Project analysis and design

Brand name:

TERPCravingz —Find your Terp Eatery Here

Business Scenario:

TERPCravingz is a medium sized restaurant review platform that showcases restaurant information, restaurant review information and UMD Shuttles to the restaurant of choice.

TerpCravingz has a demand for improvement of customer experience by adding analytical dashboards on their website as an add-on feature so that the customers can view these analytical insights and have an overall idea immediately of the best restaurants around. These dashboards will primarily serve the purpose of immediately letting customers know which are the three best restaurants, which cuisine is preferred by most people, etc. Customers can either resort to this dashboard page for insightful information about restaurants performing best in one or the other category or if the customer already knows which restaurant they want to visit, they can simply look it up on TERPcravingz website; information of which TERPcravingz already has on its website. Besides, customers can have more interaction with others on TERPCravingz by getting the latest recommendations to restaurants and foods from top 5 active and influential customers. Furthermore, TERPcravingz offers information about how to reach a particular restaurant using the UMD shuttle service.

Knowing the background of five database students studying Business Analytics at University of Maryland, TERPcravingz has decided to hire **Team Analytica** for developing this add-on feature for their website.

Describe business processes/transactions in sentences.

- There are various restaurants listed on the company's website. Each restaurant is described by a unique identifier, name, address (including street name, city, state, and postal code), phone number, coordinates (described by the latitude and longitude numbers), its average rating (shown as the number of stars from 0 to 5) and the total number of its reviews in the database.
- The food that a restaurant sells can belong to various categories (Mexican, Italian,etc) Each category is assigned a unique identifier.
- Each restaurant has exactly one schedule of open business hours. The schedule is described by a partial identifier, the times(e.g. 10:00-23:30) the restaurant opens and closes for each day in a week. A schedule can be used for multiple restaurants.
- Customers use the restaurant information to filter which restaurant appeals best to their liking. Each customer is distinguished by a unique customer identifier, a customer name, the number of reviews they have written, year of joining TERPcravingz, the average rating that the customer gives to restaurants, and the

total number of useful/funny/cool votes given to a particular customer by other customers. Customers can also make friends in the TERPcravingz's website with other customers, and the database stored all these connections among customers.
- Each customer can write online reviews about the restaurants. The review is stored by its unique identifier, the rating (the number of stars) that customer gives to the restaurant, review date, and the text content of the review.
- Apart from restaurant information, UMD shuttles can transport customers to different restaurants. In addition, some UMD shuttles stop near the restaurants listed on the website. The UMD shuttle is identified by a unique identifier, bus number, bus name, bus final destination, bus schedules on weekdays, Saturday, and Sunday, start time and end time of the day. The shuttle stops are also recorded by unique stop identifiers, and stop coordinates (including the latitude and longitude information).
- TERPcravings allows customers to drop their reviews in the comment section for the restaurant that they have dined in.

Entities, Attributes and Primary Keys

- Restaurant(**resId**, resName, resStreet, resCity, resState, resPostalCode, resPhoneNo, resLat, resLong, resStars, resRevCNT)
- Category(**categoryId**, categoryName)
- OpenHour(**openId**, MonTime, TueTime, WedTime, ThuTime, FriTime, SatTime, SunTime)
- Customer(**cusId**, cusName, cusRevCNT, cusYear, cusAvgRating, cusUseful, cusFunny, cusCool)
- Review(**revId**, revStars, revDate, revText)
- Shuttle(**busId**, busNo, busName, busFinalDest, busWeekday, busSaturday, busSunday, startTime, endTime)
- ShuttleStop(**stopId**, stopLat, stopLong)

Relationships, Attributes, Degrees, Participating Entities and Constraints

- Is Friend Of: unary relationship:
  ○ 1 customer to 0 or more customers
- Belong: binary relationship:
  ○ 1 restaurant to 1 or more categories
  ○ 1 category to 0 or more restaurants – *Note: Inferred by best judgment.*
- Have: binary relationship:
  ○ 1 restaurant to 1 open hour
  ○ 1 open hour to 1 or more restaurants
- Stop(nearestStop, timeTaken): ternary relationship:
  ○ 1 shuttle and 1 restaurant to 0 or more shuttle stops – *Note: Inferred by best judgment.*
  ○ 1 shuttle and 1 shuttle stop to 0 or more restaurants – *Note: Inferred by best judgment.*
  ○ 1 restaurant and 1 shuttle stop to 1 or more shuttles – *Note: Inferred by best judgment.*
- Write: ternary relationship:
  ○ 1 customer and 1 restaurant to 0 or more reviews– *Note: Inferred by best judgment.*
  ○ 1 customer and 1 review to 1 restaurant– *Note: Inferred by best judgment.*
  ○ 1 review and 1 restaurant to 1 customer– *Note: Inferred by best judgment.*

Design an ER diagram

TERPcravingz

Category

categoryID

categoryName

Review

revId

revStars

revDate

revText

Customer

cusId

cusName

cusRevCNT

cusYears

cusAvgRating

cusUseful

cusFunny

cusCool

Is Friend Of

Belong

OpenHour

openId

MonTime

TueTime

WedTime

ThuTime

FriTime

SatTime

SunTime

Have

Restaurant

resId

resName

resStreet

resCity

resState

resPostalCode

resPhoneNo

resLat

resLong

resStars

resReviewCount

Write

Shuttle

busId

busNo

busName

busFinalDest

busWeekday

busSaturday

busSunday

startTime

endTime

nearestStop

timeTaken

Stop

ShuttleStop

stopId

stopLat

stopLong