Restaurant Reviews In CP

Project_0506_10

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Agenda

- Background
- Mission Statement
- Mission Objectives
- Conceptual Database Design: ER diagram
- Logical Database Design: Relational Schema
- Physical Database Design
- User Cases
- Application

Background

★ **Role** Consultant

★ **Clients**

Customers

To provide customer with useful information to choose excellent restaurants based on the rating score of customers, cuisine, dishes…

Potential restaurant owners or investors

To provide owners and investor with suggestion of what cuisine restaurants are worth investing in and explore new markets.

★ **Data Source**

21 restaurant information and 204 reviews of past one month from Google Map, Yelp and TripAdvisor.

Mission statement

- Restaurant reviews aim to reveal and connect fellow terps with excellent local restaurants, create a fine dining experience and convenience. (--customer)

- Provide opportunities with potential investors based on the distribution and popularity of different cuisine restaurants.
  (--owner and investors)

Mission Objective

For each restaurant name, how many customer reviews, in the order of restaurant name?

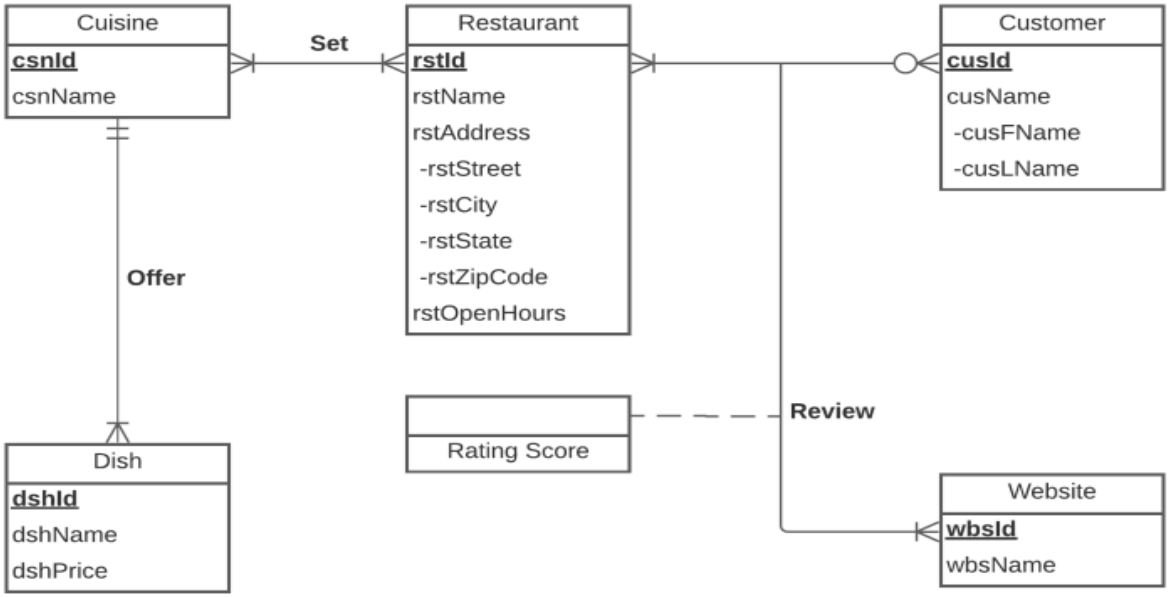
Which restaurants have an average rating score greater than or equal to 4.0?

What is the website with the most reviews from customers?

What are the average rating score and number of reviews of each cuisine?

To find for each cuisine, what are the total reviews on all websites and the reviews from each website?

Conceptual Database Design: ER diagram(Lucidchart)



Restaurant reviews for terps ERD
by BUDT703_Project_0506_10

Entities (5)

Customer
Cuisine
Restaurant
Website
Dish

Relationships (3)

Set
Offer
Review

Logical Database Design: relational schema

Restaurant (**rstId**, rstName, rstStreet, rstCity, rstState, rstZipCode,rstOpenHours)
Customer (**cusId**, cusFName, cusLName)
Cuisine (**csnId**, csnName)
Dish (**dshId**, dshName, dshPrice, *csnId*) *Note: one to many relationship*
Website (**wbsId**, wbsName)
Set (***rstId***, ***csnId***)
Review (***rstId***, ***wbsId***, ***cusId***, ratingScore)

Physical Database Design

For example: [Reviews.Review]

Purpose:
To translate the logical description of data into the technical specifications for storing and retrieving data

Goal:
Create a design that will provide adequate performance and ensure database integrity, security and recoverability.

Physical Database Design

For example: [Reviews.Review]

```
CREATE TABLE [Reviews.Review] (
    rstId CHAR(4) NOT NULL,
    wbsId CHAR(4) NOT NULL,
    cusId CHAR(4) NOT NULL,
    ratingScore NUMERIC,
    CONSTRAINT pk_Review_rstId_wbsId_cusId PRIMARY KEY (rstId,wbsId,cusId),
    CONSTRAINT fk_Review_rstId FOREIGN KEY (rstId)
        REFERENCES [Reviews.Restaurant] (rstId)
        ON DELETE NO ACTION ON UPDATE NO ACTION,
    CONSTRAINT fk_Review_wbsId FOREIGN KEY (wbsId)
        REFERENCES [Reviews.Website] (wbsId)
        ON DELETE NO ACTION ON UPDATE NO ACTION,
    CONSTRAINT fk_Review_cusId FOREIGN KEY (cusId)
        REFERENCES [Reviews.Customer] (cusId)
        ON DELETE NO ACTION ON UPDATE NO ACTION)
```

User Case – Transaction 1

- From the the perspective of customers

For each restaurant name, how many customer reviews, in the order of restaurant name?

```
SELECT r.rstName, COUNT(re.cusId) AS 'Number of Customer Reviews'
FROM [Reviews.Restaurant] r, [Reviews.Review] re
WHERE r.rstId = re.rstId
GROUP BY r.rstId, r.rstName
ORDER BY r.rstName;
```

rstName	Number of Customer Reviews
Aroy Thai Resturant	2
Blaze Pizza	3
CAVA	5
Chick-fil-A	6
College Park Grill	5
Hanami Japanese Restaurant	1
Hard Times Cafe	3
Iron Pig BBQ	15
Jumbo Jumbo Cafe	3
Kangnam Bbq Sports Bar & Grill	9
Mamma Lucia Pizza & Pasta	13
Marathon Deli	31
Northwest Chinese Food	19
Pho Thom	11
Potomac Pizza	6
Qu Japan	2
Sakura Seafood Buffet	36
Seoul Spice	2
SUBWAY	5
Taco Bell	11
Tacos a la Madre	16

User Case 1 – Application (Cont.)
- From the the perspective of customers

For each restaurant, what is the number of customers reviewed, in the order of restaurant Name?

Rst Name	
Aroy Thai Resturant	2
Blaze Pizza	3
CAVA	5
Chick-fil-A	6
College Park Grill	5
Hanami Japanese Restaur..	1
Hard Times Cafe	3
Iron Pig BBQ	15
Jumbo Jumbo Cafe	3
Kangnam Bbq Sports Bar ..	9
Mamma Lucia Pizza & Pas..	13
Marathon Deli	31
Northwest Chinese Food	19
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Qu Japan	2
Sakura Seafood Buffet	36
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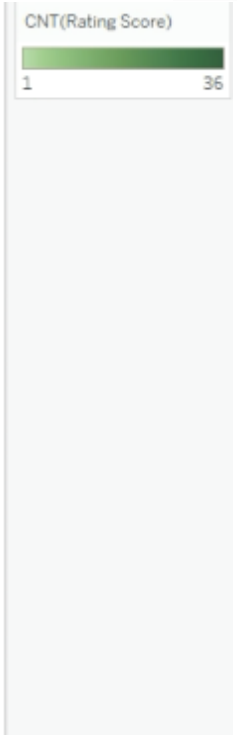


The most popular restaurant was Sakura Seafood Buffet with 36 reviews.

User Case – Transaction 2

- From the the perspective of customers

Which restaurants have an average rating score greater than or equal to 4.0?

```
SELECT r.rstId,r.rstName, AVG(re.ratingScore) AS 'Average Score'
FROM [Reviews.Restaurant] r,[Reviews.Review] re
WHERE r.rstId=re.rstId
GROUP BY r.rstId,r.rstName
HAVING AVG(re.ratingScore)>=4
ORDER BY AVG(re.ratingScore) DESC;
```

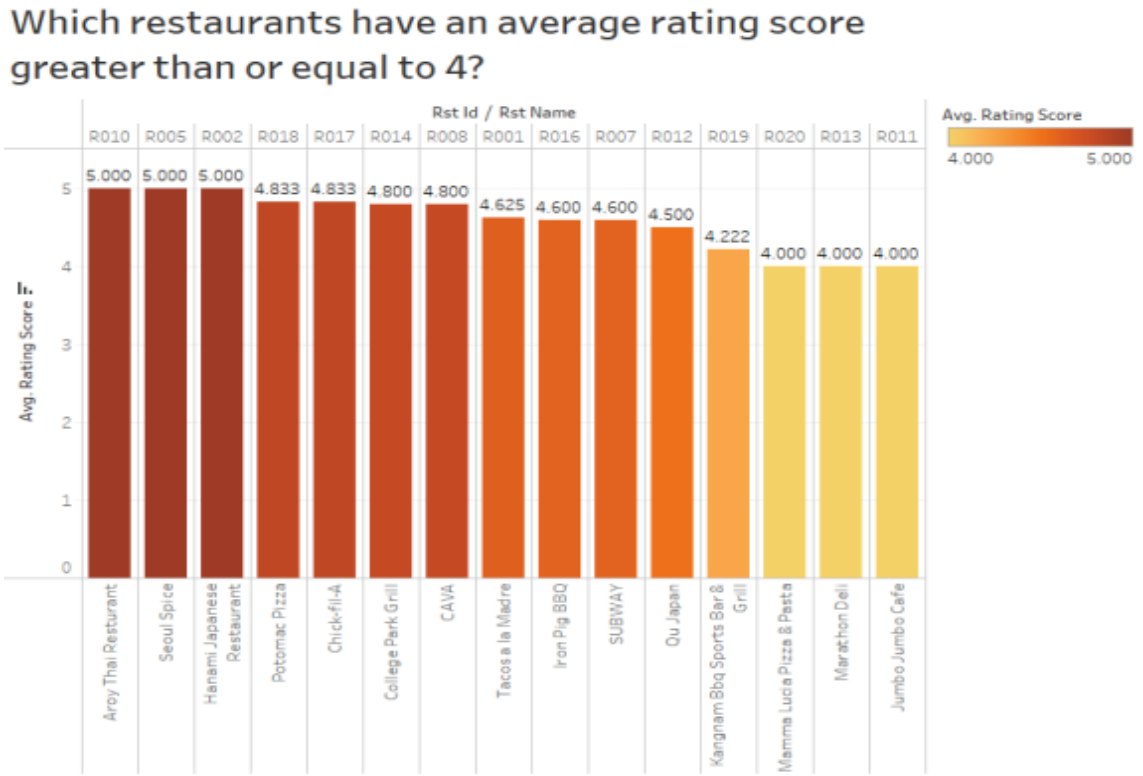
rstId	rstName	Average Score
R002	Hanami Japanese Restaurant	5.000000
R005	Seoul Spice	5.000000
R010	Aroy Thai Resturant	5.000000
R017	Chick-fil-A	4.833333
R018	Potomac Pizza	4.833333
R014	College Park Grill	4.800000
R008	CAVA	4.800000
R001	Tacos a la Madre	4.625000
R007	SUBWAY	4.600000
R016	Iron Pig BBQ	4.600000
R012	Qu Japan	4.500000
R019	Kangnam Bbq Sports Bar & ...	4.222222
R020	Mamma Lucia Pizza & Pasta	4.000000
R013	Marathon Deli	4.000000
R011	Jumbo Jumbo Cafe	4.000000

User Case 2 – Application (Cont.)

- From the the perspective of customers

High Rating Score

Great Dining Experience



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Aroy Thai Restaurant, Seoul Spicy, Hanami Japanese Restaurant are the restaurants with the highest average scores.

User Case – Transaction 3

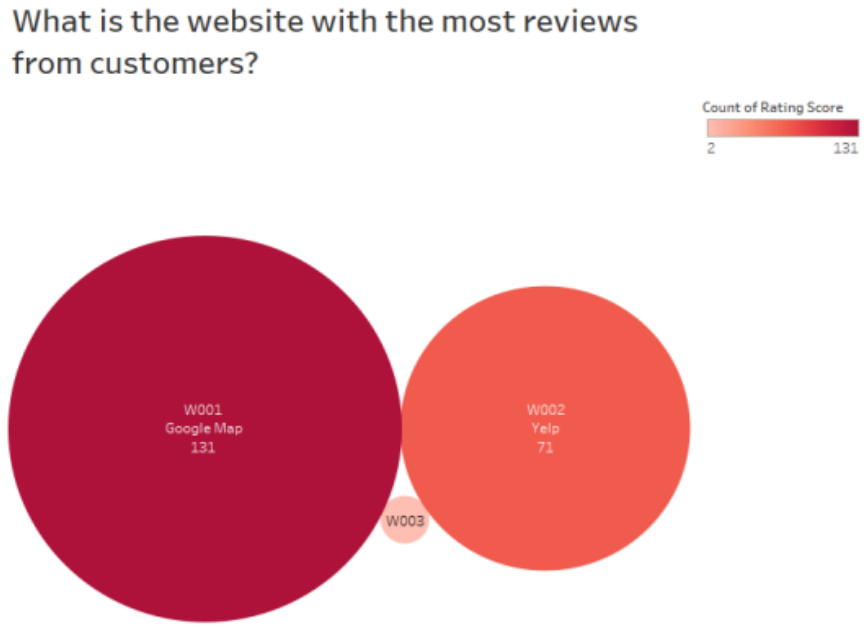
- From the the perspective of restaurant owner or investors

What is the website with the most reviews from customers?

```
SELECT w.wbsId, w.wbsName, COUNT(w.wbsId) AS 'Number of Customer Reviews'
FROM [Reviews.Website] w, [Reviews.Review] re
WHERE w.wbsId = re.wbsId
GROUP BY w.wbsId, w.wbsName
ORDER BY COUNT(w.wbsId) DESC;
```

wbsId	wbsName	Number of Customer Reviews
W001	Google Map	131
W002	Yelp	71
W003	Tripadvisor	2

Customers posted the most comments on the Google Map platform.



User Case – Transaction 4

-From the perspective of restaurant owner or investors

What are the average rating score and number of reviews of each cuisine?

```
SELECT s.csnName, AVG(re.ratingScore) AS 'Average Rating Score', COUNT(re.ratingScore) AS 'Number of Reviews'
FROM [Reviews.Review] re, [Reviews.Set] se,[Reviews.Cuisine] s
WHERE se.rstId = re.rstId AND se.csnId = s.csnId
GROUP BY s.csnName
ORDER BY AVG(re.ratingScore) DESC
```

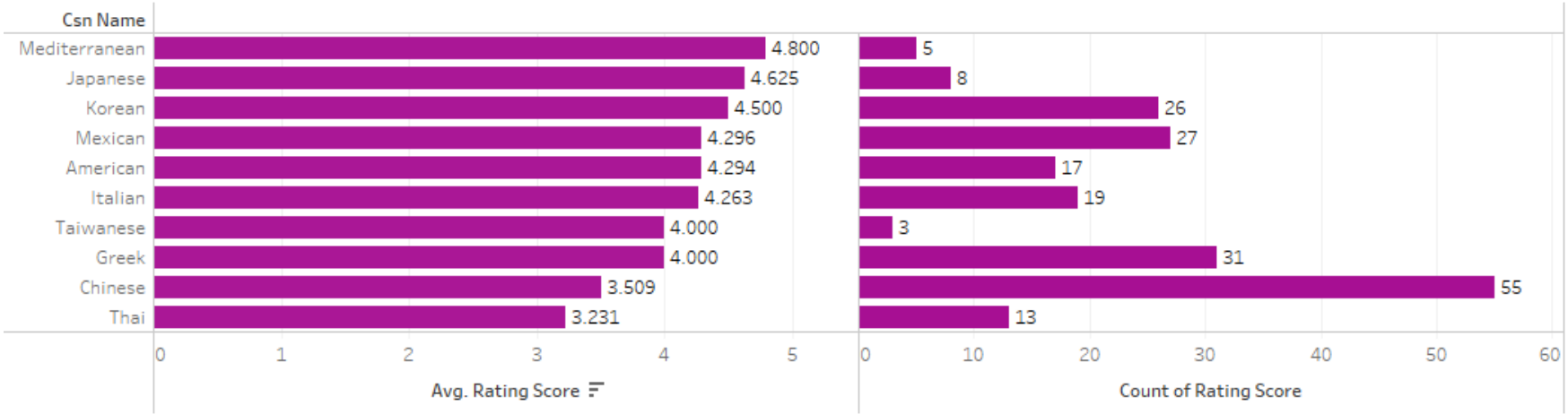
csnName	Average Rating Score	Number of Reviews
Mediterranean	4.800000	5
Japanese	4.625000	8
Korean	4.500000	26
Mexican	4.296296	27
American	4.294117	17
Italian	4.263157	19
Greek	4.000000	31
Taiwanese	4.000000	3
Chinese	3.509090	55
Thai	3.230769	13

User Case 2 – Application (Cont.)

- From the perspective of restaurant owner or investors

Korean cuisine and Mexican cuisine were more popular in College Park
Expansion of operations by owners, targeted investment by investors

What are the Average Rating Score and Number of reviews of each cuisine?



User Case – Transaction 5

-From the perspective of restaurant owner or investors

For each cuisine, what are total reviews on all websites and the reviews from each website?

```
SELECT s.csnName,COALESCE(w.wbsName,'Total Websites') AS 'wbsName',
       COUNT(re.ratingScore) AS 'Number of Customer Reviews'
FROM [Reviews.Website] w,[Reviews.Review] re, [Reviews.Cuisine] s,
     [Reviews.Set] se
WHERE re.wbsId=w.wbsId AND re.rstId=se.rstId AND se.csnId=s.csnId
GROUP BY s.csnName, ROLLUP (w.wbsName)
```

	csnName	wbsName	Number of Customer Reviews
1	American	Google Map	12
2	American	Tripadvisor	2
3	American	Yelp	3
4	American	Total Websites	17
5	Chinese	Google Map	35
6	Chinese	Yelp	20
7	Chinese	Total Websites	55
8	Greek	Google Map	24
9	Greek	Yelp	7
10	Greek	Total Websites	31
11	Italian	Google Map	17
12	Italian	Yelp	2
13	Italian	Total Websites	19
14	Japanese	Google Map	6
15	Japanese	Yelp	2
16	Japanese	Total Websites	8
17	Korean	Google Map	11
18	Korean	Yelp	15
19	Korean	Total Websites	26
20	Mediterr...	Google Map	5
21	Mediterr...	Total Websites	5
22	Mexican	Google Map	11
23	Mexican	Yelp	16
24	Mexican	Total Websites	27
25	Taiwan...	Google Map	2
26	Taiwan...	Yelp	1
27	Taiwan...	Total Websites	3
28	Thai	Google Map	8
29	Thai	Yelp	5
30	Thai	Total Websites	13

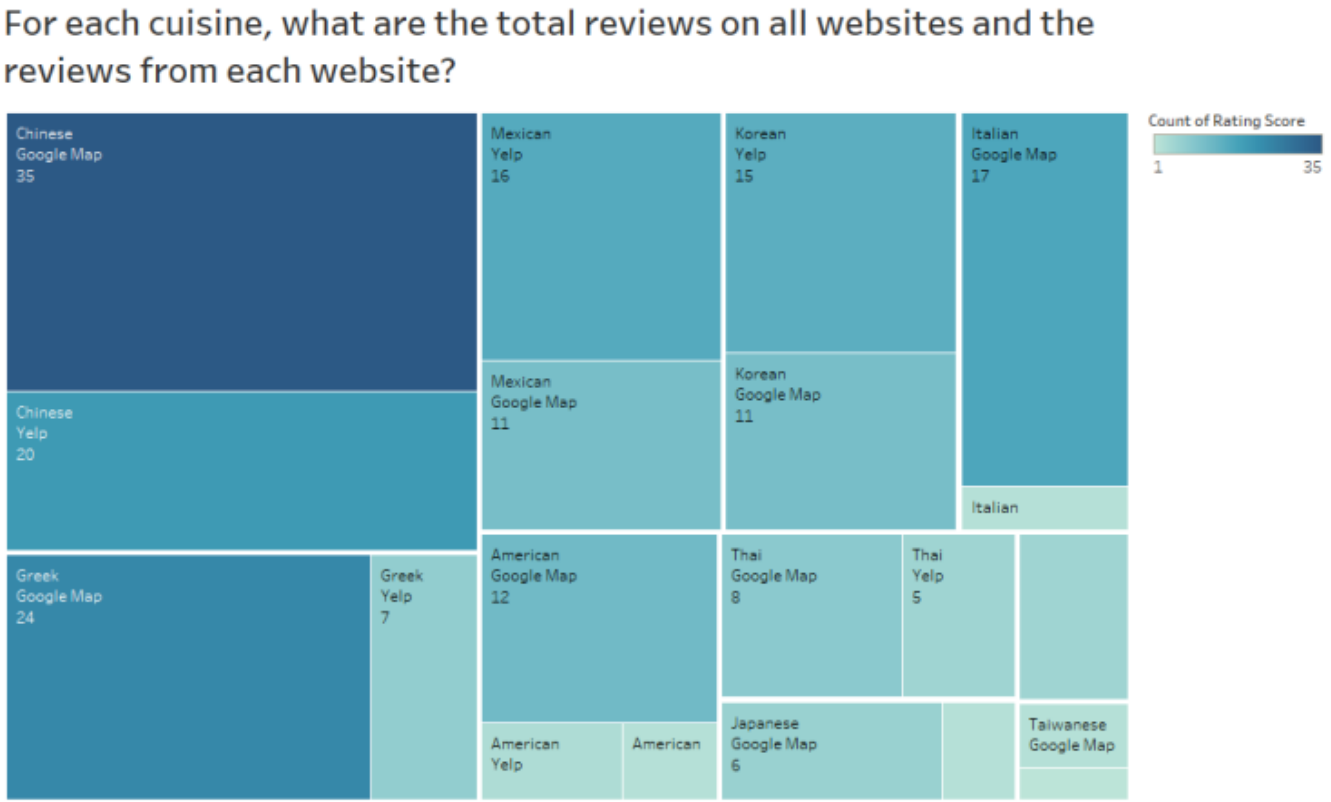
User Case 5 – Application (Cont.)

- From the perspective of restaurant owner or investors

- Advertisement & Online service

"Kangnam BBQ

Sports Bar & Grill"



Q & A

Thanks for your listening !