Project 2, Part 1

CSE 3330

Team 15

April 2, 2021

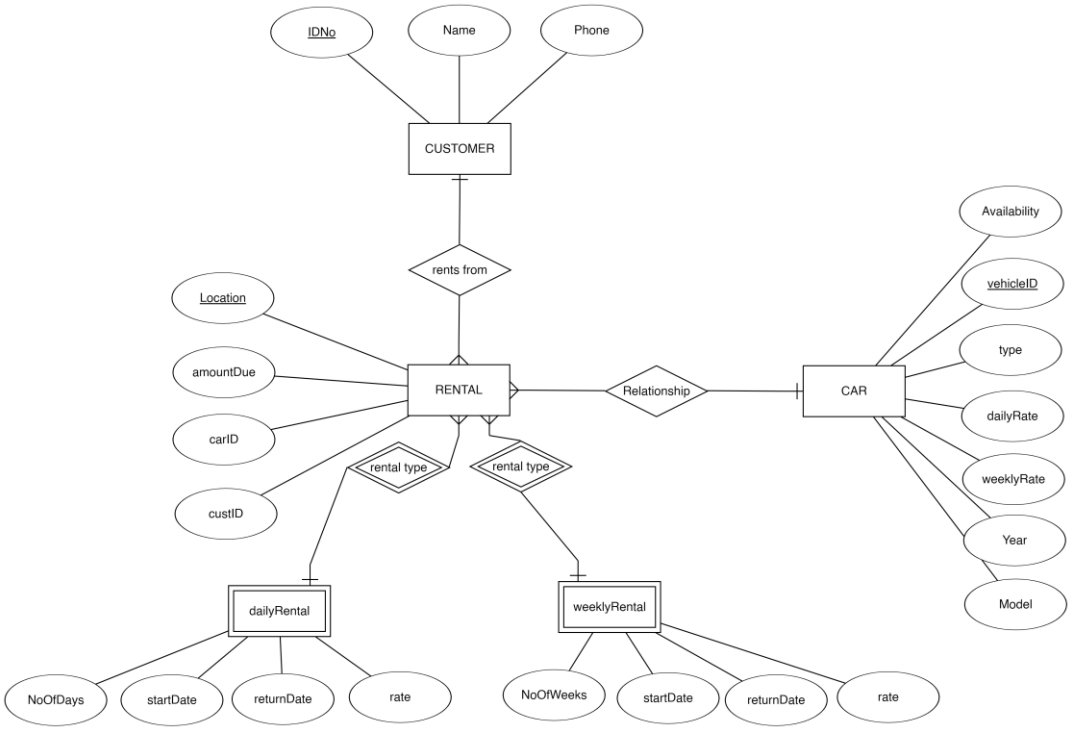
INTRODUCTION:

The Project relates to a retail car rental database to keep track of customers and vehicles. We had to produce an ER/EER diagram describing the database and a schema mapping it to figure out how to map the database. This database system and schema should allow the rental agency to keep track of not only cars and customers but rates, rental durations and stock availability.

MINI-WORLD:

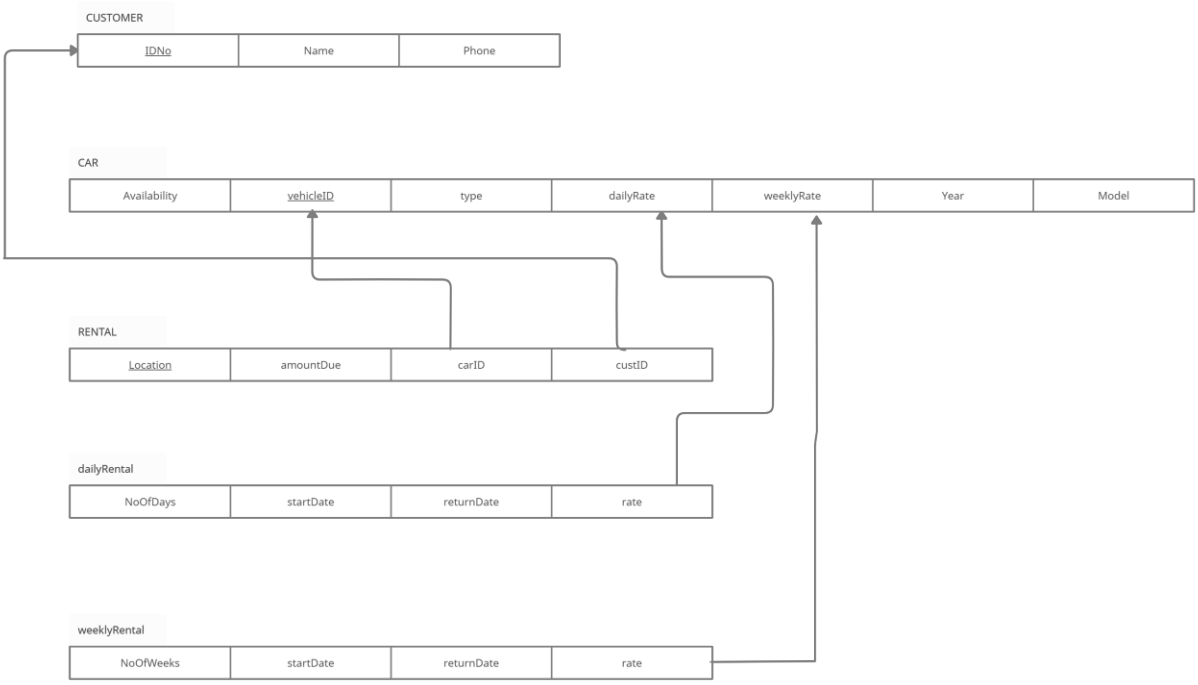
The mini-world is a retail rental agency, things to keep track of are customer accounts, which customer rented which car, car availability, rental duration rate and charge rate per car depending on rental.

ER/EER:




For daily rate, weekly rate it wasn't clear that there were 2 different rates per car or just one rate in general which changed based on length of rental. It was initially unclear if daily rentals and weekly rentals should be folded into RENTAL or be separate entities we chose to make the types of rental weak attributes attached to rental. because of the somewhat unclear requirements involved we chose to have the bulk of the information kept in the weak entities under rental and then act as foreign keys linking them to CAR and CUSTOMER through RENTAL. We also added availability for car which wasn't included in the design document but allows car to be flagged as either available or rented. We also added type to link car with the weak rental entities.

RELATIONAL SCHEMA:




We decided to create tables for CUSTOMERS, CARS, RENTALS, DAILYRENTAL AND WEEKLYRENTAL. It was necessary that both weak entities, DAILYRENTAL and WEEKLYRENTAL needed their own tables in the schema since they both have their own individual attributes. The attributes were kept the same as the ER diagram. When converting from the ER diagram to a relational schema, we kept the primary keys for each entity while including a foreign key from carID within the RENTAL entity to vehicleID in CAR as well as one from custID within RENTAL to IDNo in CUSTOMER. This is because carID/vehicleID is the unique identification number for each car that connects a car with a rental. IDNo/custID is a unique id for each customer that lets you connect a particular customer with their rental. We also added foreign keys from rate in DAILYRENTAL to dailyrate in CAR which determines the daily rate of car and its dailyrental information and one from rate in WEEKLYRENTAL to weeklyrate within CAR that connects weekly rate of a particular car to the rest of the weeklyrental attributes.

HONOR CODE I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence. I promise that I will submit only work that I personally create or that I contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

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