Case Study

CarConnect, a Car Rental Platform

SUBMITED BY: E.R HARISH

DATE OF SUBMISSION: 14/10/2024

Case study: CarConnect, a Car Rental Platform

GITHUB link:

https://github.com/Harish0562/CarConnect_CaseStudy.git

```
Main Menu:
1. Customer Service
2. Vehicle Service
3. Reservation Service
4. Admin Service
5. Authentication Service
6. Report Generation
0. Exit
Enter your choice (0-6):
```

Results | Messages

	CustomerID	FirstName	LastName	Email	PhoneNumber	Address	Username	Password	RegistrationDate
1	1	Harish	E R	harish.er562@gmail.com	7769011289	abc	harish562	1234	2024-10-07 00:00:00.000
2	2	Harry	Lewis	wrotoshow@gmail.com	123456789	sidemen home	w2s	12345	2024-10-07 00:00:00.000
3	3	Ethan	Payne	behzinga@gmail.com	12345	sidemen house	behzinga	sidemen	2024-10-09 00:00:00.000
4	10	Olatunji	aka JJ	jj@gmail.com	12345	sidemen house	jj	sidemen	2024-10-09 00:00:00.000

1) Customer Service:

```
Enter your choice (0-6): 1
Customer Service:
1. Get Customer by ID
2. Get Customer by Username
3. Register a new Customer
4. Update Customer information
5. Delete a Customer
0. Exit
Enter your choice (0-5):
```

- Get Customer ID:

```
Enter your choice (0-5): 1
Enter customer ID to get: 1

Customer Data: (1, 'Harish', 'E R', 'harish.er562@gmail.com', '7769011289', 'abc', 'harish562', '1234', datetime.datetime(2024, 10, 7
, 0, 0))
```

- Get Customer by Username:

```
Enter your choice (0-5): 2
Enter username to get customer data: w2s

Customer Data: {'CustomerID': 2, 'Password': '12345'}
```

- Register New Customer:

```
Enter your choice (0-5): 3
Enter first name: Harish
Enter last name: E.R
Enter email: harish.er561@gmail.com
Enter phone number: 7769011289
Enter address: abc
Enter username: harish0562
Enter password: 12345
Enter registration date (YYYY-MM-DD): 2024-10-14
Customer registered successfully.
```

- Update Customer Information:

```
Enter your choice (0-5): 4
Enter customer ID to update: 12
Enter updated first name: Harish
Enter updated last name: E.R
Enter updated email: harish.er561@yahoo.com
Enter updated phone number: 7769011289
Enter updated address: abc
Enter updated username: harish0562
Enter updated password: 12345
Enter updated registration date (YYYY-MM-DD): 2024-10-14
Customer updated successfully.
```

- Delete Customer:

```
Enter your choice (0-5): 5
Enter customer ID to delete: 12
Customer with ID 12 deleted successfully.
```

2) Vehicle Service:

	VehicleID	Model	Make	Year	Color	RegistrationNumber	Availability	DailyRate
1	1	Urus	Lamborghini	2	Blue	1234	1	9000.00
2	2	M4	BMW	4	Blue	007	1	50000.00
3	4	C Class	Mercedes Benz	1	Blue	1010	1	35000.00
4	5	S Class	Mercedes Benz	2	Grey	2121	1	45000.00

- Get Vehicle by ID:

```
Enter your choice (0-5): 1
Enter vehicle ID to get: 4


Vehicle Data: (4, 'C Class', 'Mercedes Benz', 1, 'Blue', '1010', True, Decimal('35000.00'))
```

- Get Available Vehicles:

```
Enter your choice (0-5): 2

Available Vehicles:
(1, 'Urus', 'Lamborghini', 2, 'Blue', '1234', True, Decimal('9000.00'))
(2, 'M4', 'BMW', 4, 'Blue', '007', True, Decimal('50000.00'))
(4, 'C Class', 'Mercedes Benz', 1, 'Blue', '1010', True, Decimal('35000.00'))
(5, 'S Class', 'Mercedes Benz', 2, 'Grey', '2121', True, Decimal('45000.00'))
```

- Add Vehicle:

```
Enter your choice (0-5): 3
Enter model: SF90
Enter make: Ferrai
Enter year: 2024
Enter color: Red
Enter registration number: 1655
Enter daily rate: 1000000
Vehicle added successfully.
```

- Update Vehicle:

```
Enter your choice (0-5): 4
Enter vehicle ID to update: 6
Enter updated model: SF90
Enter updated make: Ferrai
Enter updated year: 1
Enter updated color: Red
Enter updated registration number: 5516
Enter updated daily rate: 1000000
Vehicle updated successfully.
```

- Remove Vehicle:

```
Enter your choice (0-5): 5
Enter vehicle ID to delete: 6
Vehicle removed successfully.
```

3) Reservation Service:

	ReservationID	CustomerID	VehicleID	StartDate	EndDate	TotalCost	Status
1	2	1	1	2024-10-07 15:32:01.540	2024-10-11 15:32:01.540	15000.00	Cancelled
2	3	3	2	2024-10-09 11:34:26.750	2024-10-21 11:34:26.750	100000.00	Cancelled
3	4	10	4	2024-10-09 11:35:24.473	2024-10-19 11:35:24.473	45000.00	pending
4	6	10	5	2024-10-09 11:54:27.523	2024-10-15 11:54:27.523	300000.00	confirmed

- Get Reservation by ID:

```
Enter your choice (0-5): 1
Enter reservation ID to get: 2

Reservation Data: (2, 1, 1, datetime.datetime(2024, 10, 7, 15, 32, 1, 540000), datetime.datetime(2024, 10, 11, 15, 32, 1, 540000), De
cimal('15000.00'), 'Cancelled')
```

- Get Reservation by CustomerID:

```
Enter your choice (0-5): 2
Enter customer ID to get reservations: 3

Reservations Data:
(3, 3, 2, datetime.datetime(2024, 10, 9, 11, 34, 26, 750000), datetime.datetime(2024, 10, 21, 11, 34, 26, 750000), Decimal('100000.00
'), 'Cancelled')
```

- Create Reservation:

```
Enter your choice (0-5): 3
Enter customer ID: 2
Enter vehicle ID: 5
Enter reservation duration (in days): 2
Enter total cost: 90000
Enter reservation status: Confirmed
Reservation created successfully.
```

- Update Reservation:

```
Enter your choice (0-5): 4
Enter reservation ID update: 7
Enter customer ID: 2
Enter vehicle ID: 5
Enter updated reservation duration (in days): 3
Enter updated total cost: 1000000
Enter updated reservation status: Confirmed
Reservation updated successfully.
```

- Cancel Reservation:

```
Enter your choice (0-5): 5
Enter reservation ID to cancle: 7
Reservation with ID 7 has been cancelled.
```

4) **Admin Service:**

	AdminID	FirstName	LastName	Email	PhoneNumber	Username	Password	Role	JoinDate
1	1	Harish	E R	harish.er562@gmail.com	7769011289	Harish562	hello	member	2024-10-07 00:00:00.000
2	4	Shubham	Samal	shubhamsamal02@gmail.com	9320618899	samal02	shubhamsamal	member	2024-10-09 00:00:00.000

- Get Admin by ID:

```
Enter your choice (0-5): 1
Enter admin ID to get: 1

Admin Data: (1, 'Harish', 'E R', 'harish.er562@gmail.com', '7769011289', 'Harish562', 'hello', 'member', datetime.datetime(2024, 10, 7, 0, 0))
```

- Get Admin by Username:

```
Enter your choice (0-5): 2
Enter admin username to get: Harish562

Admin Data: {'AdminID': 1, 'Password': 'hello'}
```

- Register Admin:

```
Enter your choice (0-5): 3
Enter first name: Harry
Enter last name: Lewis
Enter email: wroteshow@gmail.com
Enter phone number: 123456789
Enter username: w2s
Enter password: sidemen
Enter role: member
Enter join date (YYYY-MM-DD): 2024-10-14
Admin registered successfully.
```

- Update Admin:

```
Enter your choice (0-5): 4
Enter admin ID to update: 5
Enter updated first name: Harry
Enter updated last name: Lewis
Enter updated email: wroteshow@yahoo.com
Enter updated phone number: 123456789
Enter updated username: w2s
Enter updated password: sidemen
Admin updated successfully.
```

- Delete Admin:

```
Enter your choice (0-5): 5
Enter admin ID to update: 5
Admin deleted successfully.
```

5) Authentication Service:

- Authenticate Customer:

```
Enter your choice (0-2): 1
Enter customer username: w2s
Enter customer password: 12345
Authentication successful.
Customer authenticated: {'CustomerID': 2, 'Password': '12345'}
```

- Authenticate Admin:

```
Enter your choice (0-2): 2
Enter admin username: Harish562
Enter admin password: hello
Authentication successful.
Admin authenticated: {'AdminID': 1, 'Password': 'hello'}
```

6) Report Generation:

- Generate Reservation Report:

```
Enter your choice (0-2): 1
Reservation Report:
Reservation ID | Customer ID | Vehicle ID | Start Date | End Date | Amount | Status
2              | 1           | 1          | <11 | <9 | 15000.00   | Cancelled
3              | 3           | 2          | <11 | <9 | 100000.00  | Cancelled
4              | 10          | 4          | <11 | <9 | 45000.00   | pending
6              | 10          | 5          | <11 | <9 | 300000.00  | confirmed
7              | 2           | 5          | <11 | <9 | 1000000.00 | Cancelled
Reservation Report generated successfully.
```

- Generate Vehicle Report:

```
Enter your choice (0-2): 2

Vehicle Report:
Vehicle ID | Model | Brand | Year | Color
1          | Urus    | Lamborghini   | 2    | Blue
2          | M4      | BMW           | 4    | Blue
4          | C Class | Mercedes Benz | 1    | Blue
5          | S Class | Mercedes Benz | 2    | Grey
Vehicle Report generated successfully.
```

7) Exit:

```
Main Menu:
1. Customer Service
2. Vehicle Service
3. Reservation Service
4. Admin Service
5. Authentication Service
6. Report Generation
0. Exit
Enter your choice (0-6): 0
Thankyou for using the Car Connect System.
```