Technical Report

Motivation

https://www.perfectfitfor.me/ is a website that allows for a mass congregation of data about different cities, including stats about that city, relevant transportation lines, and job listing in that city.

There are a lot of factors involved in determining where you want to live. For example, many parents would be concerned about the quality of education in a certain region, or commuters would be concerned about traffic ratings. Since there are so many data points involved in deciding where you want to live, we decided to make a website to display many important stats about different locations. Our website provides current job listings, and links them to the cities they're in, as well as information about transportation in that city. Since many of us are planning on working at big companies after we graduate, we thought that having this website would allow us to have some insight on what place we would like to live.

Models

We use three core models: jobs, cities, and transportation lines. We obtain the jobs from both Indeed's and Glassdoor's open source APIs. We obtain the cities from the Teleport API. Finally, we obtain the transportation data from the HERE API.

Relevant attributes about jobs include location, job title, type, job description, as well as several data points provided by the APIs.
Relevant attributes about cities include cost of living, education, safety, travel connectivity as well a few other attributes that we may include.
Relevant attributes about transportation lines include how many routes there are, the stops along the route and the location of the routes.

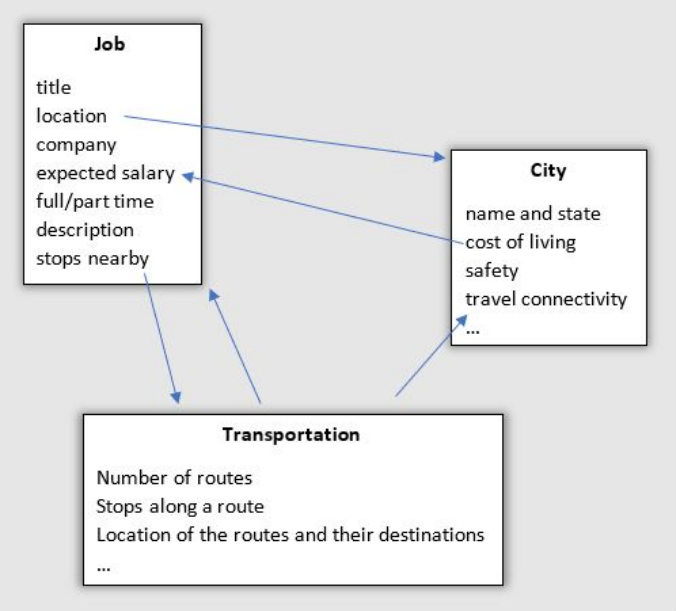

Figure 1

These models directly relate to one another. There is a relationship between jobs and cities naturally, because jobs fall within cities. The attributes of cities show how good a city is, so a user can make a decision if a job is worth it based on the quality of a city. Transportation falls into this,

because cities have various forms of transportation, and transportation may be an important factor in choosing a job or a city in which to live.

We are still debating whether we will keep transportation or not. In further phases, we may choose to switch to something else that more directly relates with cities and jobs. As of now, it fits.

User Stories (As Developer and Customer)

As a consumer to Local Rec:

- User story #1: Make it so you don't have to click details to redirect to an instance. You could click anywhere in the box to redirect. It seems more intuitive
- User story #2: Change the website title from 'React App' to something more meaningful
- User story #3: I think you should try to put a container around the elements in your about page so that each person's descriptions have even dimensions.
- User story #4: Maybe switch the instances' boxes so that the other attributes show instead of the description, so you can maintain the same sized boxes.
- User story #5: On the tab in your browser, you should implement a custom browser icon instead of the default react one.

As a developer:

- User story #1: Dropdown button leads to error page
    - This was an issue with a template we were using, and has been resolved.
- User story #2: As a user, I would like to see more options on your home page.
    - As was mentioned in the closing comment, we plan on using a drop-down element to include visualization pages, but using drop-downs for the models does not make sense for us since there are many instances for each model.
- User story #3: The block in about page is not same size
    - The problem was in the HTML formatting. We were able to completely fix this bug.
- User story #4: Mobile is not compatible yet
    - This was deemed as outside of the scope of Phase 1, but we will be implementing better mobile compatibility in the future. In the meantime, the user can ‘Request Desktop Site’ on most major mobile browsers.
- User story #5: The job model description
    - We understand the customers’ concern for more attributes on the job model, as we only met the 5 attribute criteria. As we get more familiar with the API and may be look into other ones, we will address these additional attributes in the next phase.
- User story #6: The transportation page formatting

- We fixed the spacing issues in the transportation page by adding appropriate margins, and closed the issue.

RESTful API

API Documentation: https://documenter.getpostman.com/view/6836390/S11LuJgi

As our API has not been set up yet, documentation shows what some example requests and responses would look like. GET requests will return a list of instances based on which model is requested. With a unique ID, a particular instance of a model can be returned. All requests will be returned in JSON format.

Tools

Our front end currently uses React.JS for making more modular components for our website, and React Bootstrap and React Router for making writing the React code more convenient for us, as well as to make our website look better and render components quicker.

The back end will use Python, Flask, Flask-Restless, and SQLAlchemy as its framework in the future. The API is documented with Postman, and will be implemented with it as well. MySQL or PostgreSQL will be used for the database, and will be stored using Amazon RDS.

Hosting

The website is currently hosted on an AWS server through S3's static website hosting. Our custom domain (https://www.perfectfitfor.me/) is hosted through Namecheap, which is connected to our Cloudfront domain (https://d20zyjv6hzsjz6.cloudfront.net/), which is finally connected to our S3 domain (http://perfect-fit-for-me.s3-website.us-east-2.amazonaws.com/).

In the future, we may switch to using the Amazon IaaS (EC2) due to the fact that this Amazon-offered service offers developers the most control over their host environments. With S3 and PaaS services we have used in the past, much of the hosting process was abstracted away from us, which made troubleshooting more difficult.