

CAR RENTAL MANAGEMENT SYSTEM

GROUP MEMBER DETAILS

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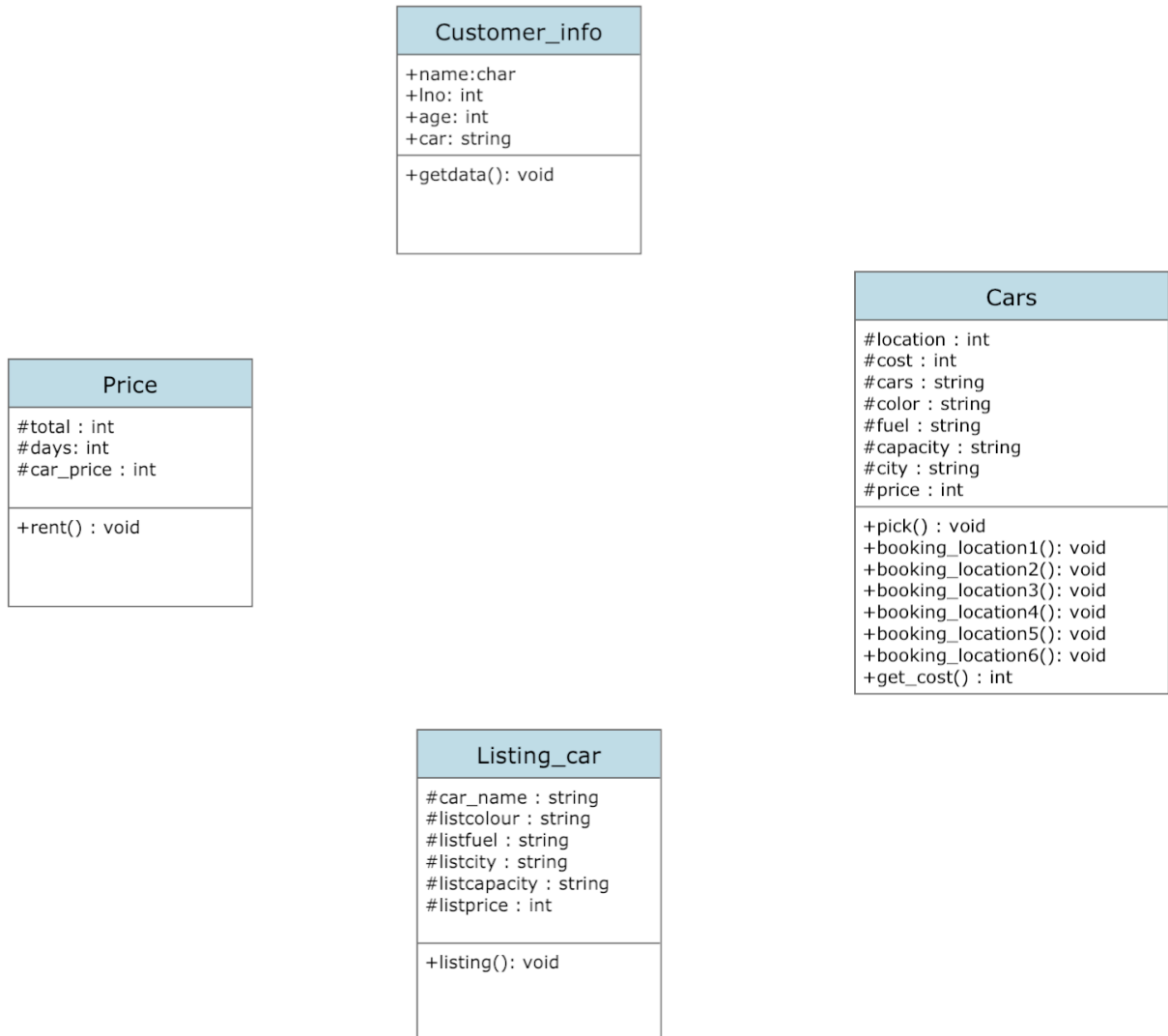
ABSTRACT

“Car rental management system” is a collaborative project written in C++ language. It provides a very helpful program which helps the user in renting a car or listing his/her car on rent. It also includes a logging in and registration system.

The customer first provides his username and password and if he/she is using it for the first time then registration can be done by entering a username and password of his/her choice. Next, a user can select between hiring any car for a particular period of time or list out cars for others to rent.

The option of renting out cars includes the choice of location, car details like brand, colour, fuel, seating capacity and cost per day.

DESIGN OF THE PROJECT



IMPLEMENTATION DETAILS

```
#include <iostream>
#include <fstream>
#include <string>
#include <cstring>
using namespace std;
class customer_info
{
public:
    char name[30];
    string car[30];
    int age = 0, lno;

    void getdata()
    {
        cout << "\nEnter name:";
        fflush(stdin);
        gets(name);
        cout << "\nEnter your license number:";
        cin >> lno;
        while (age < 18)
        {
            cout << "\nEnter age:";
            cin >> age;

            if (age < 18)
            {
                cout << "\tAge entered is wrong." << endl;
                cout << "\tRenter!";
                cout << endl;
            }
            if (age >= 18)
            {
                break;
            }
        }
    }
};

class cars
{
protected:
    int location, cost;
    string cars[30] = {"\t\t1.Suzuki Swift\t\t", "\t\t2.Ford Ecosport\t\t", "\t\t3.Toyota Fortuner\t\t", "\t\t4.Audi A4\t\t", "\t\t1.Hyundai i20\t\t",
"\t\t2.Hyundai Creta\t\t", "\t\t3.Mahindra XUV 500\t\t", "\t\t4.BMW 3 series\t\t", "\t\t1.Tata Tiago\t\t", "\t\t2.Suzuki Brezza\t\t",
"\t\t3.Mahindra Marazzo\t\t", "\t\t4.Mercedes C Class\t\t", "\t\t1.Ford Freestyle\t\t", "\t\t2.Tata Nexon\t\t", "\t\t3.Tata Hexa\t\t", "\t\t4.Audi
A6\t\t", "\t\t1.Suzuki Baleno\t\t", "\t\t2.Hyundai Verna\t\t", "\t\t3.Toyota Innova\t\t", "\t\t4.BMW 5 Series\t\t", "\t\t1.VW Polo\t\t",
"\t\t2.Honda City\t\t", "\t\t3.Mahindra Scorpio\t\t", "\t\t4.Mercedes E Class\t\t"};
    string colour[30] = {"Red\t\t", "White\t\t", "White\t\t", "Black\t\t", "Red\t\t", "White\t\t", "Black\t\t", "Orange\t\t", "Red\t\t", "Blue\t\t",
"White\t\t", "Brown\t\t", "Blue\t\t", "White\t\t", "White\t\t", "Blue\t\t", "Black\t\t", "White\t\t", "Blue\t\t", "Red\t\t", "White\t\t", "Red\t\t", "Black\t\t"};
    string fuel[30] = {"Petrol\t\t", "Petrol\t\t", "Diesel\t\t", "Diesel\t\t", "Petrol\t\t", "Diesel\t\t", "Diesel\t\t", "Petrol\t\t", "Petrol\t\t", "Diesel\t\t", "Petrol\t\t",
"Petrol\t\t", "Petrol\t\t", "Petrol\t\t", "Diesel\t\t", "Diesel\t\t", "Petrol\t\t", "Diesel\t\t", "Diesel\t\t", "Petrol\t\t", "Petrol\t\t", "Pterol\t\t", "Diesel\t\t",
"Diesel\t\t"};
    string capacity[30] = {"5 seater\t", "5 seater\t", "7 seater\t", "5 seater\t", "5 seater\t", "5 seater\t", "7 seater\t", "5 seater\t", "5 seater\t", "5
seater\t", "7 seater\t", "5 seater\t", "5 seater\t", "5 seater\t", "7 seater\t", "5 seater\t", "5 seater\t", "5 seater\t", "7 seater\t", "5 seater\t", "5 seater\t",
"5 seater\t", "7 seater\t", "5 seater\t"};
    string city[30] = {"Haryana\t\t", "Haryana\t\t", "Haryana\t\t", "Haryana\t\t", "Himachal Pradesh\t\t", "Himachal Pradesh\t\t", "Himachal Pradesh\t\t",
"Himachal Pradesh\t\t", "Maharashtra\t\t", "Maharashtra\t\t", "Maharashtra\t\t", "Maharashtra\t\t", "Punjab\t\t", "Punjab\t\t", "Punjab\t\t", "Punjab\t\t",
"Uttar Pradesh\t\t", "Uttar Pradesh\t\t", "Uttar Pradesh\t\t", "Uttar Pradesh\t\t", "Uttarakhand\t\t", "Uttarakhand\t\t", "Uttarakhand\t\t", "Uttarakhand\t\t"};
    int price[30] = {2000, 2500, 3000, 4000, 2000, 2500, 3000, 4000, 2000, 2500, 3000, 4000, 2000, 2500, 3000, 4000, 2000, 2500, 3000, 4000,
2000, 2500, 3000, 4000};

public:
    void pick()
    {
        cout << "SERIVCES AVAILABLE IN:" << endl;
        cout << "1.Haryana" << endl;
        cout << "2.Himachal pradesh" << endl;
        cout << "3.Maharashtra" << endl;
        cout << "4.Punjab" << endl;
        cout << "5.Uttar Pradesh" << endl;
        cout << "6.Uttarakhand";
        cout << endl;
    }
}
```

```

cout << "Enter the serial number of your location: ";
cin >> location;
switch (location)
{
case 1:
    booking_location1();
    break;
case 2:
    booking_location2();
    break;
case 3:
    booking_location3();
    break;
case 4:
    booking_location4();
    break;
case 5:
    booking_location5();
    break;
case 6:
    booking_location6();
    break;
default:
    cout << "Wrong choice entered" << endl;
    break;
}
}

void booking_location1()
{
    int a;
    cout << "\n\t\tAvailable cars in Haryana are:" << endl;
    cout << "\t\t*****" << endl;
    cout << "\t\tModel\t\t"
        << "\tColour\t\t"
        << "Fuel\t\t"
        << "Capacity\t\t"
        << "State\t\t"
        << "Cost/day" << endl;
    cout << "\t\t*****" << endl;
    for (int i = 0; i < 4; i++)
    {
        cout << cars[i];
        cout << colour[i];
        cout << fuel[i];
        cout << capacity[i];
        cout << city[i];
        cout << price[i] << endl;
    }

    cout << "\n\t\tEnter your choice:";
    cin >> a;
    while (a > 4 || a < 0)
    {
        cout << "Invalid choice" << endl;
        cout << "Re-enter choice:";
        cin >> a;
        if (a <= 4 && a > 0)
        {
            break;
        }
        else
        {
            exit(3);
        }
    }

    cout << "\n\t\tYour choice is:\n";
    cout << cars[a - 1];
    cout << colour[a - 1];
    cout << fuel[a - 1];
    cout << capacity[a - 1];
    cout << city[a - 1];
    cout << price[a - 1] << endl;
    cost = price[a - 1];
}
};

```

```
void booking_location2()
{
    int b;
    cout << "\n\t\tAvailable cars in Himachal Pradesh are:" << endl;
    cout << "\t\t*****" << endl;
    cout << "\t\tModel\t\t"
        << "\tColour\t\t"
        << "Fuel\t"
        << "Capacity\t"
        << "State\t\t"
        << "Cost/day" << endl;
    cout << "\t\t*****" << endl;
    for (int i = 4; i < 8; i++)
    {
        cout << cars[i];
        cout << colour[i];
        cout << fuel[i];
        cout << capacity[i];
        cout << city[i];
        cout << price[i] << endl;
    }
    cout << "\n\t\tEnter your choice:";
    cin >> b;

    while (b > 4 || b < 0)
    {
        cout << "Invalid choice" << endl;
        cout << "Re-enter choice:";
        cin >> b;
        if (b <= 4 && b > 0)
        {
            break;
        }
        else
        {
            exit(3);
        }
    }
    cout << "\n\t\tYour choice is:" << endl;
    cout << cars[b + 3];
    cout << colour[b + 3];
    cout << fuel[b + 3];
    cout << capacity[b + 3];
    cout << city[b + 3];
    cout << price[b + 3] << endl;
    cost = price[b + 3];
}

void booking_location3()
{
    int c;
    int count = 0;
    cout << "\n\t\tAvailable cars in Maharashtra are:" << endl;
    cout << "\t\t*****" << endl;
    cout << "\t\tModel\t\t"
        << "\tColour\t\t"
        << "Fuel\t"
        << "Capacity\t"
        << "State\t\t"
        << "Cost/day" << endl;
    cout << "\t\t*****" << endl;
    for (int i = 8; i < 12; i++)
    {
        cout << cars[i];
        cout << colour[i];
        cout << fuel[i];
        cout << capacity[i];
        cout << city[i];
        cout << price[i] << endl;
    }
    cout << "\n\t\tEnter your choice:";
    cin >> c;
    while (c > 4 || c < 0)
    {
```

```

        cout << "Invalid choice" << endl;
        cout << "Re-enter choice:";
        cin >> c;
        if (c <= 4 && c > 0)
        {
            break;
        }
        else
        {
            exit(3);
        }
    }
    cout << "\n\t\tYour choice is:" << endl;
    cout << cars[c + 7];
    cout << colour[c + 7];
    cout << fuel[c + 7];
    cout << capacity[c + 7];
    cout << city[c + 7];
    cout << price[c + 7] << endl;
    cost = price[c + 7];
}

void booking_location4()
{
    int d;
    int count = 0;
    cout << "\n\t\tAvailable cars in Punjab are:" << endl;
    cout << "\t\t*****" << endl;
    cout << "\t\tModel\t\t"
        << "\t\tColour\t\t"
        << "\t\tFuel\t\t"
        << "\t\tCapacity\t\t"
        << "\t\tState\t\t"
        << "\t\tCost/day" << endl;
    cout << "\t\t*****" << endl;
    for (int i = 12; i < 16; i++)
    {
        cout << cars[i];
        cout << colour[i];
        cout << fuel[i];
        cout << capacity[i];
        cout << city[i];
        cout << price[i] << endl;
    }
    cout << "\n\t\tEnter your choice:";
    cin >> d;
    while (d > 4 || d < 0)
    {
        cout << "Invalid choice" << endl;
        cout << "Re-enter choice:";
        cin >> d;
        if (d <= 4 && d > 0)
        {
            break;
        }
        else
        {
            exit(3);
        }
    }
    cout << "\n\t\tYour choice is:" << endl;
    cout << cars[d + 11];
    cout << colour[d + 11];
    cout << fuel[d + 11];
    cout << capacity[d + 11];
    cout << city[d + 11];
    cout << price[d + 11] << endl;
    cost = price[d + 11];
}

void booking_location5()
{
    int e;
    int count = 0;
    cout << "\n\t\tAvailable cars in Uttar Pradesh are:" << endl;

```

```

cout << "\t\t*****" << endl;
cout << "\t\tModel\t\t"
    << "\tColour\t\t"
    << "Fuel\t\t"
    << "\tCapacity\t\t"
    << "State\t\t"
    << "Cost/day" << endl;
cout << "\t\t*****" << endl;
for (int i = 16; i < 20; i++)
{

    cout << cars[i];
    cout << colour[i];
    cout << fuel[i];
    cout << capacity[i];
    cout << city[i];
    cout << price[i] << endl;
    count++;
}

cout << "\n\t\tEnter your choice:";
cin >> e;
while (e > 4 || e < 0)
{
    cout << "Invalid choice" << endl;
    cout << "Re-enter choice:";
    cin >> e;
    if (e <= 4 && e > 0)
    {
        break;
    }
    else
    {
        exit(3);
    }
}
cout << "\n\t\tYour choice is:" << endl;
cout << cars[e + 15];
cout << colour[e + 15];
cout << fuel[e + 15];
cout << capacity[e + 15];
cout << city[e + 15];
cout << price[e + 15] << endl;
cost = price[e + 15];
}

void booking_location6()
{
    int f;
    int count = 0;
    cout << "\n\t\tAvailable cars in Utrakhnad are:" << endl;
    cout << "\t\t*****" << endl;
    cout << "\t\tModel\t\t"
        << "\tColour\t\t"
        << "Fuel\t\t"
        << "\tCapacity\t\t"
        << "State\t\t"
        << "\tCost/day" << endl;
    cout << "\t\t*****" << endl;
    for (int i = 20; i < 24; i++)
    {

        cout << cars[i];
        cout << colour[i];
        cout << fuel[i];
        cout << capacity[i];
        cout << city[i];
        cout << price[i] << endl;
    }

    cout << "\n\t\tEnter your choice:";
    cin >> f;
    while (f > 4 || f < 0)
    {
        cout << "Invalid choice" << endl;

```

```

        cout << "Re-enter choice:";
        cin >> f;
        if (f <= 4 && f > 0)
        {
            break;
        }
        else
        {
            exit(3);
        }
    }
    cout << "\n\t\tYour choice is:" << endl;
    cout << cars[f + 19];
    cout << colour[f + 19];
    cout << fuel[f + 19];
    cout << capacity[f + 19];
    cout << city[f + 19];
    cout << price[f + 19] << endl;
    cost = price[f + 19];
}

int get_cost()
{
    return cost;
}
};

class price
{
protected:
    int total, days;
    int car_price;

public:
    price(cars c)
    {
        car_price = c.get_cost();
    }

    void rent()
    {
        cout << "\n\t\tEnter the No. of days for car rent:";
        cin >> days;
        total = days * car_price;
        cout << "\t\tTotal cost for " << days << " days is " << total << endl;
    }
};

class listing_car : public cars
{
protected:
    string car_name;
    string listcolour;
    string listfuel;
    string listcity;
    string listcapacity;
    int listprice;

public:
    void listing()
    {
        cout << "\tEnter the name of the car: ";
        fflush(stdin);
        getline(cin, car_name);

        cout << "\tEnter the colour of the car: ";
        cin >> listcolour;

        cout << "\tEnter the fuel type(Petrol/diesel): ";
        cin >> listfuel;

        cout << "\tEnter the seating capacity of the car: ";
        cin >> listcapacity;

        cout << "\tEnter the rent per day at you want to list it out: ";
    }
};

```



```

    cin >> listprice;

    cout << "\tEnter the city where u want to rent out the car: ";
    cin >> listcity;

    cout << "\t\t*****" << endl;
    cout << "\t\tModel\t\t"
        << "\t\tColour\t\t"
        << "\t\tFuel\t\t"
        << "\t\tCapacity\t\t"
        << "\t\tCity\t\t"
        << "\t\tCost/day" << endl;
    cout << "\t\t*****" << endl;
    cout << "\t\t" << car_name << "\t\t";
    cout << listcolour << "\t\t";
    cout << listfuel << "\t\t";
    cout << listcapacity << "\t\t";
    cout << listcity << "\t\t";
    cout << listprice << endl;
}

};

bool Login()
{
    string username, password;
    string un, pw; // comparison strings

    cout << "Enter a username: ";
    cin >> username;
    cout << "Enter a password: ";
    cin >> password;

    ifstream read(username + ".txt"); // ifstream reads a file
    getline(read, un);                // reads the username
    getline(read, pw);                // reads the password

    if (un == username && pw == password) // if both un & username and pw & password are the same, true
    {
        return true;
    }
    else
    {
        return false;
    }
}

int main()
{
    system("Color 90");

    int choice;

    cout << endl;
    cout << "Main Menu: " << endl;
    cout << "*****" << endl;
    cout << "1. Register" << endl;
    cout << "2. Login";
    cout << endl;
    cout << "Your choice: ";
    cin >> choice;

    switch (choice)
    {
    case 1:
    {
        string username, password;

        cout << "Registration: " << endl;
        cout << endl;
        cout << "Select a username: ";
        cin >> username;
        cout << "Select a password: ";
        cin >> password;
    }
    }
}

```

```

    ofstream file;
    file.open(username + ".txt");
    file << username << endl
        << password;
    file.close();
    cout << "Welcome " << username << "!" << endl;
}
case 2:
{
    bool status = Login();

    if (!status)
    {
        system("clear");
        cout << endl;
        cout << "Invalid login!" << endl;
        main();
        return 0;
    }
    else
    {
        cout << "Successfully logged in!" << endl;
        cout << endl;

        break;
    }
}
default:
    cout<<"Wrong choice entered";
    main();
}

int c;
cout << "CAR RENTAL SERVICE" << endl;
cout << "Choose:" << endl;
cout << "1.Rent a car" << endl;
cout << "2.List your car for rent" << endl;
cout << "Enter your choice: " << endl;
fflush(stdin);
cin >> c;
switch (c)
{
case 1:
{
    customer_info obj;
    obj.getdata();
    cars c1;
    c1.pick();
    price p1(c1);
    p1.rent();
    break;
}
case 2:
{
    listing_car l1;
    l1.listing();
    break;
}
default:
{
    cout << "Wrong choice entered.";
    break;
}
}
cout<<endl;
cout<<"Thank you for using our services!!";

return 0;
}

```

OUTPUT SCREENSHOTS

Logging in of a new user

```
Main Menu:
*****
1. Register
2. Login
Your choice: 1
Registration:

Select a username: rmrn
Select a password: rakshita
Welcome rmrn!
Enter a username: rmrn
Enter a password: rakshita
Successfully logged in!
```

Logging in of an existing user

```
Main Menu:
*****
1. Register
2. Login
Your choice: 2
Enter a username: nox1134
Enter a password: pp
Successfully logged in!
```

Display of choice of cities to choose from

CAR RENTAL SERVICE

Choose:

- 1.Rent a car
- 2.List your car for rent

Enter your choice:

1

Enter name: Priyanshi Gaur

Enter your license number: 1314

Enter age: 16

Age entered is wrong.

Renter!

Enter age: 18

SERIVCES AVAILABLE IN:

- 1.Haryana
- 2.Himachal pradesh
- 3.Maharashtra
- 4.Punjab
- 5.Uttar Pradesh
- 6.Uttrakhand

Enter the serial number of your location: 1

Display of all the cars available in the selected location

Enter the serial number of your location: 1

Available cars in Haryana are:

Model	Colour	Fuel	Capacity	State	Cost/day
1.Suzuki Swift	Red	Petrol	5 seater	Haryana	2000
2.Ford Ecosport	White	Petrol	5 seater	Haryana	2500
3.Toyota Fortuner	White	Diesel	7 seater	Haryana	3000
4.Audi A4	Black	Diesel	5 seater	Haryana	4000

Enter your choice: 4

Display of the selected car and its cost for desired days

```
Your choice is:

4.Audi A4          Black          Diesel          5 seater      Haryana      4000

Enter the No. of days for car rent:
5

Total cost for 5 days is 20000

Thank you for using our services!!
Process returned 0 (0x0)   execution time : 507.687 s
Press any key to continue.
```

Listing out a car for rent

```
CAR RENTAL SERVICE
Choose:
1.Rent a car
2.List your car for rent
Enter your choice:
2

Enter the name of the car: Lamborghini Aventador
Enter the colour of the car: Black
Enter the fuel type(Petrol/diesel): Petrol
Enter the seating capacity of the car: 2
Enter the rent per day at you want to list it out: 40000
Enter the city where u want to rent out the car: Noida
*****
Model          Colour          Fuel          Capacity      City          Cost/day
*****
Lamborghini Aventador    Black          Petrol        2            Noida          40000

Thank you for using our services!!
Process returned 0 (0x0)   execution time : 25.314 s
Press any key to continue.
```

REFERENCES

- <https://www.geeksforgeeks.org/>
- Lecture slides
- Let us C++ by Yashwant Kanetkar