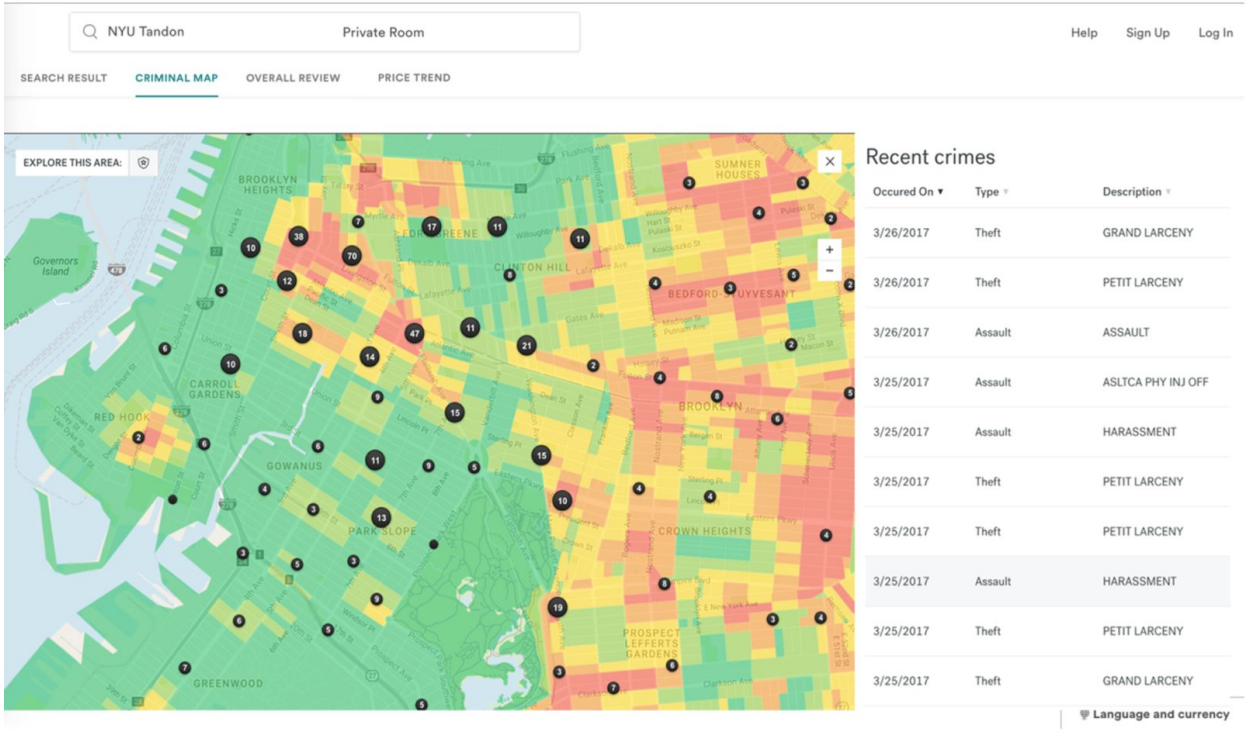
$147
price/night

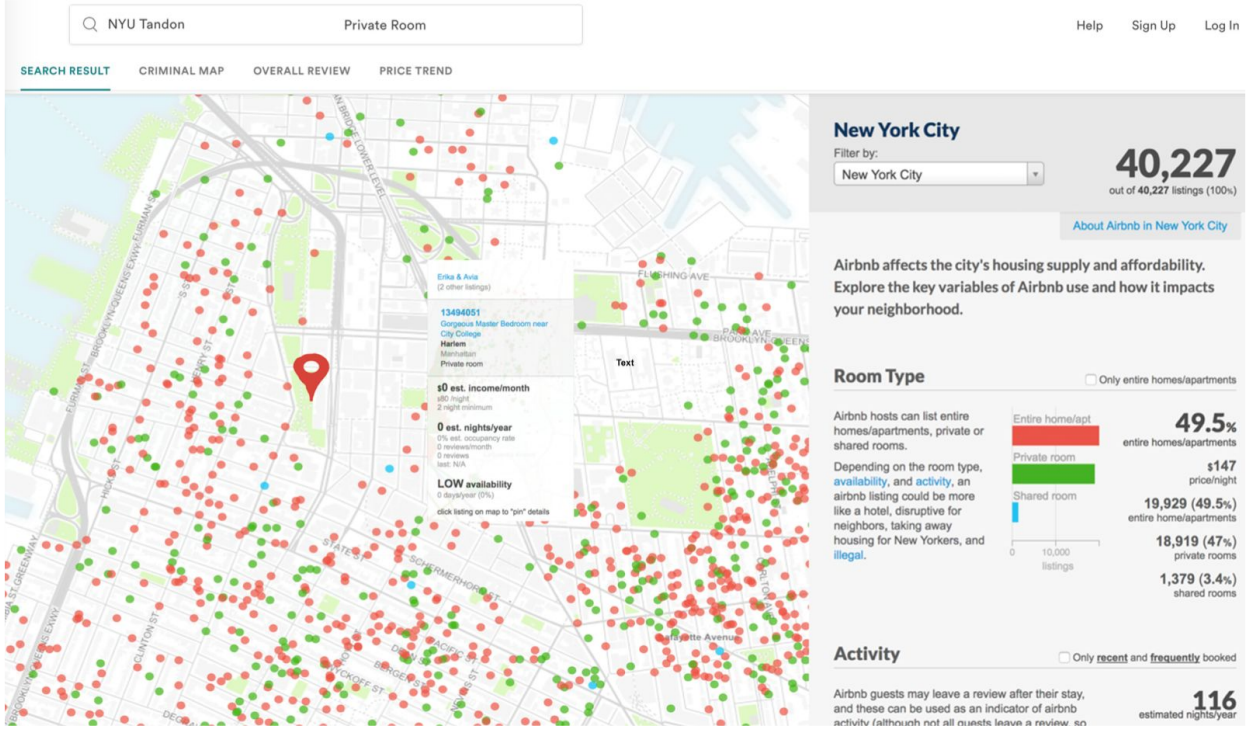
19,929 (49.5%)
entire home/apartments

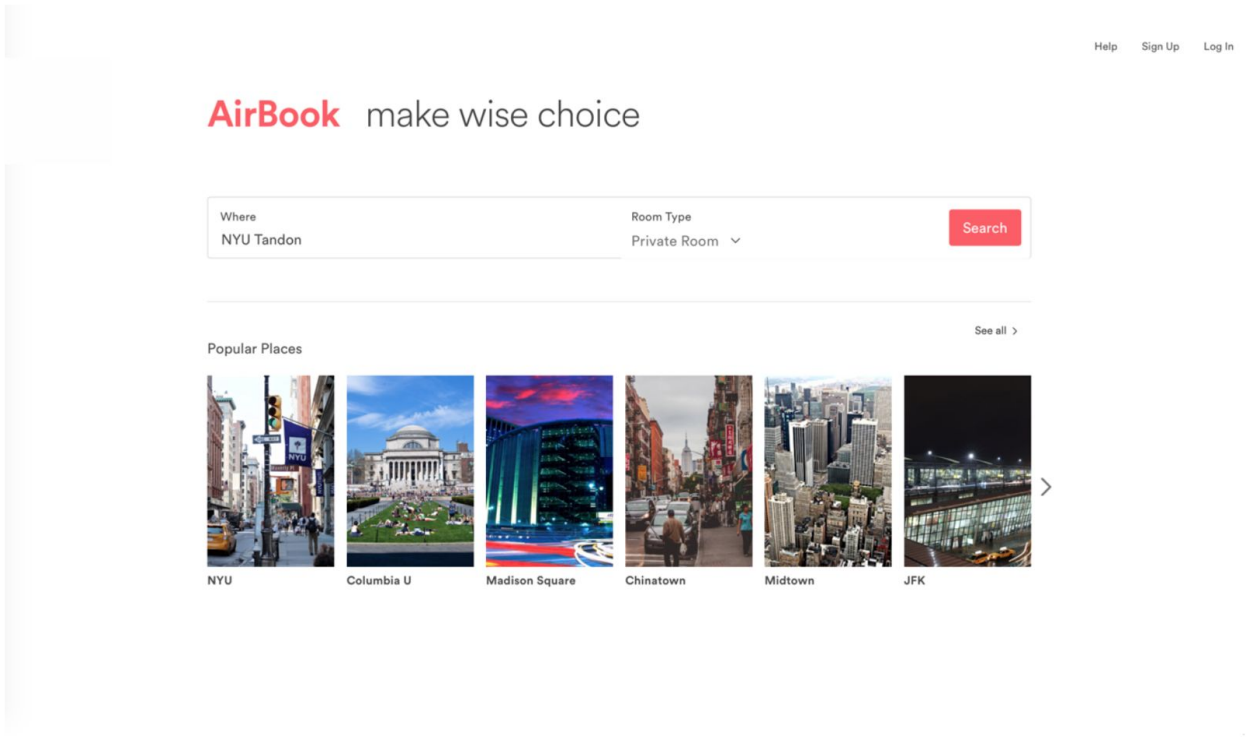
18,919 (47%)
private rooms

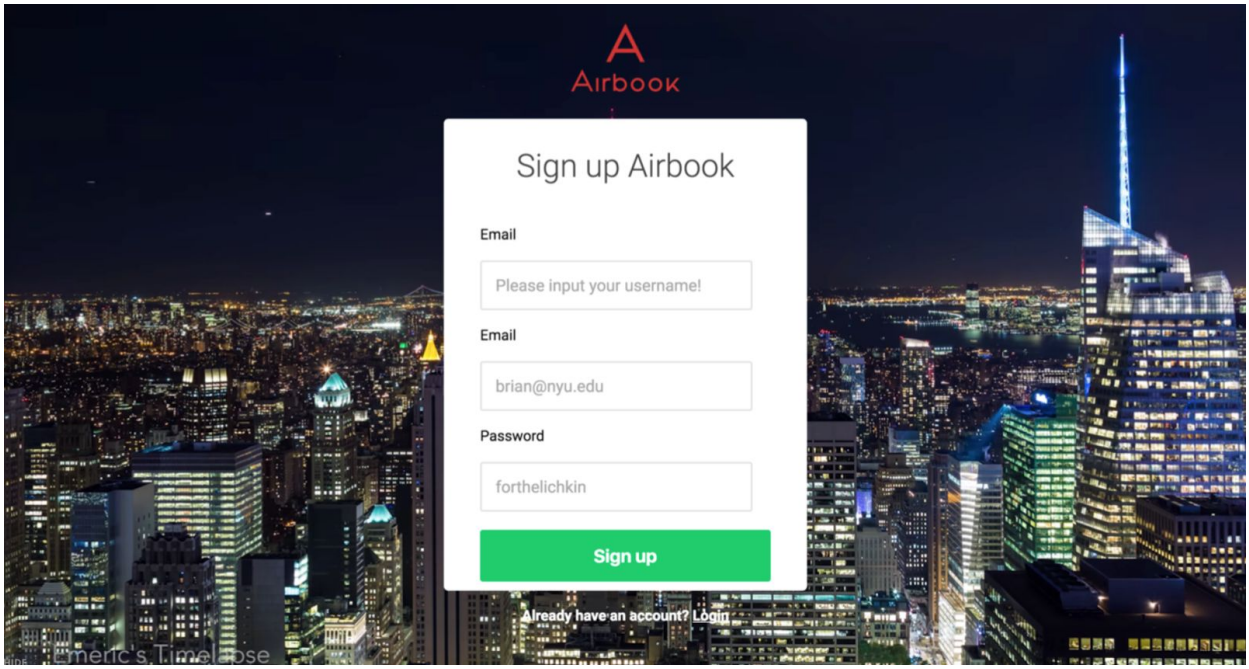
1,379 (3.4%)
shared rooms

Language and currency


NYU Tandon
Private Room
Help
Sign Up
Log In
SEARCH RESULT
CRIMINAL MAP
OVERALL REVIEW
PRICE TREND
EXPLORE THIS AREA:
Recent crimes
Occured On
Type
Description
3/26/2017 Theft GRAND LARCENY
3/26/2017 Theft PETIT LARCENY
3/26/2017 Assault ASSAULT
3/25/2017 Assault ASLTCA PHY INJ OFF
3/25/2017 Assault HARASSMENT
3/25/2017 Theft PETIT LARCENY
3/25/2017 Theft PETIT LARCENY
3/25/2017 Assault HARASSMENT
3/25/2017 Theft PETIT LARCENY
3/25/2017 Theft GRAND LARCENY
Language and currency


NYU Tandon
Private Room
Help
Sign Up
Log In
SEARCH RESULT
CRIMINAL MAP
OVERALL REVIEW
PRICE TREND
New York City
Filter by:
New York City
40,227
out of 40,227 listings (100%)
About Airbnb in New York City
Airbnb affects the city's housing supply and affordability. Explore the key variables of Airbnb use and how it impacts your neighborhood.
Room Type
Only entire homes/apartments
Airbnb hosts can list entire homes/apartments, private or shared rooms.
Depending on the room type, availability, and activity, an airbnb listing could be more like a hotel, disruptive for neighbors, taking away housing for New Yorkers, and illegal.
Entire home/apt
Private room
Shared room
0
10,000
listings
49.5%
entire homes/apartments
$147
price/night
19,929 (49.5%)
entire home/apartments
18,919 (47%)
private rooms
1,379 (3.4%)
shared rooms
Activity
Only recent and frequently booked
Airbnb guests may leave a review after their stay, and these can be used as an indicator of airbnb
116
estimated nights/year


Help
Sign Up
Log In
AirBook make wise choice
Where
NYU Tandon
Room Type
Private Room
Search
See all >
Popular Places
NYU
Columbia U
Madison Square
Chinatown
Midtown
JFK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Password
forthelichkin
Sign up
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