Project Proposal: Ann Arbor Yelp Restaurant Visualization

Overview

This project will analyze and visualize Yelp restaurant data for Ann Arbor, stored in a local JSON cache to minimize API calls.

Data Access and Storage

Caching: Raw restaurant data from Yelp API is stored in a JSON file.

Usage: Data processing code retrieves restaurant information directly from this cache.

Data Processing

We will manipulate the data to create a Tree structure, grouping restaurants based on categories, ratings, or location.

Various filtering and aggregation operations will be applied to support diverse visualizations.

Data Presentation

Two approaches will be considered for data presentation:

1. **Command Line Interface**
- Interactive prompts for data selection.
- Use of plotly for visualization.
2. **Flask Web Application**
- HTML forms for data selection.
- Display data using HTML tables and charts.

In both cases, users can interrogate the dataset in 4 distinct ways to gain insights into Ann Arbor's restaurant scene.

Deliverables

A local JSON cache of Yelp restaurant data.

A Tree structure representing restaurant relationships.

An interactive interface for data visualization and analysis.

Example of the data in json file:

{"id": "uTMqhmpgfpDMLN3W3YvMeQ", "alias": "frita-batidos-ann-arbor", "name": "Frita Batidos", "image_url": "https://s3-media3.fl.yelpcdn.com/bphoto/ZbbAL52xtE-3WvhGr74Irw/o.jpg", "is_closed": false, "url": "https://www.yelp.com/biz/frita-batidos-ann-arbor?adjust_creative=rGG6cV2DTfaTeolnc46PIw&utm_campaign=yelp_api_v3&utm_medium=api_v3_business_search&utm_source=rGG6cV2DTfaTeolnc46PIw", "review_count": 2230, "categories": [{"alias": "cuban", "title": "Cuban"}, {"alias": "burgers", "title": "Burgers"}], "rating": 4.5, "coordinates": {"latitude": 42.2803651, "longitude": -83.7491532}, "transactions": ["delivery"], "price": "$$", "location": {"address1": "117 W Washington St", "address2": "", "address3": "", "city": "Ann Arbor", "zip_code": "48104", "country": "US", "state": "MI", "display_address": ["117 W Washington St", "Ann Arbor, MI 48104"]}, "phone": "+17347612882", "display_phone": "(734) 761-2882", "distance": 783.8571139726386}