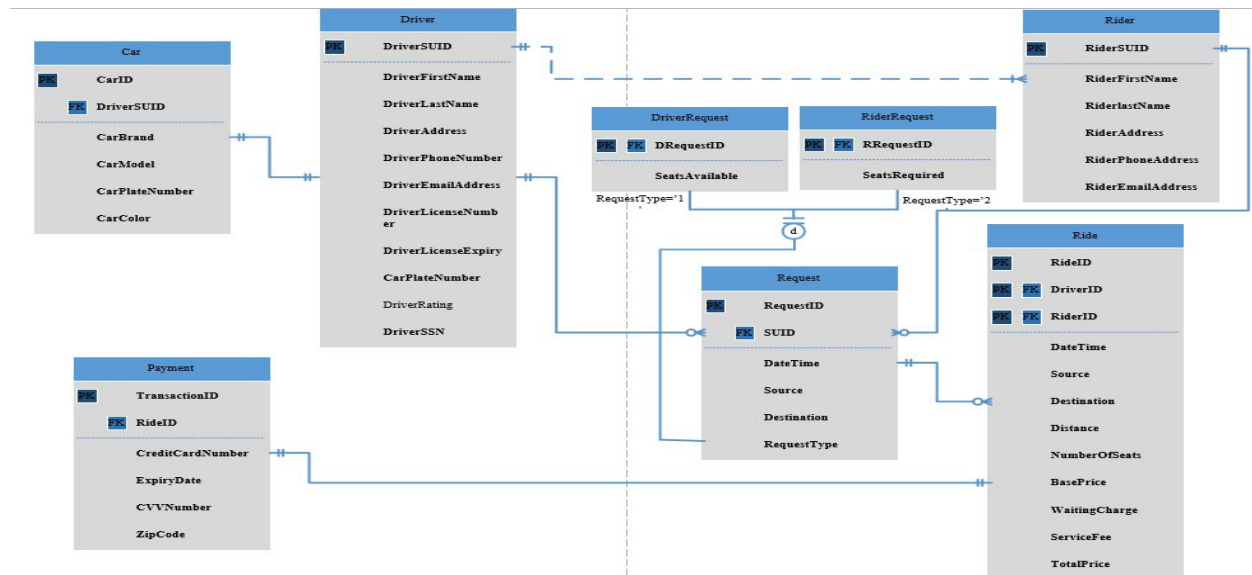


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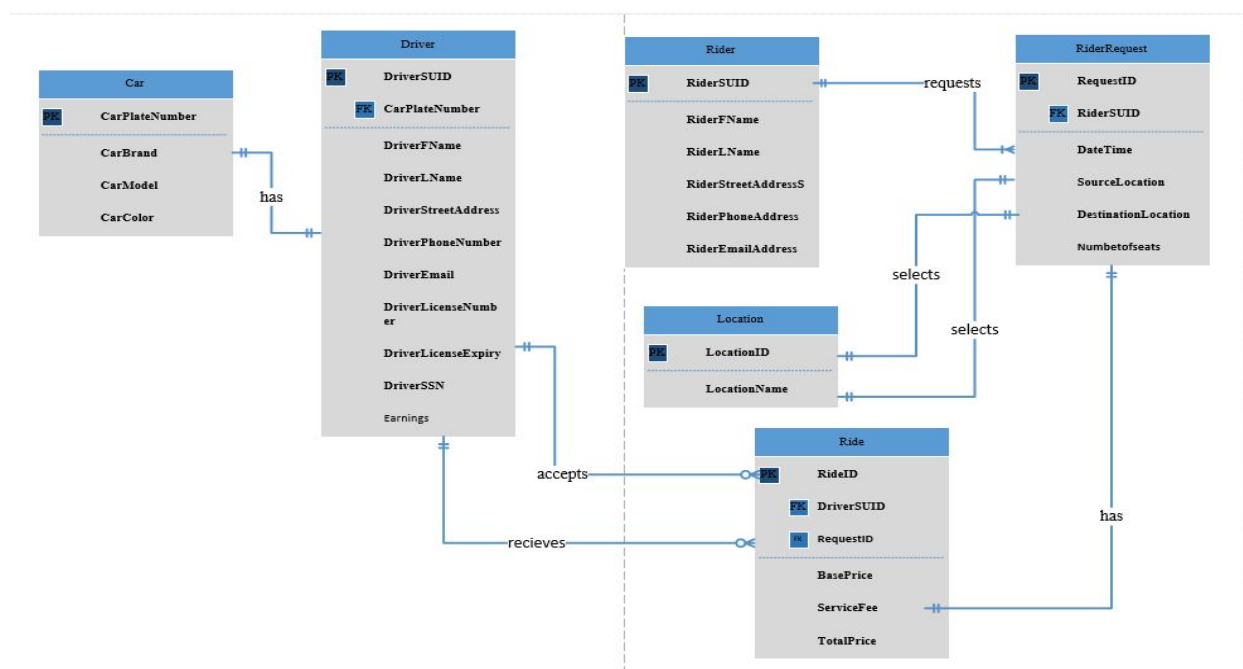
BUG REPORT AND LESSONS LEARNED

Carpooling App

Bug 1: Driver and Rider request was not mapped through the initial ERD model



Resolution: Added a new table 'Location' from where the rider could select the location of his drop and pickup.



Bug 2: When the driver accepts the ride, the status of the ride request should be updated.

Resolution: Made changes in the trigger which results in the updation of the Completed status as 'Yes' when a driver accepts a ride request.

SQL Query:

```
Create Trigger requestdelete ON dbo.Ride
After INSERT
AS
BEGIN
DECLARE @newrequest INTEGER
SELECT @newrequest=INSERTED.RequestID FROM INSERTED
UPDATE dbo.RiderRequest
SET dbo.RiderRequest.Completed='yes'
WHERE @newrequest=RiderRequest.RequestID
END
GO
```

RiderRequest before a new request is made:

RequestID	RiderID	Date_time	SourceLocati	DestinationLi	NumberofSei	Completed
234 3999933333	#####		8	10	2	no
701 3445233333		12/21/2018	9	10	2	yes
702 3435233333		1/1/1900	2	4	3	no
703 3445233333		1/1/1900	4	5	2	no
704 3887733333		1/1/1900	1	4	1	yes
705 3445233333		1/1/1900	3	5	3	yes
706 3435233333		1/1/1900	1	6	3	yes
707 2312333333		1/1/1900	1	7	2	yes
708 3445233333		1/1/1900	3	7	3	yes
709 3435233333		1/1/1900	5	7	3	yes
710 3887733333		1/1/1900	6	4	2	yes
711 3445233333		1/1/1900	2	7	1	yes
712 2312333333		1/1/1900	4	6	2	yes
713 3435233333		1/1/1900	6	7	1	yes
714 3887733333		1/1/1900	3	5	3	yes
730 3887733333	#####		3	5	3	yes
740 3887733333	#####		3	5	3	yes
2000 3887733333	#####		3	5	3	no
2001 3887733333	#####		3	5	2	no
2002 3887733333	#####		3	5	1	no
2003 3887733333	#####		3	5	4	no
2004 3887733333	#####		3	5	1	no
3000 3435233333	#####		4	1	1	no
3001 2312333333	#####		3	1	1	yes
1000066 3887733333		11/24/2018	4	10	1	yes
9000009 3435233333		12/5/2018	2	4	2	no
10000000		11/16/2018	9	10	1	yes
*						

The Carpool request made with requestID 1:

Carpool Request

RequestID: 1

Rider ID: 3887733333

Source: 7

Destination: 3

Number of Seats: 1

Back Enter

The Updated RiderRequest Table:

RequestID	RiderID	Date_time	SourceLocati	DestinationL	NumberofSe	Completed
1	3887733333	#####	7	3	1	no
234	3999933333	#####	8	10	2	no
701	3445233333	12/21/2018	9	10	2	yes
702	3435233333	1/1/1900	2	4	3	no
703	3445233333	1/1/1900	4	5	2	no
704	3887733333	1/1/1900	1	4	1	yes
705	3445233333	1/1/1900	3	5	3	yes
706	3435233333	1/1/1900	1	6	3	yes
707	2312333333	1/1/1900	1	7	2	yes
708	3445233333	1/1/1900	3	7	3	yes
709	3435233333	1/1/1900	5	7	3	yes
710	3887733333	1/1/1900	6	4	2	yes
711	3445233333	1/1/1900	2	7	1	yes
712	2312333333	1/1/1900	4	6	2	yes
713	3435233333	1/1/1900	6	7	1	yes
714	3887733333	1/1/1900	3	5	3	yes
730	3887733333	#####	3	5	3	yes
740	3887733333	#####	3	5	3	yes
2000	3887733333	#####	3	5	3	no
2001	3887733333	#####	3	5	2	no
2002	3887733333	#####	3	5	1	no
2003	3887733333	#####	3	5	4	no
2004	3887733333	#####	3	5	1	no
3000	3435233333	#####	4	1	1	no
3001	2312233333	#####	3	1	1	yes
1000066	3887733333	11/24/2018	4	10	1	yes
9000009	3435233333	12/5/2018	2	4	2	no
10000000		11/16/2018	9	10	1	yes

Driver makes a selection:

Ride Selection

Ride ID: 4444

Driver: Ted

Request: 1

Back Enter

Row Inserted in Ride Table:

RideID	DriverSUID	RequestID	BasePrice	ServiceFee	TotalPrice
89	8757766345	702	6	1	7
101	8757766325	707	6	1	7
121	8757766325	702	6	1	7
177	8757766335	710	6	1	7
403	8757766345	234	6	1	7
404	8757766415	740	6	1	7
600	8757766405	701	6	1	7
909	8757766455	730	6	1	7
999	8757766455	710	6	1	7
1001	8757766325	701	6	1	7
1010	8757766455	714	6	1	7
1020	8757766415	711	6	1	7
1212	8757766405	1000066	6	1	7
2112	8757766455	712	6	1	7
2222	8757766405	234	6	1	7
4444	8757766325	1	6	1	7
6868	8757766405	2003	6	1	7
10301	8757766455	712	6	1	7
30002	8757766415	708	6	1	7
90000	8757766465	10000000	6	1	7
101010	8757766455	710	6	1	7
122196	8757766455	3001	6	1	7
700000	8757766415	3001	6	1	7
1000000	8757766455	730	6	1	7

Updated RiderRequest Table:

RequestID	RiderID	Date_time	SourceLocati	DestinationLi	NumberofSe	Completed
3887733333	#####		7	3	1	yes
234 3999933333	#####		8	10	2	yes
701 3445233333		12/21/2018	9	10	2	yes
702 343523333		1/1/1900	2	4	3	no
703 3445233333		1/1/1900	4	5	2	no
704 3887733333		1/1/1900	1	4	1	yes
705 3445233333		1/1/1900	3	5	3	yes
706 343523333		1/1/1900	1	6	3	yes
707 231233333		1/1/1900	1	7	2	yes
708 3445233333		1/1/1900	3	7	3	yes
709 343523333		1/1/1900	5	7	3	yes
710 3887733333		1/1/1900	6	4	2	yes
711 3445233333		1/1/1900	2	7	1	yes
712 231233333		1/1/1900	4	6	2	yes
713 343523333		1/1/1900	6	7	1	yes
714 3887733333		1/1/1900	3	5	3	yes
730 3887733333	#####		3	5	3	yes
740 3887733333	#####		3	5	3	yes
2000 3887733333	#####		3	5	3	no
2001 3887733333	#####		3	5	2	no
2002 3887733333	#####		3	5	1	no
2003 3887733333	#####		3	5	4	yes
2004 3887733333	#####		3	5	1	no
3000 343523333	#####		4	1	1	no
3001 231233333	#####		3	1	1	yes
1000066 3887733333		11/24/2018	4	10	1	yes
9000009 3435233333		12/5/2018	2	4	2	no
10000000		11/16/2018	9	10	1	yes

Bug 3: The price is not being calculated in real-time for every ride, nor is it displayed

Resolution: A query was implemented to calculate the total price as the sum of base fare and service fee. The base fare is 2x the number of seats booked and the service fee is 10% of the base fare. This price is also displayed to the driver when he selects a ride, so he knows how much he is being paid

SQL Query:

```
SELECT dbo_RiderRequest.RequestID, dbo_locations.LocationName AS Source,
dbo_locations_1.LocationName AS Destination, dbo_RiderRequest.NumberofSeats,
(dbo_RiderRequest.NumberofSeats*2) AS BasePrice,
((dbo_RiderRequest.NumberofSeats*2)*0.1) AS ServiceFee,
(dbo_RiderRequest.NumberofSeats*2) + ((dbo_RiderRequest.NumberofSeats*2)*0.1)
AS TotalPrice
FROM dbo_locations AS dbo_locations_1
```


INNER JOIN (dbo_locations INNER JOIN dbo_RiderRequest ON
 dbo_locations.LocationID = dbo_RiderRequest.SourceLocation) ON
 dbo_locations_1.LocationID = dbo_RiderRequest.DestinationLocation;

Rider Statistics \ RIDER \ main_form \ Driver \ Driver Information \ Destination_stats \ source_stats \ Rides_table

Ride Selection

Ride ID: 1212

Driver: Bob

Request:

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703	East Genesee	Erie Boulevard	2	4	0.4	4.4
704	Westcott St	East Genesee	1	2	0.2	2.2
705	College Place	Erie Boulevard	3	6	0.6	6.6
706	Westcott St	Ostrom Ave	3	6	0.6	6.6
707	Westcott St	Downtown	2	4	0.4	4.4
708	College Place	Downtown	3	6	0.6	6.6
709	Erie Boulevard	Downtown	3	6	0.6	6.6
710	Ostrom Ave	East Genesee	2	4	0.4	4.4
711	Maryland Ave	Downtown	1	2	0.2	2.2
712	East Genesee	Ostrom Ave	2	4	0.4	4.4
713	Ostrom Ave	Downtown	1	2	0.2	2.2
714	College Place	Erie Boulevard	3	6	0.6	6.6
730	College Place	Erie Boulevard	3	6	0.6	6.6
740	College Place	Erie Boulevard	3	6	0.6	6.6
1000066	East Genesee	Destiny USA	1	2	0.2	2.2
10000000	Euclid Ave	Destiny USA	1	2	0.2	2.2

Lessons Learned:

1. The importance of Entity-Relationship Model and how it is based on real-world entities and relationships between them. I understood the importance of formulating a real world scenario in the database model which helps in understanding the connectivity between the entities, hence useful in knowing the structure of the database model of the system.
2. The importance of triggers in a database management project and how to use them as triggers fire within the scope of database transactions. I learnt that triggers can fire without any explicit notice and can implement specific business rules. This was very helpful while implementing triggers in the project.
3. The use of ternary relationships which allows to have latitude regarding the semantics of a problem. An association among three different entities implies a ternary relationship.