Dharmsinh Desai University, Nadiad

Faculty of Technology
Department of Computer Engineering

B. Tech CE Semester – VI

Subject: Service Oriented Computing

Project Title:

Car-Pooling Application

By:
1) Rutvik Kathrecha
CE-058
17CEUBS048

2)Samyak Mehta
CE-067
17CEUON035

Guided by: Prof. Ankit P. Vaishnav

Dharmsinh Desai University, Nadiad

Faculty of Technology
Department of Computer Engineering

CERTIFICATE

This is to certify that the Service Oriented Computing project entitled **"Car-Pooling Application"** is a bona fide report of the work carried out by

1) **Rutvik Kathrecha, Roll No: CE058, Student ID No: 17CEUBS048**
2) **Samyak Mehta, Roll No: CE067, Student ID No: 17CEUON035**

Of Department of Computer Engineering, Semester VI, academic year 2019-20, under the guidance and supervision for the subject Service Oriented Computing.

(Project Guide)
Prof. Ankit P. Vaishnav
Assistant Professor
Department of Computer Engineering,
Faculty of Technology,
Dharmsinh Desai University,
Nadiad

(HOD)
Dr. C. K. Bhensdadia
Head of Department
Department of Computer Engineering,
Faculty of Technology,
Dharmsinh Desai University,
Nadiad

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Abstract

In todays world everyone wants some kind of sharing in life so that they can achieve better life without paying high cost. One of the sharable things is transportation. Daily lots of people up-down from cities. Some have their personal vehicle and some use local transport. People having personal vehicle fills they are costing much and people using local transport fills they are tired much. So, let's connect both and come to the idea of carpooling.

Introduction

In todays world everyone has value of two things: time and money. Everybody wants somehow to save their time and money. Carpooling is the project where these both aspects will be satisfied. The person having own vehicle can save money by sharing vehicle with others who are on-route. The other person who is using local transport can take the service of these type of people to save time and take easier journey at same price.

In our application we have built one service for admin site which provides actions like view all cars, add, update or delete car details. So, basically it provides the CRUD operation on car object. We have used service-oriented approach to build this application.

Technology used:

- .NET framework
- WCF Service
- Windows Forms

Platform used:

- Visual Studio 2019

Software Requirement Specifications

System Functional Requirements

R.1 Admin

R.1.1 Login

Description: If you already have an account, login here.
Input: Username, password.
Output: Successfully logged in.
Processing: Admin will enter username and password to login, if already registered.

R.1.2 Manage Cars

Description: Admin can perform all the CRUD operation on cars.

R.2.4.1 View Cars
Input: User selection
Output: Display Cars details.

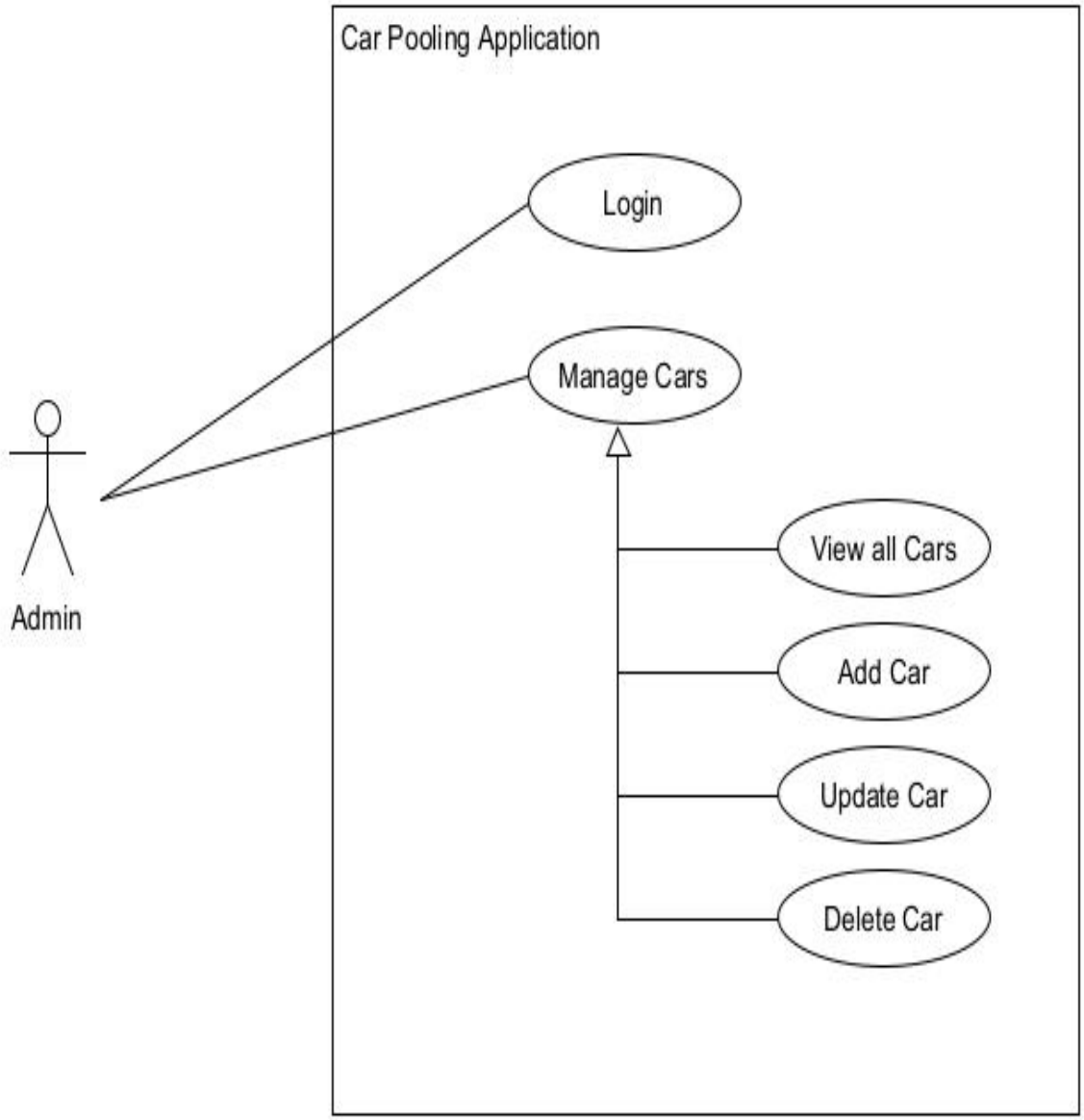
R.2.4.2 Add Car
Input: Car details.
Output: Car successfully added.

R.2.4.3 Update Car
Input: Car details.
Output: Car successfully updated.

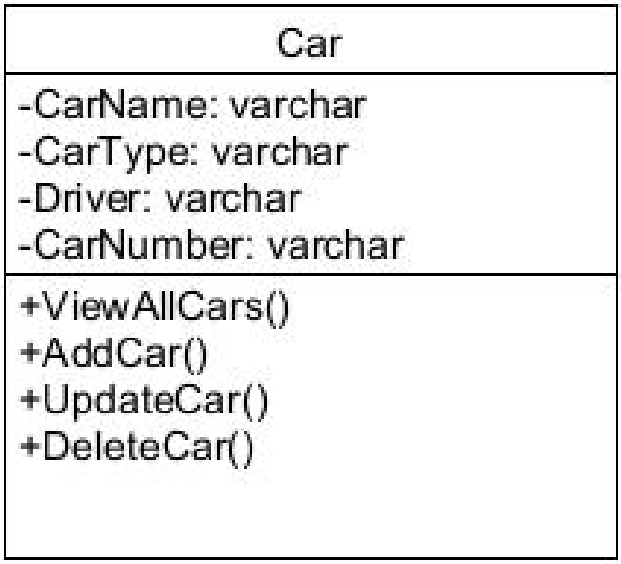
R.2.4.4 Remove Car
Input: Car details.
Output: Car successfully removed.

Design

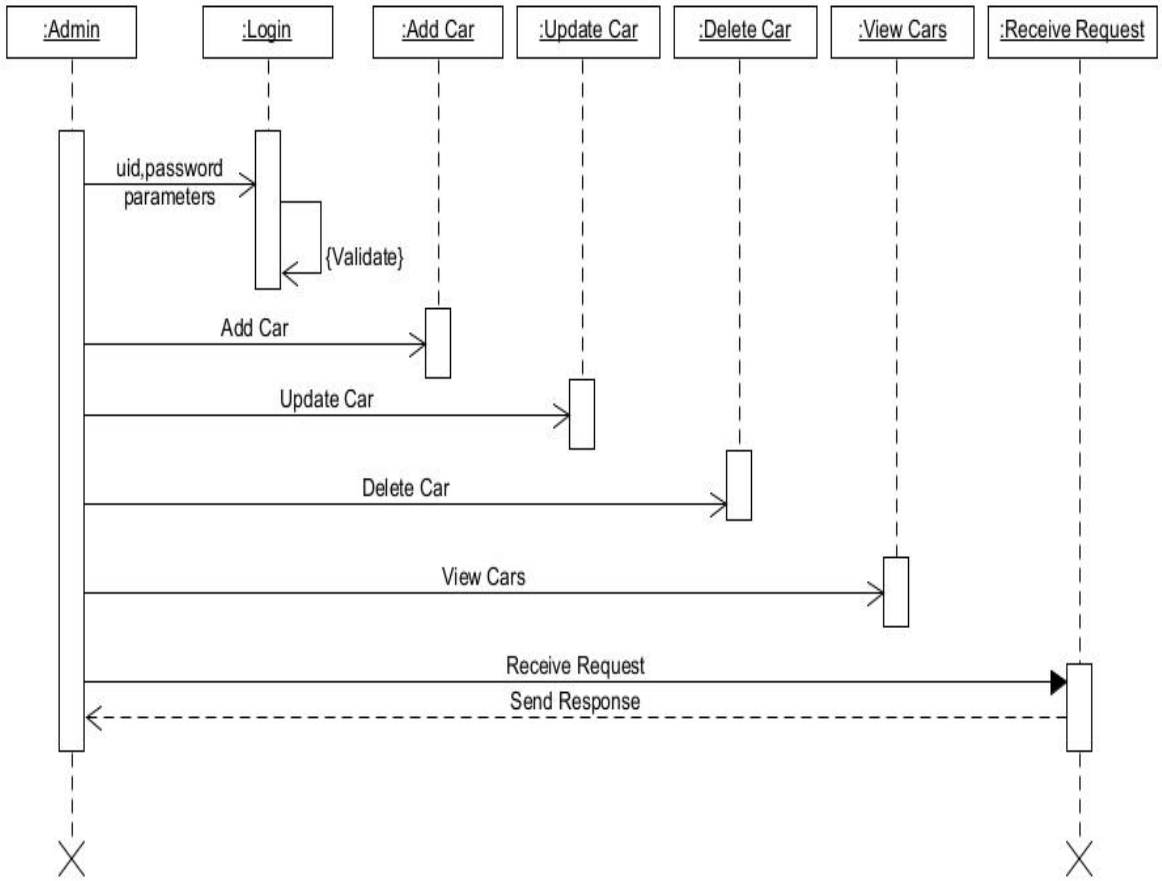
1) Use Case Diagram



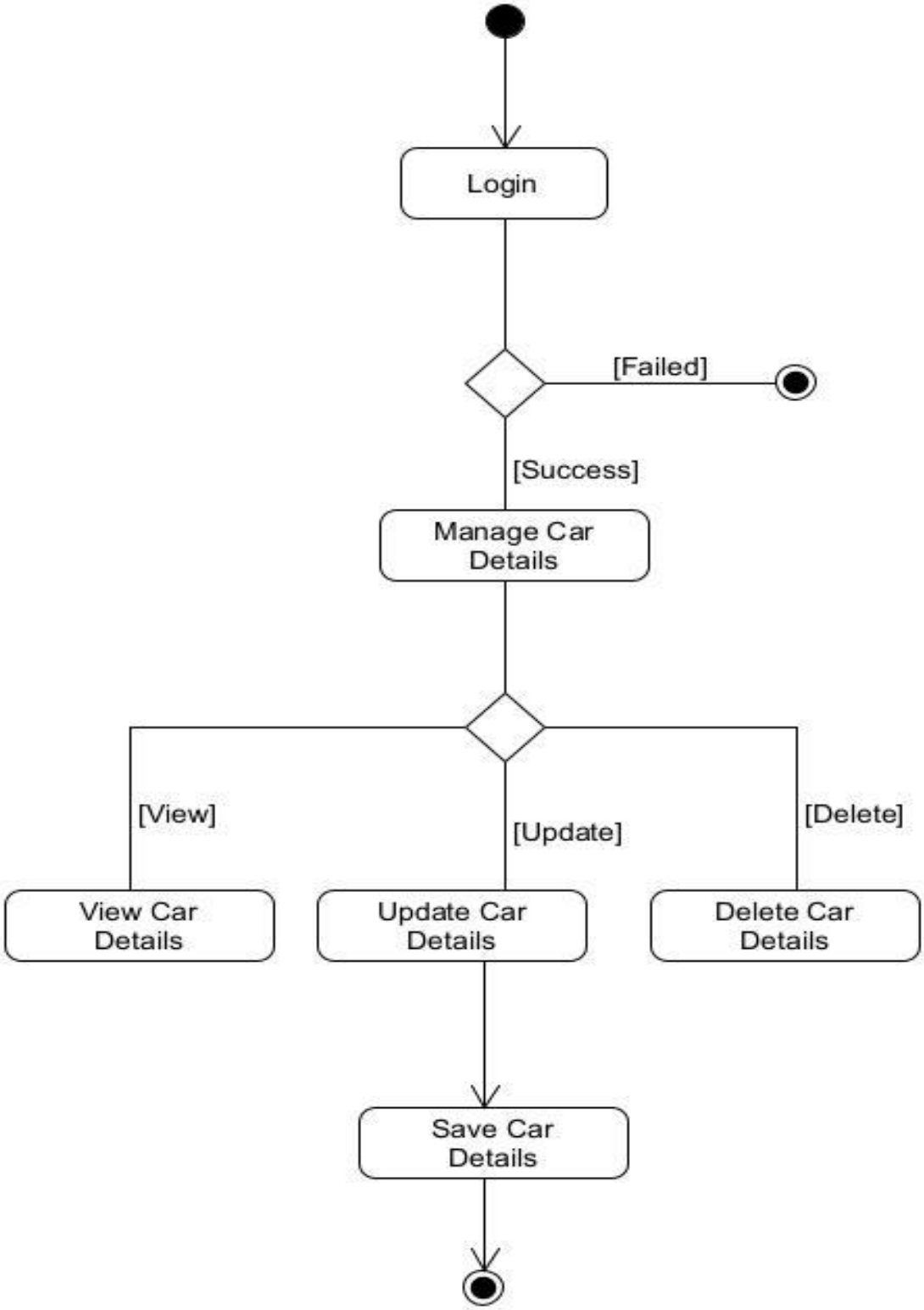
2) Class Diagram



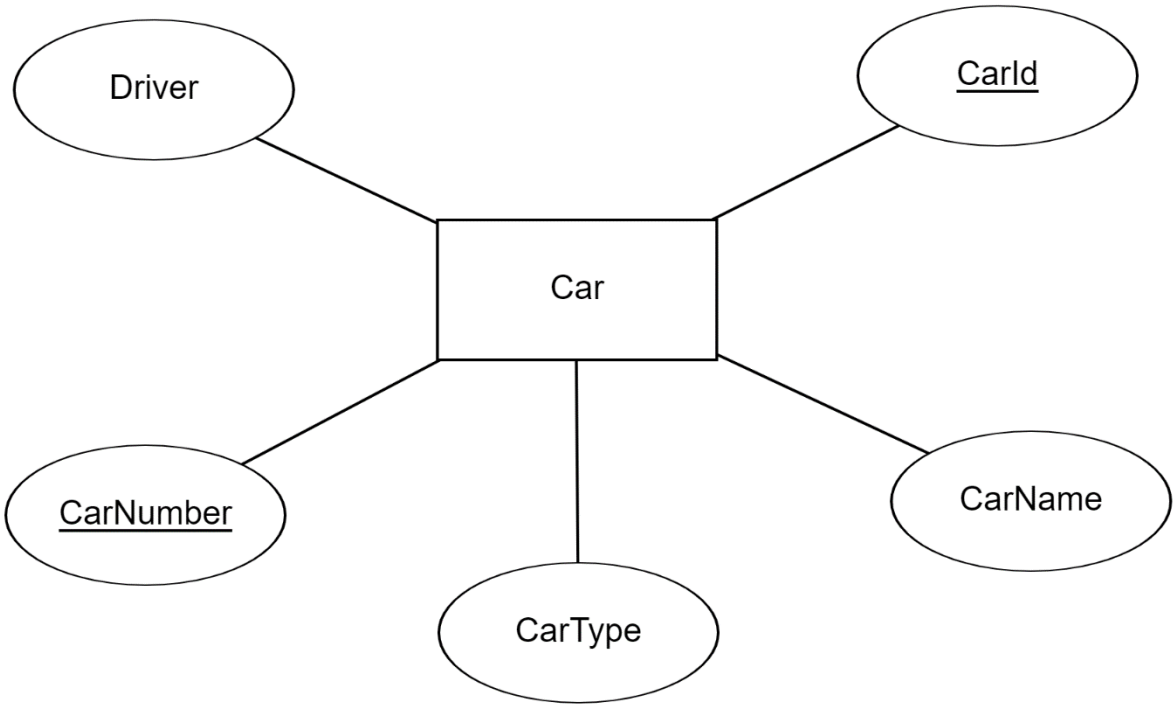
3) Sequence Diagram



Activity Diagram



4) E-R Diagram



5) Data Dictionary

Car							
Sr. No.	Field Name	Data Type	Width	Required	Unique	PK/FK	Referenced Table
1	CarId	Number	20	Yes	Yes	PK	
2	CarType	Varchar2	50	Yes	No		
3	CarName	Varchar2	50	Yes	No		
4	Driver	Varchar2	50	Yes	No		
5	Car_Number	Varchar2	50	Yes	Yes		

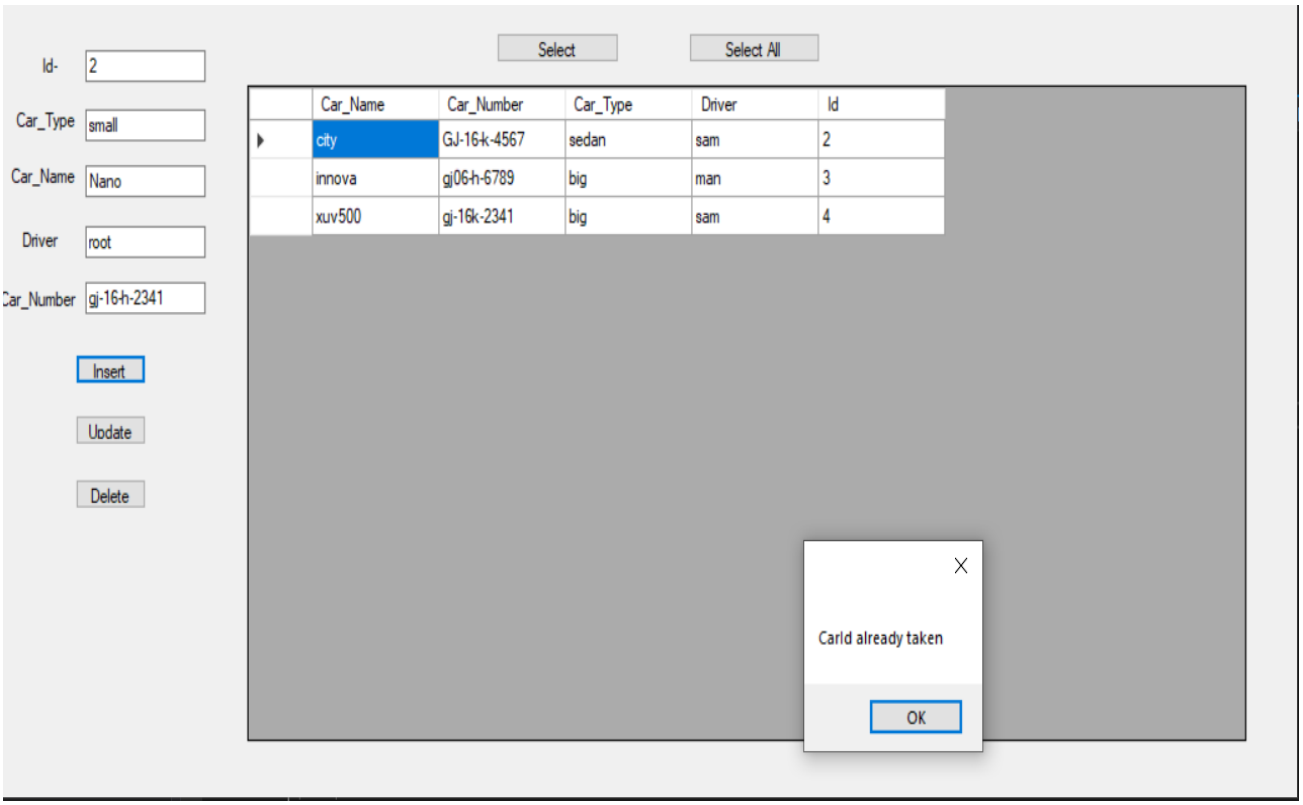
Implementation Details

Manage Car Details Module

Admin can add the car in the system. For that admin has to provide car details like Car id, Car type, Car name, Driver, and Car number. And if details are valid than data will be inserted.
If Admin wants to update the car details then he/she can write the Car Id and select that particular details and update the details.
The Admin can also Delete the Car details by writing the Id.
Also, The Admin can Get all the car details by selecting view all cars.

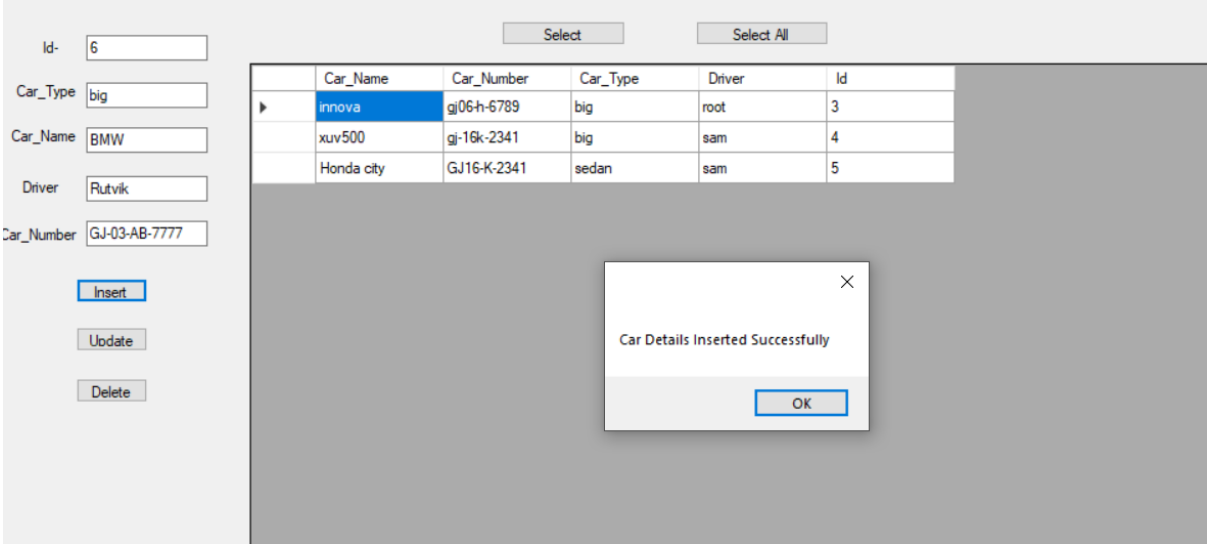
Testing

We have performed black box testing for this system.

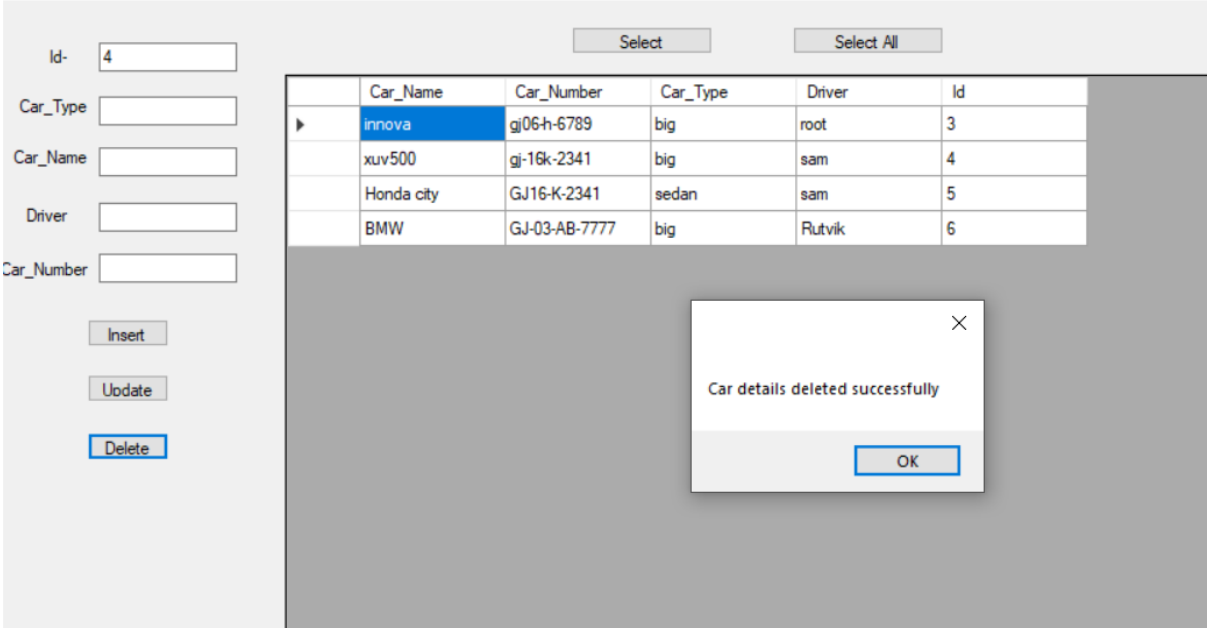


- Here, Already Car Id with 2 is inserted, so when any other user tries to enter car with same Id then it will not be allowed so that each and every car will have unique car Id.

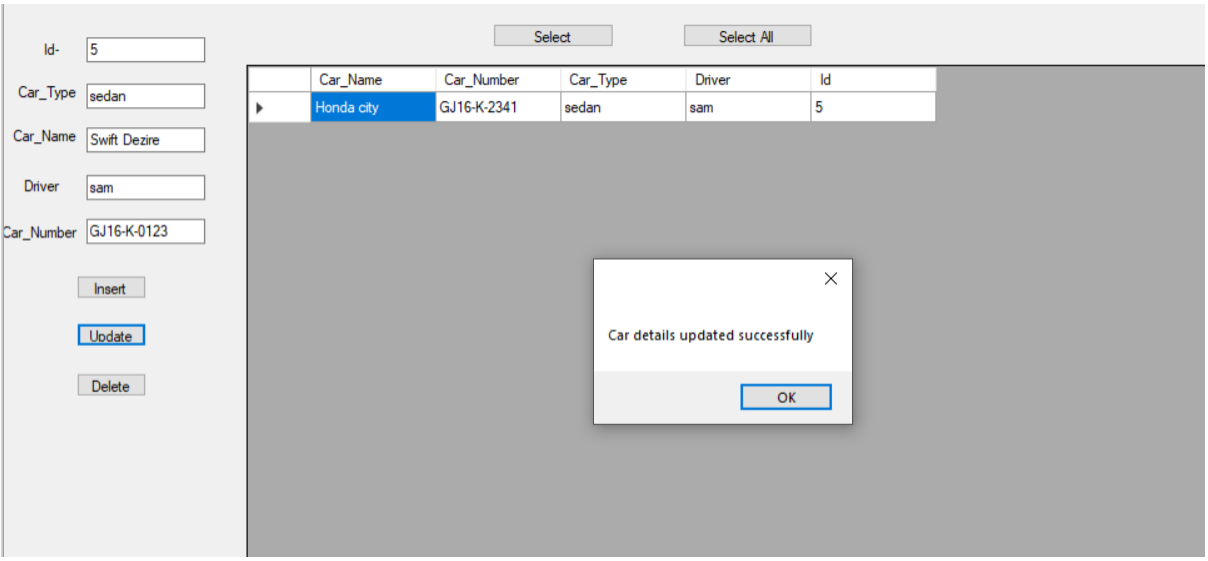
Screen-shots



- The above figure shows that car details are inserted successfully and in below figure it is clearly seen in the DataGridView that data with Car Id = 6 is inserted.

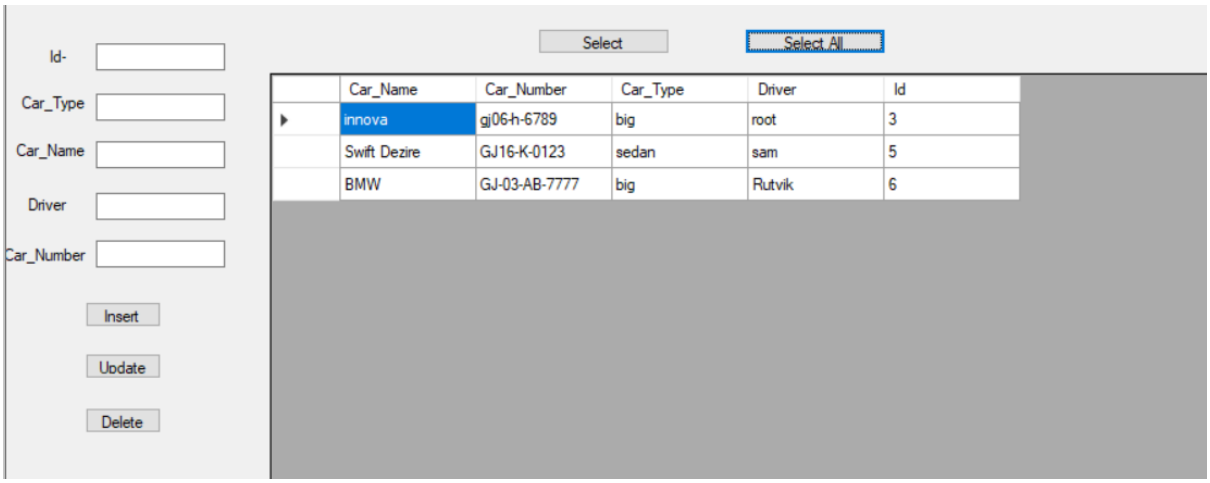


- The Car Id has Value 4 and Message Box shows that Car Id is Deleted.



- Here Details of Car id 5 that is Car_Name and Car_Number is changed and updated.

- The result of Delete operation and Update Operation is as follows:


Id-
Car_Type
Car_Name
Driver
Car_Number
Insert
Update
Delete
Select
Select All
Car_Name
Car_Number
Car_Type
Driver
Id
innova
gj06-h-6789
big
root
3
Swift Dezire
GJ16-K-0123
sedan
sam
5
BMW
GJ-03-AB-7777
big
Rutvik
6

Conclusion

In this car-pooling application we have successfully implemented CRUD operation on the car details. We implemented this using the WCF-Service which is another goal of the application. We have successfully implemented the Admin module for the application in which admin can View, Insert, Update, and Delete car details.

Limitations and Future Extension

Limitations

The system does not check the authenticity of the Driver whether the car is owned by him/her only. That work is done by admin manually.

Future Extension

- To implement the client module for application.
- To implement the functionality for checking the authenticity of driver
- To provide functionality which supports Deletion of the Driver as well as Car details automatically on getting complaints about service provided or rude behaviour of the driver.

Bibliography

- https://docs.microsoft.com/en-us/dotnet/framework/wcf/whats-wcf