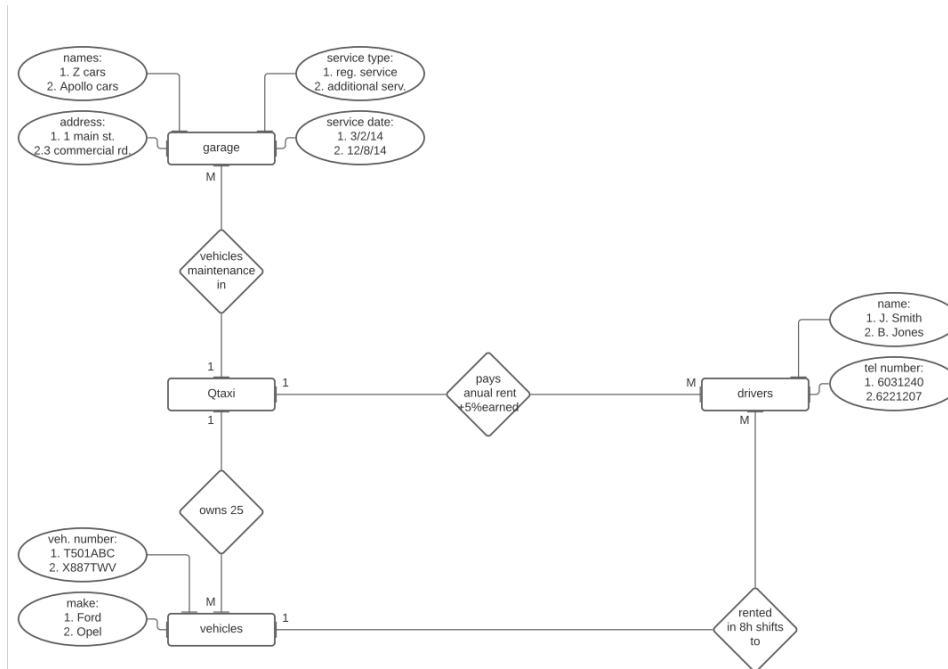


Informational Engineering ACCC4004 online test assessment
by Nuray Ahmed (SN: 1916391) UWTSD



In this scenario we have logical model of ERD(Entity Relationship Diagram).

We using Chen notation and attributes in a bit more details.

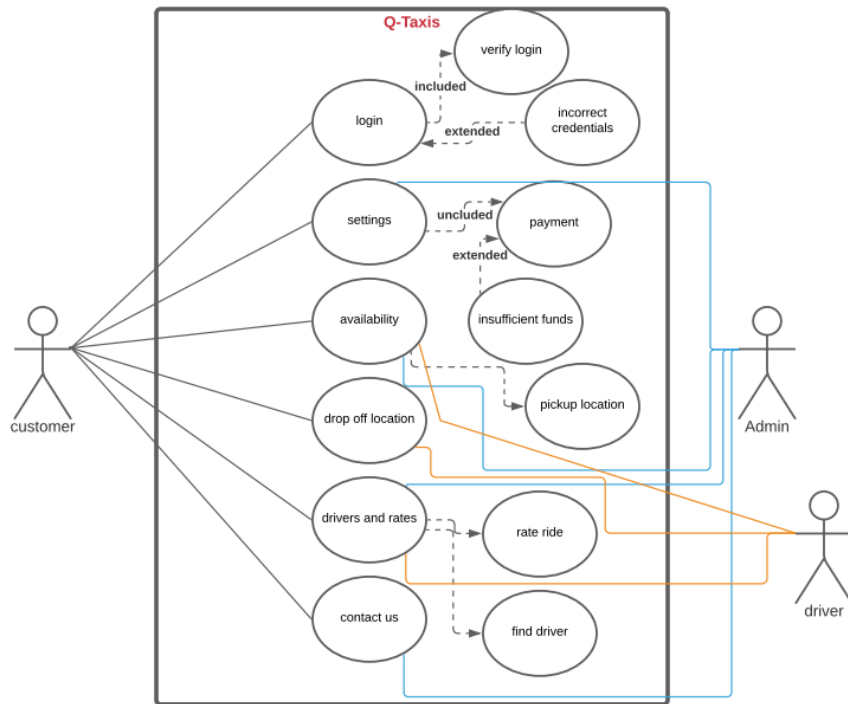
The relationships are described in the notations.

Garage>Company is noted as many to one, as one company can use many garages to fix their cars.

Company>Vehicles is noted one to many, as one company can have many cars to rent out.

Vehicle>Drivers is noted one to many, as per the description one car is available and can be rented up to 3 different drivers per day (3X8h shifts).

Drivers>Company is noted many to one, as one company has 75 contracted drivers.



In scenario number 2 we have UCD (Use Case Diagram).

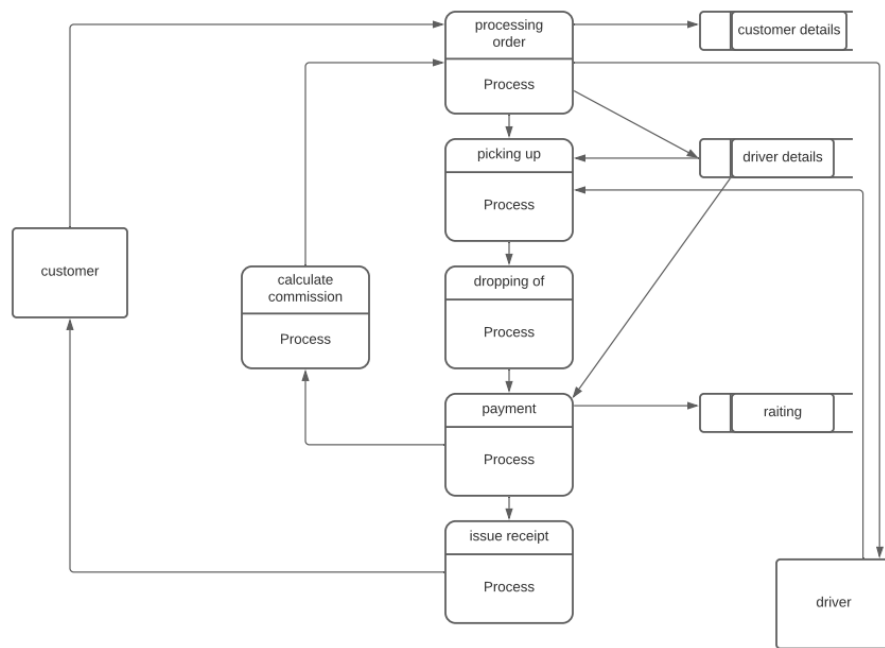
Typical Software diagrams can be pretty difficult to overview so behavioral diagrams such as UCD eases up the understanding of what would we expect from given design.

We have actors, use cases, system boundaries and associations set up. The primary actor would be the customer and the secondary actor is the company or whoever runs all the processes. The driver position can be debated, but as customer is always primary actor and the driver is part of the process it is more likely to be secondary actor.

We also have included and extended relationships. They are both additional function of the regular use cases.

Included relationship is part of the process and it is must, such as verifying login credentials.

Extended relationship comes along when the included relationship doesn't check out, such as error that notifying that entered credentials are wrong.



At the last scenario we have DFD (Data Flow Diagram)

That type diagram is showing us the order of which data flows, also points out the entities, processes and data used to determine the flow. This type of diagram also shows the input and output as seen in the chart.

The Processing Order box plays the role of a admin.

The process goes:

Customer makes the order, Process Order (process 1) takes customer details from customer details data pool and looks for available driver at driver details pool. Pickup process (process 2) is setup and sent to the driver, the driver picks up the customer and drops of the customer (process 3). After dropping of is payment process (process 4) followed by issuing the receipt to the customer (process 5). Commission Calculation (process 6) is kind a happening on parallel track with process 5, Commission Calculation is happening right after process 4, where is calculated the annual rent for the car (if in installments), any applicable penalties, fuel money and the -5% deduction for the company. That determines how much the driver net earnings are, which is happening once a week.