# College Park FoodAdvisor

Project_0503_08

Dec 10, 2021

# Background

- FoodAdvisor is a food review system which aims to assist customers in finding restaurants around college park.
- Customers can check out the ratings and reviews of the restaurants which they wish to visit.
- They can also find out the cuisine and highlights of each restaurant along with the additional services offered by them.
- Since College park is known for having the largest university in Maryland which is the University of Maryland - College Park, the main users would be the university students and staff members. Other customers would be the locals, food bloggers and people travelling across Maryland. The restaurant owners could also reflect on customer reviews.
- Data Source: Tripadvisor.com

# Mission Statements and Mission Objectives

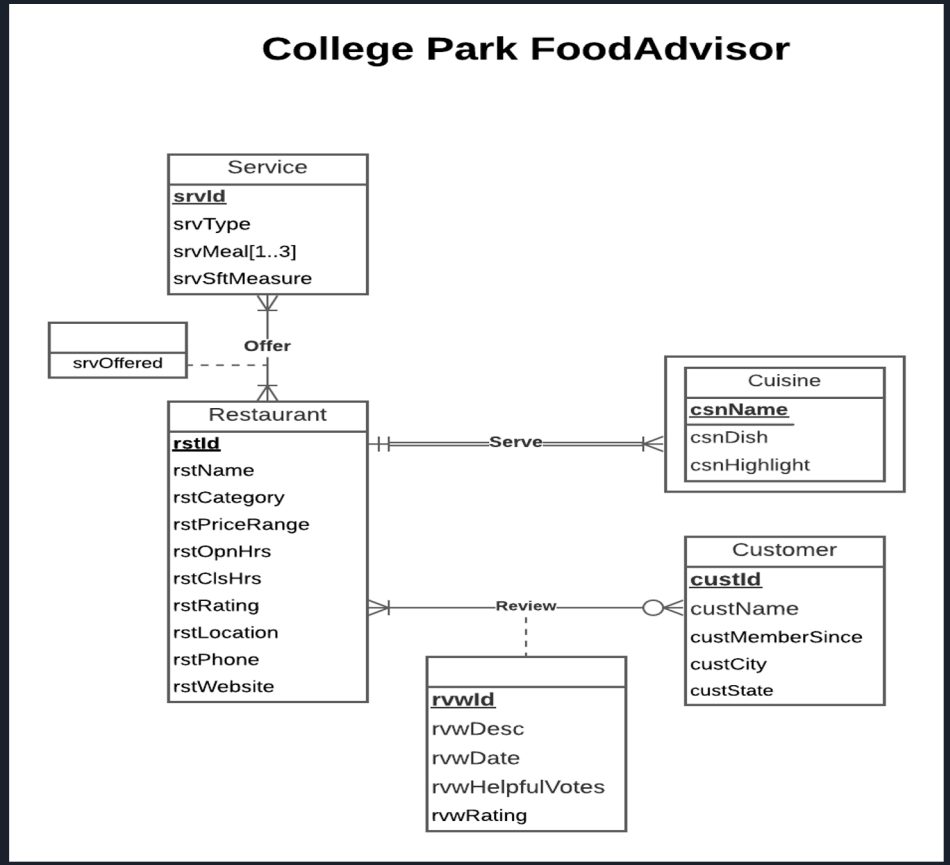
Mission Statement:

To analyze the reviews of various restaurants at College Park written by the customers who have visited the restaurants in order to help future customers decide on which restaurant to visit.

Mission Objectives:

- To determine the restaurants with highest customer rating.
- To find negative reviews in order to get feedback and improve.
- To find the  the best affordable restaurants around College Park.
- To find the establishments in College Park that offer Bar service.
- To find the restaurants that offer late night service and till what time will they be operating.

# Conceptual Database Design: ER Diagram



# Logical Database Design: Relational Schema

Restaurant (**rstId**, rstName, rstCategory, rstPriceRange, rstOpnHrs, rstClsHrs, rstRating, rstLocation, rstPhone, rstWebsite)

Customer (**custId**, custName, custMemberSince, custCity, custState)

Cuisine (***rstId***, **csnName**, csnDish, csnHighlight)

Service (**srvId**, srvType, srvSftMeasure)

ServedMeal (***srvId***, **srvMeal**)

Offer (***rstId***, ***srvId***, srvOffered)

Review(**rvwId**, rvwDesc, rvwDate, rvwHelpfulVotes, rvwRating, *rstId*, *custId*)

# Physical Database Design

```
CREATE TABLE [FoodAdvisor.Review] (
        rvwId CHAR(10) NOT NULL,
        rvwDesc VARCHAR(MAX),
        rvwDate DATE,
        rvwHelpfulVotes INTEGER,
        rvwRating DECIMAL(2,1),
        rstId VARCHAR(10),
        custId VARCHAR(20),
        CONSTRAINT pk_Review_rvwId PRIMARY KEY (rvwId),
        CONSTRAINT fk_Review_rstId FOREIGN KEY (rstId)
                REFERENCES [FoodAdvisor.Restaurant] (rstId)
                ON DELETE NO ACTION ON UPDATE CASCADE,
        CONSTRAINT fk_Review_custId FOREIGN KEY (custId)
                REFERENCES [FoodAdvisor.Customer] (custId)
                ON DELETE NO ACTION ON UPDATE CASCADE)
```

# Use Case 1

**What are the restaurants that serve ‘American’ cuisine and what is their cuisine highlight?**

```
CREATE VIEW AmericanCuisine AS
        SELECT r.rstId, r.rstName, c.csnName, c.csnHighlight
        FROM [FoodAdvisor.Restaurant] r, [FoodAdvisor.Cuisine] c
        WHERE r.rstId = c.rstId AND c.csnName = 'American'
        WITH CHECK OPTION;
```

# Application

**What are the restaurants that serve ‘American’ cuisine and what is their cuisine highlight?**

| | rstId | rstName | csnName | csnHighlight |
|---|---|---|---|---|
| 1 | d14682105 | College Park Grill | American | Grilled Steak |
| 2 | d4915856 | Looneys | American | BLUEBERRY KAMIKAZE |

# Use Case 2

**Which restaurant serves 'Sushi' and has the best consumer ratings?**

```
CREATE VIEW Sushi AS
		SELECT TOP 1 r.rstName, rt.csnHighlight, cast(rt.avg_rating as decimal(4,2))
customer_rating
		FROM [FoodAdvisor.Restaurant] r
		INNER JOIN(
				SELECT AVG(rv.rvwRating) avg_rating, rv.rstId, c.csnHighlight
				FROM [FoodAdvisor.Restaurant] r, [FoodAdvisor.Cuisine] c,
[FoodAdvisor.Review] rv
				WHERE r.rstId = c.rstId
				AND c.csnHighlight = 'Sushi'
				AND r.rstId = rv.rstId
				GROUP BY rv.rstId, c.csnHighlight) rt
		ON r.rstId = rt.rstId
		ORDER BY avg_rating DESC
WITH CHECK OPTION;
```

# Application

**Which restaurant serves 'Sushi' and has the best consumer ratings?**

Results | Messages

| | rstName | csnHighlight | customer_rating |
|---|---|---|---|
| 1 | Hanami | Sushi | 4.00 |

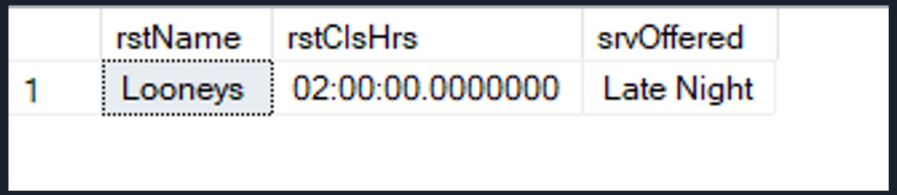
# Use Case 3

What are the restaurants that offer late night service and till what time will they be operating?

```
CREATE VIEW LateNightService AS
                SELECT r.rstName, r.rstClsHrs, o.srvOffered
                FROM [FoodAdvisor.Restaurant] r, [FoodAdvisor.Offer] o
                WHERE r.rstId = o.rstId AND o.srvOffered = 'LATE NIGHT'
                WITH CHECK OPTION;
```

# Application

What are the restaurants that offer late night service and till what time will they be operating?



| | rstName | rstClsHrs | srvOffered |
|---|---|---|---|
| 1 | Looneys | 02:00:00.0000000 | Late Night |

# Use Case 4

**Which are the best affordable restaurants that offer takeout option for dinner?**

```
CREATE VIEW TakeoutDinner AS
        SELECT r.rstName, r.rstPriceRange, s.srvType, sm.srvMeal
        FROM [FoodAdvisor.Restaurant] r, [FoodAdvisor.Offer] o,
                [FoodAdvisor.Service] s, [FoodAdvisor.ServedMeal] sm
        WHERE r.rstPriceRange = 'Cheap Eats'
        AND r.rstId = o.rstId
        AND o.srvId = s.srvId
        AND s.srvType = 'takeout'
        AND s.srvId = sm.srvId
        AND sm.srvMeal = 'dinner'
WITH CHECK OPTION;
```

# Application

**Which are the best affordable restaurants that offer takeout option for dinner?**

Results | Messages

| | rstName | rstPriceRange | srvType | srvMeal |
|---|---|---|---|---|
| 1 | Marathon Deli | Cheap Eats | Takeout | Dinner |
| 2 | Blaze Fast Fired Pizza | Cheap Eats | Takeout | Dinner |
| 3 | IKEA Restaurant | Cheap Eats | Takeout | Dinner |

# Use Case 5

Which establishments in College Park offer Bar service?

```
CREATE VIEW Bars AS
                SELECT *
                FROM [FoodAdvisor.Restaurant] r
                WHERE r.rstCategory LIKE '%bar%'
                WITH CHECK OPTION;
```

# Application

Which establishments in College Park offer Bar service?

| | rstId | rstName | rstCategory | rstPriceRange | rstOpnHrs | rstClsHrs | rstRating | rstLocation | rstPhone | rstWebsite |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | d14682105 | College Park Grill | Restrobar | Mid-range | 07:00:00.0000000 | 22:00:00.0000000 | 4.0 | 8321 Baltimore Ave 1st level in the Cambria Hotel | 13014744745 | https://www.collegeparkgrill.com |
| 2 | d4915856 | Looneys | Bar | Mid-range | 11:00:00.0000000 | 02:00:00.0000000 | 4.0 | 8150 Baltimore Ave Ste A | 12405424510 | https://www.looneyspubmd.com |

# Use Case 6

What are the latest reviews for every restaurant?

```
CREATE VIEW LatestReviews AS
                SELECT r.rstId, r.rstName, rv.rvwDesc, rv.rvwDate
                FROM [FoodAdvisor.Restaurant] r, [FoodAdvisor.Review] rv
                WHERE rv.rvwDate =
                                (SELECT MAX(rv.rvwDate)
                                 FROM [FoodAdvisor.Review] rv
                                 WHERE r.rstId = rv.rstId)
                WITH CHECK OPTION;
```

# Application

What are the latest reviews for every restaurant?

| | rstId | rstName | rvwDesc | rvwDate |
|---|---|---|---|---|
| 1 | d4654228 | Marathon Deli | Marathon Deli is one of the staples of my time in Col... | 2021-06-03 |
| 2 | d9781996 | Nando's Peri-Peri | This place is great. They have pitcher cocktails, dole... | 2019-06-18 |
| 3 | d3459581 | Sakura Seafood Buffet | I don't know what other kinds of buffets the previous ... | 2019-06-06 |
| 4 | d953136 | IKEA Restaurant | We have lived abroad and here and after a couple o... | 2020-03-16 |
| 5 | d1012036 | Hanami | A great experience. The food was tremendous and t... | 2021-09-12 |
| 6 | d7303584 | Blaze Fast Fired Pizza | I went here on my birthday and an employee gave ... | 2020-10-11 |
| 7 | d4915856 | Looneys | Me & my husband sat at the bar. It was a Tues nite d... | 2021-05-08 |
| 8 | d12866999 | Potomac Pizza | Not to sound cheesy (get it), but this is the best pizza... | 2021-06-27 |
| 9 | d14682105 | College Park Grill | This was a wonderful restaurant for being able to tal... | 2019-12-22 |

# Use Case 7

Which mid-range restaurants offer lunch service?

```
CREATE VIEW Mid_rangeLunch AS
        SELECT r.rstName, r.rstPriceRange, sm.srvMeal
    FROM [FoodAdvisor.Restaurant] r, [FoodAdvisor.Offer] o, [FoodAdvisor.ServedMeal] sm
        WHERE r.rstPriceRange = 'Mid-Range'
        AND r.rstId = o.rstId
        AND o.srvId = sm.srvId
        AND sm.srvMeal = 'lunch'
        WITH CHECK OPTION;
```

# Application

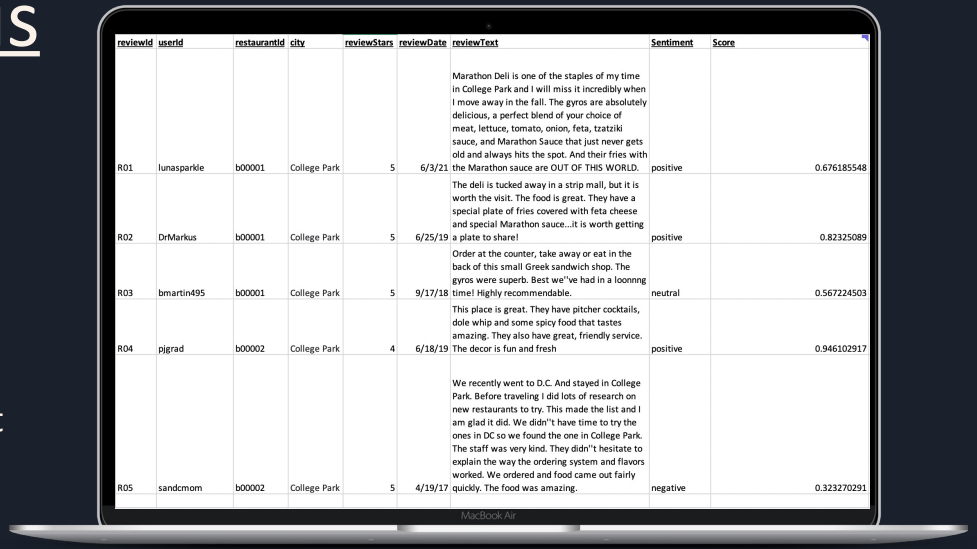
Which mid-range restaurants offer lunch service?

| | rstName | rstPriceRange | srvMeal |
|---|---|---|---|
| 1 | Hanami | Mid-Range | Lunch |
| 2 | College Park Grill | Mid-range | Lunch |
| 3 | Looneys | Mid-range | Lunch |
| 4 | Nando's Peri-Peri | Mid-Range | Lunch |

# Sentiment Analysis

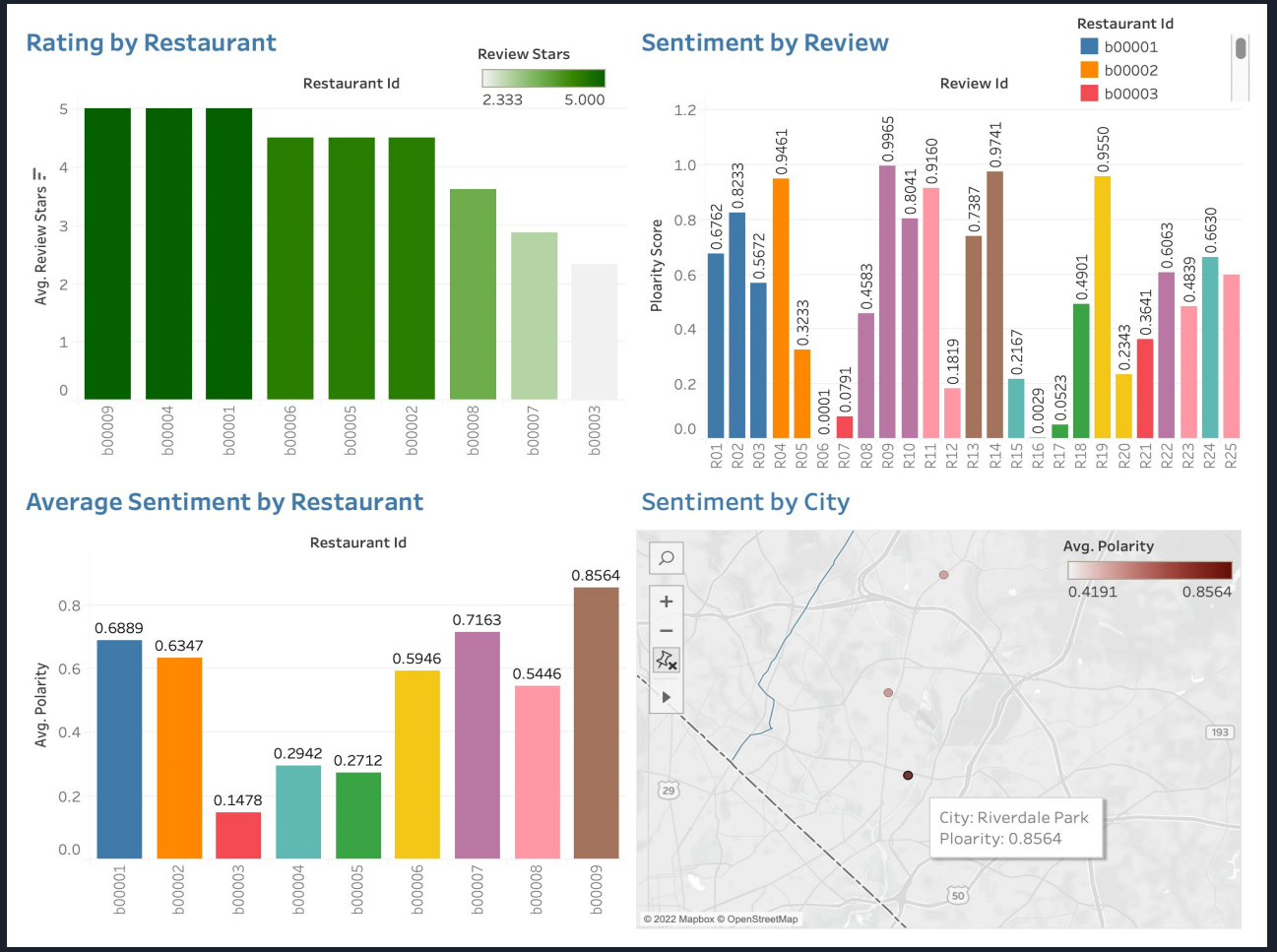
Determine polarity of reviews

Better understand customer sentiment



| reviewId | userId | restaurantId | city | reviewStars | reviewDate | reviewText | Sentiment | Score |
|---|---|---|---|---|---|---|---|---|
| R01 | lunasparkle | b00001 | College Park | 5 | 6/3/21 | Marathon Deli is one of the staples of my time in College Park and I will miss it incredibly when I move away in the fall. The gyros are absolutely delicious, a perfect blend of your choice of meat, lettuce, tomato, onion, feta, tzatziki sauce, and Marathon Sauce that just never gets old and always hits the spot. And their fries with the Marathon sauce are OUT OF THIS WORLD. | positive | 0.676185548 |
| R02 | DrMarkus | b00001 | College Park | 5 | 6/25/19 | The deli is tucked away in a strip mall, but it is worth the visit. The food is great. They have a special plate of fries covered with feta cheese and special Marathon sauce...it is worth getting a plate to share! | positive | 0.82325089 |
| R03 | bmartin495 | b00001 | College Park | 5 | 9/17/18 | Order at the counter, take away or eat in the back of this small Greek sandwich shop. The gyros were superb. Best we''ve had in a loonnng time! Highly recommendable. | neutral | 0.567224503 |
| R04 | pjgrad | b00002 | College Park | 4 | 6/18/19 | This place is great. They have pitcher cocktails, dole whip and some spicy food that tastes amazing. They also have great, friendly service. The decor is fun and fresh | positive | 0.946102917 |
| R05 | sandcmom | b00002 | College Park | 5 | 4/19/17 | We recently went to D.C. And stayed in College Park. Before traveling I did lots of research on new restaurants to try. This made the list and I am glad it did. We didn''t have time to try the ones in DC so we found the one in College Park. The staff was very kind. They didn''t hesitate to explain the way the ordering system and flavors worked. We ordered and food came out fairly quickly. The food was amazing. | negative | 0.323270291 |

# Dashboard


Rating by Restaurant
Review Stars
2.333
5.000
Restaurant Id
Avg. Review Stars
5
4
3
2
1
0
b00009
b00004
b00001
b00006
b00005
b00002
b00008
b00007
b00003
Sentiment by Review
Restaurant Id
b00001
b00002
b00003
Review Id
Ploarity Score
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0.6762
0.8233
0.5672
0.9461
0.3233
0.0001
0.0791
0.4583
0.9965
0.8041
0.9160
0.1819
0.7387
0.9741
0.2167
0.0029
0.0523
0.4901
0.9550
0.2343
0.3641
0.6063
0.4839
0.6630
R01
R02
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R12
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R14
R15
R16
R17
R18
R19
R20
R21
R22
R23
R24
R25
Average Sentiment by Restaurant
Restaurant Id
Avg. Polarity
0.8
0.6
0.4
0.2
0.0
0.6889
0.6347
0.1478
0.2942
0.2712
0.5946
0.7163
0.5446
0.8564
b00001
b00002
b00003
b00004
b00005
b00006
b00007
b00008
b00009
Sentiment by City
Avg. Polarity
0.4191
0.8564
193
29
50
City: Riverdale Park
Ploarity: 0.8564
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THANK
YOU