18CSC303J - Database Management Systems

Project Report

Title - Car Rental System

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Project Abstract -

We have chosen to produce a Car Rental system. In our system, customers can rent a car based on make and model. Our system allows customers to have different pick-up and drop off locations and will impose a late fee if the rental car is returned beyond the return date and time. The Customers can purchase car rental insurance which is optional and can use upto one discount coupon to their final bill. Customers who have membership will be by default given a 10% discount in their final bill. We will see a detailed description below.

Entities:

- **Customer:**
  Customer will be the one who is using the car rental system for reserving a car. He can be a member of the system or a non-member of the system. Members of the system will have a membership id. Customer entities will store details like customer driving license number, email, address, name, and phone number.

- **Car:**
  Car entities will have a list of cars available in the system. Each car will be associated with a car category and the car will have attributes like make, model, mileage and registration number. Car will also have a separate flag to check the availability of the car.

- **Car Category**
  Every car has a car category. Price is calculated based on the car category. Car category will have attributes like no of person, no of luggage's, name, and cost per day and late fee per hour.

- **Location**
  Location entity here denotes the pickup and drop off location of the car. Customers can pick up the car from the particular location and can have the same or different drop off location. Location will have attributes like Location id, name and address.

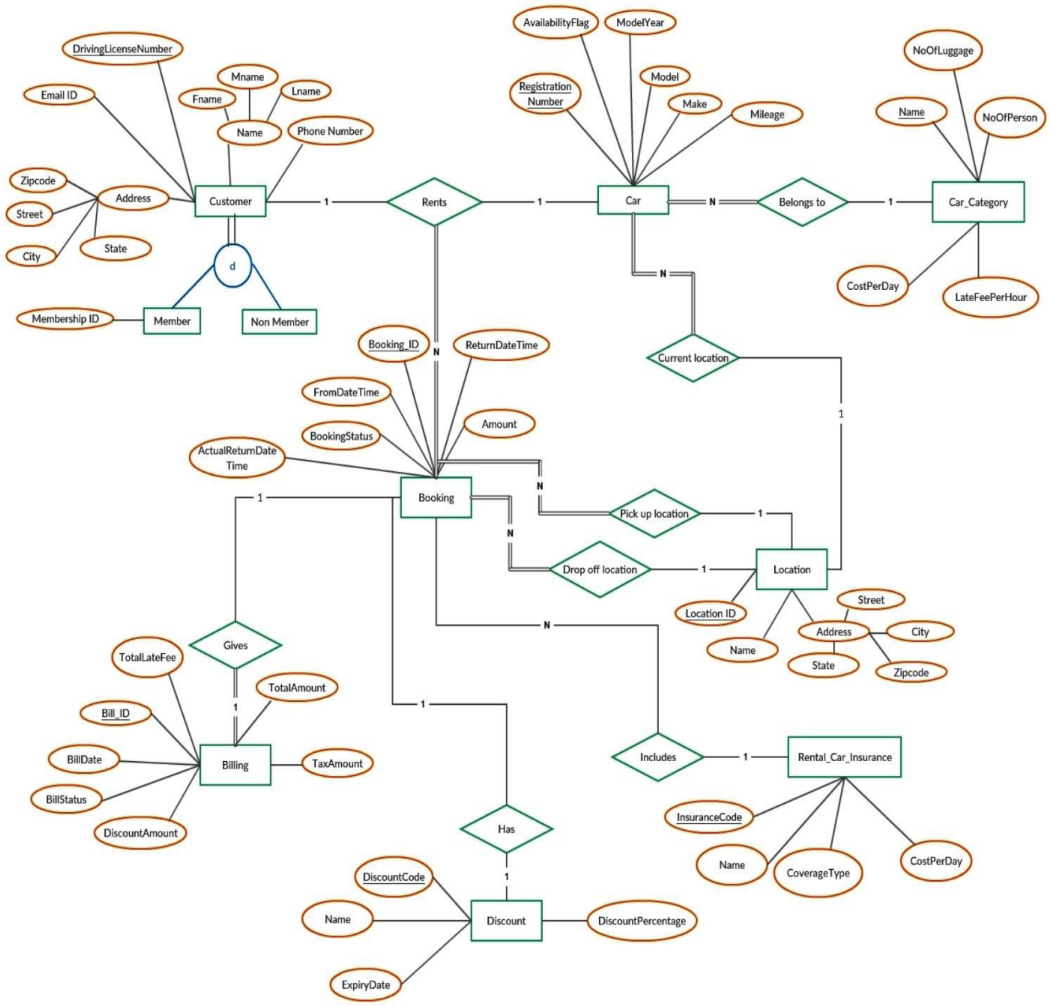
- **Booking**
  Each car reservation will be monitored in the entity called booking. Booking will have attributes like booking id, from date and time of booking and due return date and time and actual return date and time of the booking, and booking status. This booking amount might also include rental insurance and discount code.

- **Billing**
  When a customer returns a car, a bill will be generated on the particular booking. Billing has attributes like Bill ID, bill date, bill status, total late fee, tax amount, and total amount.

- **Discount**
  Customers can apply a discount code while the bill is generated. Each discount code has a different discount percentage. Discount will have attributes like discount code, name, expiry date and discount percentage.

- **Car Rental Insurance**
  Customers may already have car rental insurance or can buy one while booking the car. Car rental insurance will have attributes like insurance code, coverage type, name and cost per day.

ER Diagram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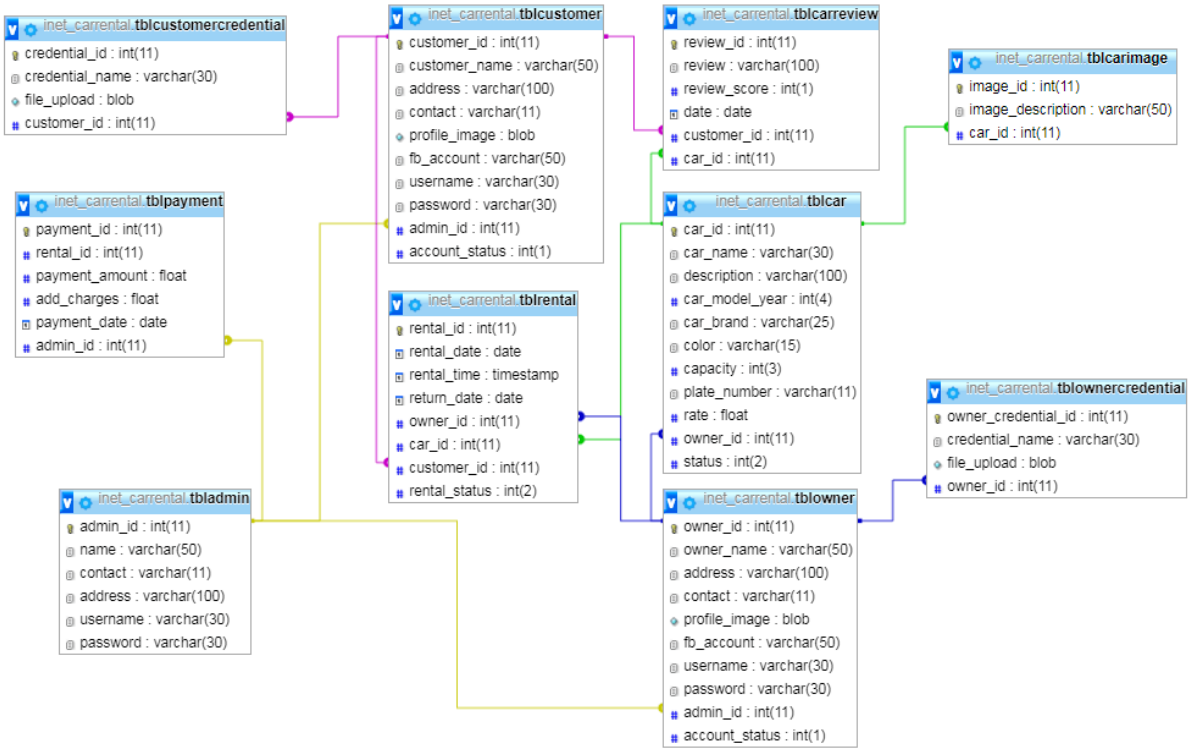
Database Model