Project Background:
https://drive.google.com/file/d/0B-Q-qLH-M-uFRVk1U3I5b3pGQTA/view?usp=sharing
- Website for Hulton's World-Wide Hotel Reservations
- Customers
- Rooms
- Reservation Transactions
- Customer Reviews

Questions:

Is it only functional requirements
      -- do we need to have credit card data
      --

-add 10 rooms for hotel
Offer room had sdate and edate
Reserves had indate and outdate
So i got rid of offerroom -- double info
Changed offerroom to room_discount

Do the CID++ thing for every customer

Task List:
1. Debug the SQL Database
   a. Make sure all database functionalities exist (based on what's below
2. Finish the website
   a. Reservation System
   b. Review System
   c. Dashboard
   d. Customer Analytics System
3. Load up AWS *(if we have extra time)*
   a. Create and populate SQL databases on RDS
   b. Load website up on EC2 and connect to RDS DB's
      i. Setup flask / python 3 on EC2
      ii. Connect our application to the RDS databases

General (Alex Notes):
- Chain has several hotels - identified by a number
   - Store location (street address, country, state, and zip)
   - Hotel can have multiple phone numbers
   - Each hotel has >=10 rooms

- ■ Each room needs information on:
  - Type of room (standard, double, deluxe, and suite)
  - # people who can stay in room
  - Textual description (depends on type of room, varies between one hotel to another for same type of room)
  - Room number [unique to a room...obviously] (some are offered at discount price
    - Discounted price for period of time at most once a year
    - Store discounts as %s of regular price
    - Must have start and end date
  - Floor number
  - Price per night (varies between one hotel to another for same type of room)
- ○ Each hotel has different types of breakfast (continental, English, Italian, American, French)
  - ■ Different types of breakfasts have different prices
  - ■ Store **prices and descriptions vary from one hotel to another for same breakfast
    - Type of breakfast - IDENTIFIED BY TYPE
    - Textual description about breakfast
    - Price per serving
- ○ Each hotel has some services (parking, laundry, airport drop off, pick up)
  - ■ Store: **price varies for different hotels
    - Information about service types offered - IDENTIFIED BY TYPE
    - Cost available for services
- ○ Reservation - IDENTIFIED BY INVOICE NUMBER
  - ■ AT LEAST one room reservation in one of different hotels for same or different check-in and check-out dates
  - ■ Need to know date on which reservation was made, and total amount paid by customer for that reservation
  - ■ Customer can make multiple reservations
  - ■ Only credit card per reservation (may/may not be in name of customer who makes reservation)
    - Store: card number, name on card, expiration date, security code, billing address, and type (Visa, Master, Discover, Amex)
  - ■ Reservation is done for a particular room by specifying check-in date and check-out date for the room. # of days is also important
  - ■ Multiple room reservations can be done for a particular room in same reservation (with different check-in dates). No overlapping periods.
    - Can include multiple breakfast types - multiple orders for each type, but orders cannot exceed number of persons that can stay in the room
    - Can hold one or more service types

- All stored under one reservation
- FINAL COST OF RESERVATION: add sum of breakfast orders, services, cost of different rooms included in reservation. Discounted prices for rooms must be taken into account.
  - Statistics
    - For a given time period (begin date and end date) compute highest rated room type for each hotel
    - For a given time period (begin date and end date) computer the 5 best customers (in terms of money spent in reservations)
    - For a given time period (begin date and end date) computer highest rated breakfast type across all hotels
    - For a given time period (begin and end date) computer the highest rated service type across all hotels
    - Interested in: new room types, service types, and breakfast types or modification of certain services, room or breakfast types, suggestion of new offers to increase the profit of the hotels.

Website Design (Hersh Notes): (each main bullet is an overarching functionality to implement)
- ~~Home~~
  - ~~Login Button~~
  - ~~Register Button~~
- About
  - Instructions about how to work the website
  - Functionalities that are offered
  - Kind of a like a super-simplified mini-documentation
- ~~Login~~
  - ~~Username~~
  - ~~Password~~
- ~~Register~~
  - ~~Name~~
  - ~~Email~~
  - ~~Phone Number~~
  - ~~Username - *also serves as their unique ID*~~
  - ~~Password~~
- Dashboard
  - Write Review Button
  - List of my reviews
  - List of my reservations (current+past)
- Reservation System
  - ~~Enter Country, State, Check-In, Check-Out~~
  - View Hotels in specified location/dates
  - View Room Types available in each hotel depending on date

- - ○ Show discounted prices if discounted dates fall in entered date range for each room type
    - ○ Enter # of breakfast orders of each breakfast type
      - ■ Breakfast types depend on each hotel
    - ○ Enter # of service orders of each service type
      - ■ Service types depend on each hotel
  - ● Review System
    - ○ Review ID
    - ○ Name of Reviewer
    - ○ 3 Types
      - ■ Room Review
      - ■ Service Review
      - ■ Breakfast Review
    - ○ 1 to 10 rating
    - ○ Customer can add one or more review
    - ○ Only allowed to write reviews for...
      - ■ Hotels, Room Types, Breakfast Types, Service Types they had reserved
      - ■ Either in present / past

Database Design (Hersh Notes): *(aid in adding various functionalities to the website design)*
- ● Hotels
  - ○ Must hold **at least 10 rooms** each
  - ○ Diff breakfasts at each hotel
  - ○ Diff services at each hotel
- ● Customer
  - ○ ID, Name, Email, Phone Number
- ● Reservations
  - ○ Invoice number - unique to the reservation number
  - ○ Date reservation was made - use auto insert in the table
  - ○ List of rooms reserved - allowed to reserve multiple rooms in the same reservation
  - ○ Credit Card Info
    - ■ Card #
    - ■ Name on Card
    - ■ Expiration Date
    - ■ Security Code
    - ■ Billing Address
    - ■ Type of Card
  - ○ Check In / Check Out Date
    - ■ # of days staying
  - ○ Multiple room reservations done for a particular room in the same reservation (diff dates of course)
  - ○ Overlapping room reservations for same room (using room id) is NOT allowed

- ○ Breakfast Orders
  - ■ Include multiple breakfast types
  - ■ Multiple orders for each breakfast
  - ■ Store # of orders for each breakfast type in each reservation
    - ● Total # should not exceed # of people physically allowed in room
- ○ Service Orders
  - ■ One or more services possible to add
- ○ Total Amount to Pay
  - ■ Sum cost all breakfast orders
  - ■ Sum cost all service orders
  - ■ Sum cost different rooms in reservation
    - ● Discounted room prices need to be taken into account
- ● Customer Reviews
  - ○ Review ID
  - ○ Name of Reviewer
  - ○ 3 Types
    - ■ Room Review
    - ■ Service Review
    - ■ Breakfast Review
  - ○ 1 to 10 rating
  - ○ Customer can add one or more review
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