

# Overview

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Jelp is a campus-based restaurant ranking platform that helps users to search for ideal restaurants based on their diet and location preferences. Users can use this app to evaluate the restaurants they go by rating from star1~5 (5 stars represents the highest recommendation), which will automatically be shared on Jelp platform. Also, users can use the platform to obtain the information of shuttles or stops that close to the restaurant.

## Relational Diagram

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- ER schema and diagram.

### Entity:

City ( **ctyId**, ctyName, ctyPoppulation, ctyRace, ctyIncome, ctyAge )

Restaurant ( **rstId**, rstName, rstPrice, rstStreet, rstZipcode, rstCity, rstState, rstPhoneNo, rstRating, rstCategory, rstReviewCount, rstLocation, -rstLatitude, -rstLongitude)

User ( **usrId**, usrName)

Review ( **rvwId**, rvwStar, rvwComment )

Shuttle ( **shtId**, shtFrom, shtTo, shtWeekend, shtInterval )

StopLocation ( **stpId**, stpName, stpLocation, -stpLatitude, -stpLongitude)

### Relationship:

Locate: binary relationship

1 Restaurant to 1 City

1 City to 0 or more Restaurant

Pass: binary relationship

1 Restaurant to 0 or more Shuttles

1 Shuttle to 0 or more Restaurants

Comment With: binary relationship

1 User to 1 or many Reviews

1 Review to 1 User

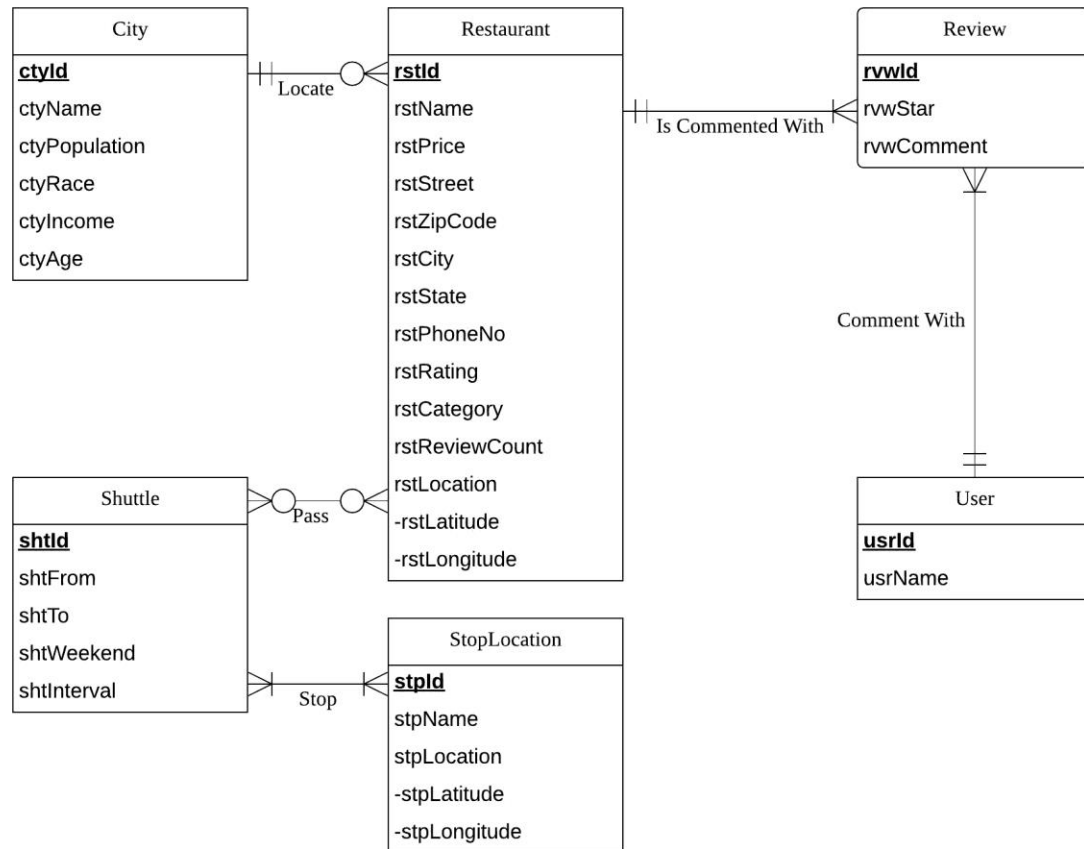
Is Commented With: binary relationship

1 Review to 1 Restaurant

1 Restaurant to 1 or many Reviews

Stop: binary relationship

- 1 Shuttle to 1 or more StopLocations
- 1 StopLocations to 1 or more Shuttles



## Getting Started

### Built With

- [RStudio & R](#) - Fetching Yelp data, Cleaning data
- [Microsoft SQL Server](#) - Building database
- [Tableau](#) - Visualizing

## Preparing

Follow the instruction to install R studio first:

[Download R and RStudio](#)

Install the RStudio package [yelpR](#)

```
devtools::install_github("OmaymaS/yelpR")
```

To use the package, you need a Yelp Fusion account to acquire the user API key.

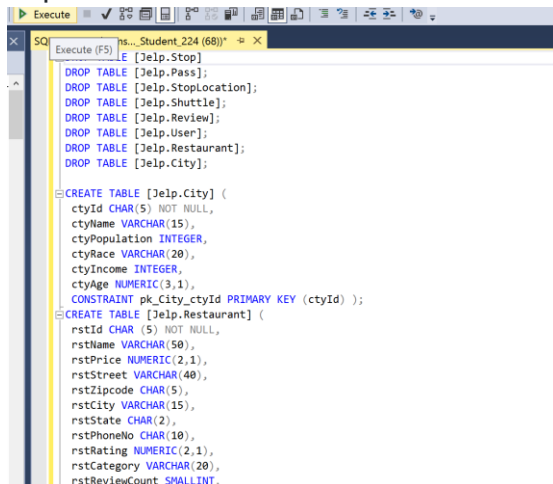
[https://www.yelp.com/developers/v3/manage\\_app](https://www.yelp.com/developers/v3/manage_app)

For the restaurant data you need, execute the R script file to fetch restaurant data you need. You may modify the restaurant keywords to search the location or categories you need. If you wish to fetch more than 50 restaurant data per search, you can use offset features.

More commands please refer to

[https://www.yelp.com/developers/documentation/v3/get\\_started](https://www.yelp.com/developers/documentation/v3/get_started)

The dataset was processed by using R. After cleaning and normalizing the data will output as CSV files.



```
SQL
Execute (F5)
hs...Student_224 (68)*
[JeIp.Stop]
DROP TABLE [JeIp.Pass];
DROP TABLE [JeIp.StopLocation];
DROP TABLE [JeIp.Shuttle];
DROP TABLE [JeIp.Review];
DROP TABLE [JeIp.User];
DROP TABLE [JeIp.Restaurant];
DROP TABLE [JeIp.City];

CREATE TABLE [JeIp.City] (
  ctyId CHAR(5) NOT NULL,
  ctyName VARCHAR(15),
  ctyPopulation INTEGER,
  ctyRace VARCHAR(20),
  ctyIncome INTEGER,
  ctyAge NUMERIC(3,1),
  CONSTRAINT pk_City_ctyId PRIMARY KEY (ctyId) );

CREATE TABLE [JeIp.Restaurant] (
  rstId CHAR (5) NOT NULL,
  rstName VARCHAR(50),
  rstPrice NUMERIC(2,1),
  rstStreet VARCHAR(40),
  rstZipcode CHAR(5),
  rstCity VARCHAR(15),
  rstState CHAR(2),
  rstPhoneNo CHAR(10),
  rstRating NUMERIC(2,1),
  rstCategory VARCHAR(20),
  rstReviewCount SMALLINT,
```

## Usage

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Now the database is in good shape and you can use the SQL server to write some query statements

Example queries:

What are the average price, average rating and average reviewcounts of each type of restaurant in College Park?

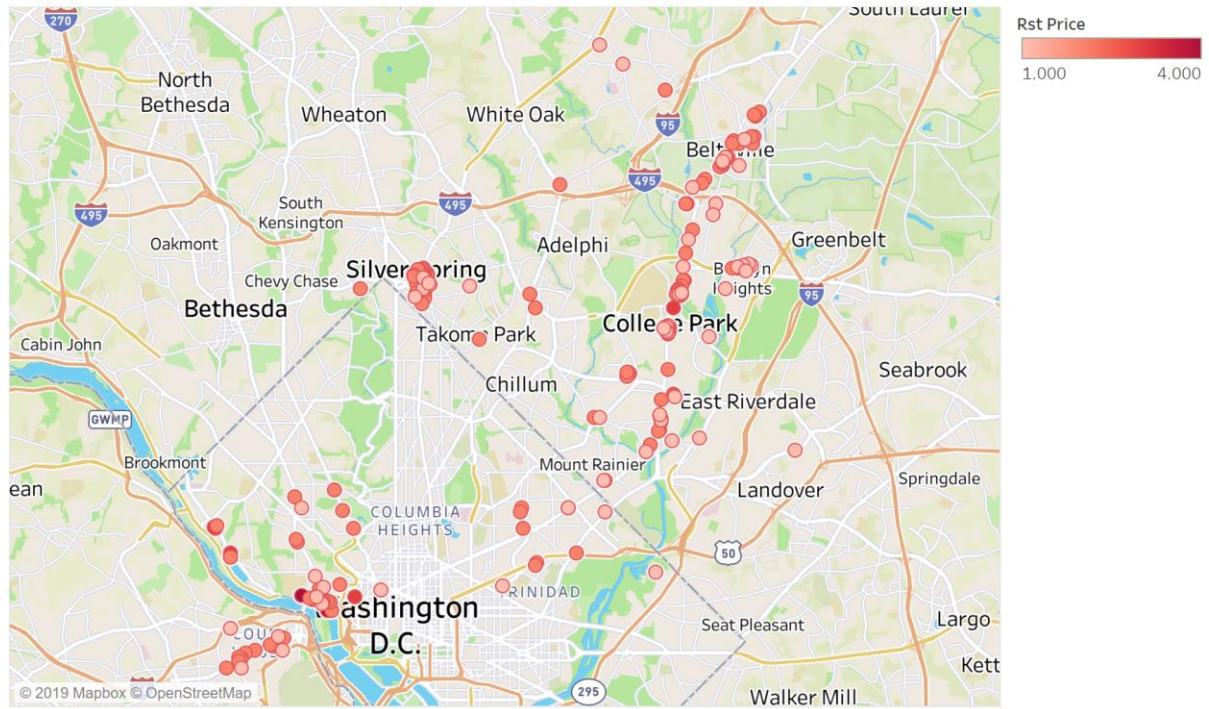
```
SELECT c.ctyName, r.rstCategory, AVG(r.rstPrice) AS 'avg_Price', AVG(r.rstRating) AS 'avg_Rating',  
       AVG(r.rstReviewCount) AS 'avg_ReviewCounts'  
FROM [Jelp.Restaurant] r, [Jelp.City]c  
WHERE r.ctyId=c.ctyId AND c.ctyName = 'College Park'  
GROUP BY rstCategory, c.ctyName
```

	ctyName	rstCategory	avg_Price	avg_Rating	avg_ReviewCounts
1	College Park	afghani	1.000000	3.500000	111
2	College Park	asianfusion	1.000000	3.500000	492
3	College Park	bagels	1.000000	4.000000	260
4	College Park	beer_and_wine	1.000000	4.000000	40
5	College Park	breakfast_brunch	2.000000	4.000000	1910
6	College Park	caribbean	2.000000	3.000000	404
7	College Park	chinese	2.000000	3.500000	317

## Visualizing

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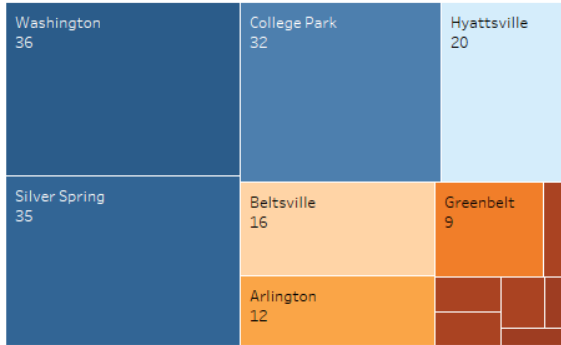
What is the price of all restaurants?



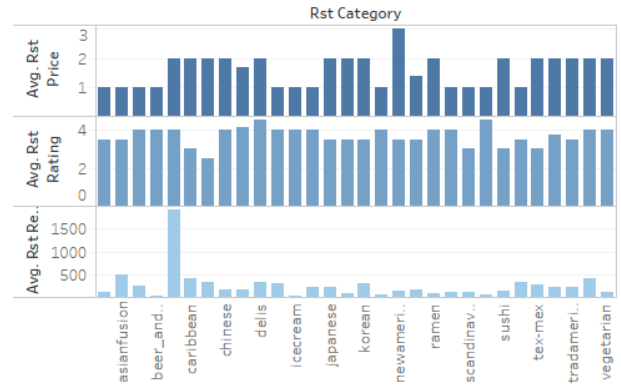
Map based on Rst Longitude and Rst Latitude. Colour shows details about Rst Price.

Example: An overview dashboard of city

How many kinds of restaurants in each city?



What are the average price, average rating and average reviewcounts of each type of restaurant in College Park?



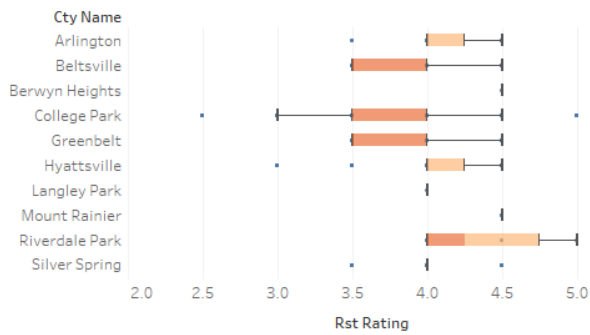
Distinct count of Rst Category



Avg. Rst Price



What is the restaurants rating distribution of each city? Rating Distribution



What's the price level compared to the income in each city?

