Design Doc:

Apartment Analysis

Overview

Apartment Analysis is an apartment search web application. It allows searching apartment with the specific criteria and also giving an overview of the neighborhood, employment opportunity and ethnicity.

Major User Cases

1. User can find apartment in a specific area
2. User can filter apartment based on price range
3. User can view analysis report on employment opportunities about the apartment’s neighborhood
4. User can browse apartments in a list
5. User can click on one apartment on the list to view the full listing
6. User can enter his or her phone number to receive update about housing

High-level Stack Diagram

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| --- | --- |
| Stack | Technologies |
| Frontend - client | React |
| Frontend - server | Node.js, Mongo DB, Nginx |
| Backend (scraper) | Nginx, Flask, RabbitMQ, Mongo DB |

Detailed Design

React will be used as frontend client because React is light weight since it is a JavaScript library. The web app is component Based. Every component manages its own state, thus ensuring fast rendering.

React-svg-piechart will be used to display employment opportunities.

Twillo will be used to update housing information because it supports programmable SMS

Google Map API will be used to obtain the street view of the house

RabbitMQ is used to store housing information temporarily. The information will be pulled down for modification such as adding street view, and store it to Mongo db.

Population: White, Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, Other

Off Line Scraping Data

Store housing data to mongo DB

queue

Filter housing

Match area,

Add nearby transit, add street view

Get housing list

craigslist

Location, price range, neighborhood, job

ON Line

Mongo DB

Node JS

React Front End