EasyReview: Proposal

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Mission Statement:

To create a database for reviews of restaurants in the College Park area from three platforms and to analyze information across different categories to provide recommendations for restaurants in the College Park area

Mission Objectives:

(1) To find the top five restaurants by average review rating to help customers pick the best place to eat.
(2) For the same restaurant what are the average review ratings across different platforms?
(3) To show the best restaurants for a specific cuisine based on review ratings..
(4) What are the restaurants that have reservations, parking, and are good for groups ordered by average review rating?

ER schema and diagram:

Five entity types:

Restaurant
Customer
Review
Amenity
Platform

Entities, Attributes and Primary Keys:

Restaurant(**rstId**, rstName, rstAddress, -rstStreet, -rstCity, -rstState, -rstZipCode, rstCuisine[1..3])
Customer(**cstId**, cstName, -cstFName, -cstLName, cstGender)
Amenity (**amenityId**, pickUp, delivery, parking , goodForGroups, goodForKids, veganOptions, reservations)
Platform (**pltId,** pltName, pltUrl)
~~Review (**rstId**, **cstId,** **pltId** ,rvwRating, rvwDate, rvwComment)~~

Describe business processes/transactions in sentences.

- Each restaurant is described by a unique Id, name, location (consists of street , city, state and zipcode), with one to three cuisines
- Each restaurant can have up to seven amenities: pickUp, delivery, parking , goodForGroups, goodForKids, veganOptions, reservations.
- Each customer is described by a unique Id, name (consisting of first and last name), and gender.
- Each review is described by a rating, comments, and review type
- Each Platform is described by a uniqueID, platform name, and website url.

- Each restaurant must receive at least one review to be listed in the platform. There can possibly be multiple reviews for a restaurant.
- A particular review can be received by only one restaurant given by one customer on a particular platform
- For every restaurant a customer can give one or more reviews.
- Every review is given by a customer about one restaurant.

Relationships, Attributes, Degrees, Participating Entities and Constraints:

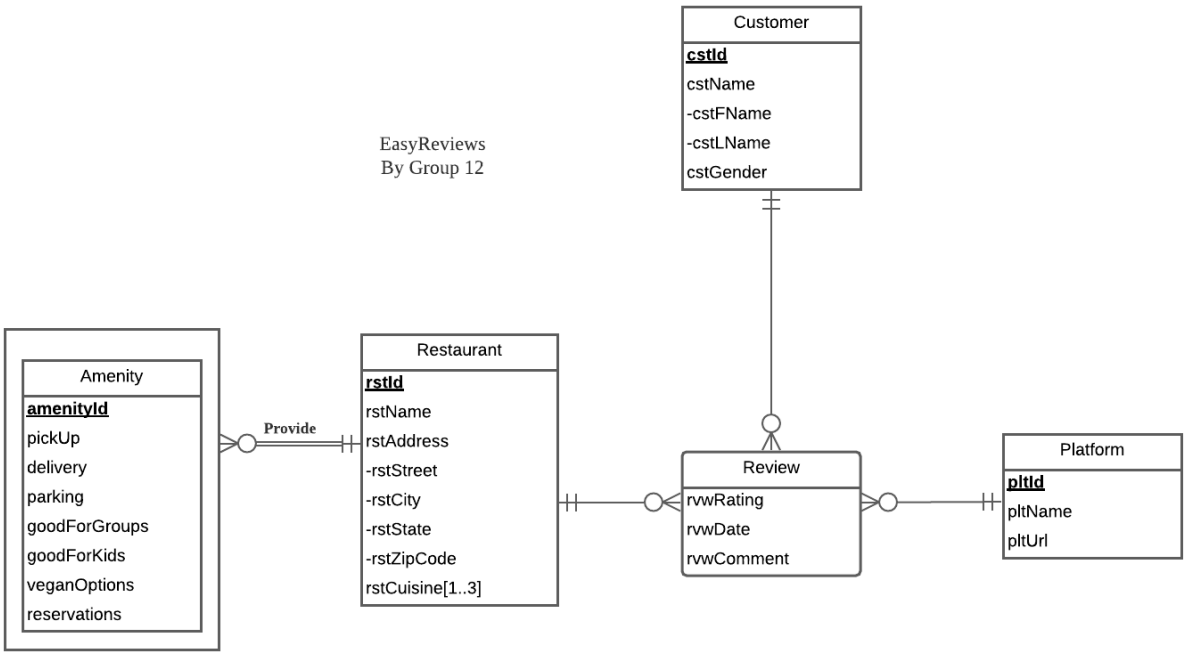
Review: Ternary relationship

1 customer and 1 restaurant to 0 or more platforms
1 customer and 1 platform to 0 or more restaurants
1 restaurant and 1 platform to 0 or more customers

Provide: Binary relationship

1 restaurant to 0 or more amenities
1 amenity to 1 restaurant

ER Diagram:



Relations:

Customer(**cstId**, cstFName, cstLName, cstGender)

Restaurant(**rstId**, rstName, rstStreet, rstCity, rstState, rstZipCode)

RestaurantCuisine(**rstCuisine**, ***rstId***)

Amenity(**amenityID**, ***rstId***, pickUp, delivery, parking , goodForGroups, goodForKids, veganOptions, reservations)

Platform(**pltId**, pltName, pltUrl)

Review(***pltId***, ***cstId***, ***rstId***, rvwRating,rvwDate, rvwComment)

Functional Dependency:

cstId -> cstFName, cstLName, cstGender

rstId -> rstName, rstStreet, rstCity, rstState, rstZipCode

rstId, rstCuisine ->

amenityID, rstId -> pickUp, delivery, parking, goodForGroups, goodForKids,reservations, veganOptions

pltId -> pltName, pltUrl

rstId, cstId, pltId -> rvwRating, rvwDate, rvwComment

Rules:

[R1] When a restaurant's information is changed or deleted, the cuisine's information should also be changed or deleted.

[R2] When a restaurant's information is changed or deleted, it's amenity's information should also be changed or deleted.

[R3] When restaurant information is changed or deleted, its corresponding review information should also be changed or deleted.

[R4] When a review is written by a customer, if the customer information is changed or deleted the review information is also changed or deleted.

[R5] Information of a platform in the database having review cannot be deleted.

[R6] A Platform information is changed in the database, the same needs to be updated in the reviews linked to it.

Referential Integrity:

Relation	Foreign Key	Base Relation	Primary Key	Business Rule	Constraint: ON DELETE	Business Rule	Constraint: ON UPDATEWhe
Restaurant Cuisine	rstId	Restaurant	rstId	R1	CASCADE	R1	CASCADE
Amenity	rstId	Restaurant	rstId	R2	CASCADE	R2	CASCADE
Review	rstId	Restaurant	rstId	R3	CASCADE	R3	CASCADE
Review	cstId	Customer	cstId	R4	CASCADE	R4	CASCADE
Review	pltId	Platform	pltId	R5	NO ACTION	R6	CASCADE

Sample Data:

EasyReview.Customer
('C0001', 'Jasmin', 'Hollywood', '2')

EasyReview.Restaurant

('R0001', 'Kangnam BBQ','8503 Baltimore Ave','College Park','MD', '20740')

EasyReview.RestaurantCuisine

('Korean', 'R0001')

EasyReview.Amenity

('A0001', 'R0001','1', '0','1','1','1','1','1')

EasyReview.Platform
('P001', 'Google Map', 'https://www.google.com/maps')

EasyReview.Review

('P001', 'C00001','R0001',4, '05/10/2021','Ordered large garlic Korean fried chicken and it was nothing special, a bit soggy on the breading. I ordered a bulgogi beef box with rice and kimchi and it was so so / edible.

When I got to the establishment to pick up my order I was treated like a thief by a female employee who skeptically asked me for my confirmation as I stated that I was there to pick up my own order for Jasmin, another male employee in the back kitchen who over heard me immediately brought it out and handed it to me. I was able to purchase a bottle of raspberry Wine which was a bit overpriced also with food and all. I've eaten here a couple times in the past over the 6 years or so and similar experience not being many open Korean restaurants in the area anyway not sure if I will return again.')