Team-19

Use Case: designing and managing for peer to peer and business to peer vehicle rental system.

Business problem being addressed:

The use case allows individual User to take up the role of a user or a business if he/she owns/needs a vehicle.

Entity Description:

1. **User** entity is a super type for **consumer, admin** and **business user** which has basic information as its attributes.
2. **Admin** Entity is a subtype of **User** entity and has admin privileges over other entities.
3. **Customer** entity is a subtype of **User** entity and it contains additional information to verify his identity For example: license number.
4. **Business User** entity is a subtype of **User** entity and it contains information about the vehicle lender either an individual lender or a User belonging to a registered vehicle lending business.
5. **Business** entity contains the profile of the vehicle lending business listed with the app.
6. **User Authentication** entity contains **User** identity’s login credentials and last login attempts.
7. **vehicle category** contains generic parameters about a vehicle built, Engine type etc.
8. **vehicle** entity contains all the vehicle’s detailed information listed with the app.For example vehicle number, registration number, type, colour.
9. **vehicle pool** maintains the details of the availability of a particular type of vehicle at a location.
10. **location** entity contains all the pickup and drop-off spots.
11. **booking** entity contains information related to a bookings and cancellations.
12. **insurance** entity is linked to the **vehicle** entity and contains information about the plan details, validity etc.
13. **payment methods** entity contains the added credit/debit/bank account payment details of a users account.
14. **transaction** entity shows the transactions done between **customer** and **businesses**.
15. **payment info** is an associative entity between **payment methods** used and **transaction** by a user.
16. **transaction** entity maintains the information about the transactions done by a **User**.
17. **promotions** entity contains all the available offers/deals available for a particular period of time to a **customer.**

**Relations:**

1.User is a subtype with a overlapping rule and the User registered will be from either a consumer or business user.

2.User has exactly one relation with user Authentication as it is mandatory to have a single login for a user.

3.Business can have 1 or many business users in under business user entity.

4.vehicle and vehicle category share a M:N relation.

5.vehicle pool and locations have a M:N relationship.

6.booking has a M:1 relationship User

7. booking has 1:1 with vehicle

8.insurance has a 1:1 relation with vehicle.

9.payment methods has a M:1 relation ship with User.

10.transaction has 1:1 relationship with booking

11.transaction has 1:1 relation with payment info.

12.promotions have a have a M:N relation with User

13.admin creates promotions, locations, vehicle category instances.

Constraints and design decisions:

* only valid for peer to peer and business to peer booking model.
* pick up and drop off location will be same , so we have included both of them as location attribute of vehicle pool.
* payment methods are credit, debit and bank account only.
* a business can be registered only once(EIN is unique).
* customer needs to have valid driving licence and valid mobile number.
* insurance is mandatory to book a cab.