



OOM Mini Project

Acknowledgment

We highly appreciate and express our thanks to professor Mr. Saurabh Srivastava sir at the Indian Institute of Information Technology Lucknow for assisting us and giving us reviews regarding our project. We are highly indebted to teachers, both from the past and the present, for their valuable suggestions and their painstaking efforts to make this subject easier for students.

I feel thankful to the college staff for giving me such a big opportunity. We believe we will enroll in more such events in the coming future. We ensure that this project was done by us and is not copied.

Index

S.No.	Page No.	Topic
1.	3	Synopsis
2.	3	Objective
3.	3	Introduction
4.	4	Requirements
5.	5-6	System Analysis
6.	7	Project Structure
7.	7-8	Process Logic
8.	9-12	Output Screenshot

Synopsis

The project “**Online car detail software**” allows us to get all the information about cars in a very easily accessible way. It is very useful for the person who wants to buy a car and wants to get all the details about the car. Through this, we can get the list of people who are interested in buying or getting information about a specific car and it can be useful for the car companies to get to know how many people are interested in their specific car models and through this, they can increase the production of the car model most people are interested in. All the necessary requirements and details of this project are mentioned below.

Objective:

To study the approach of *Object-Oriented Methodology* through designing software.

Introduction:

Project Name: Online Car details Software.

Description: Software is designed using single inheritance to provide the details of a car model such as the name of the model, the price range of the car, total variants of the car, and the mileage with respect to the information provided by the user such as Body type, fuel type, and company stored in the derived class.

Here the **Body Types** are Sedan, SUV, and hatchback. The **Fuel Types** are petrol and diesel. The **companies** are HYUNDAI, MARUTI SUZUKI, TATA.

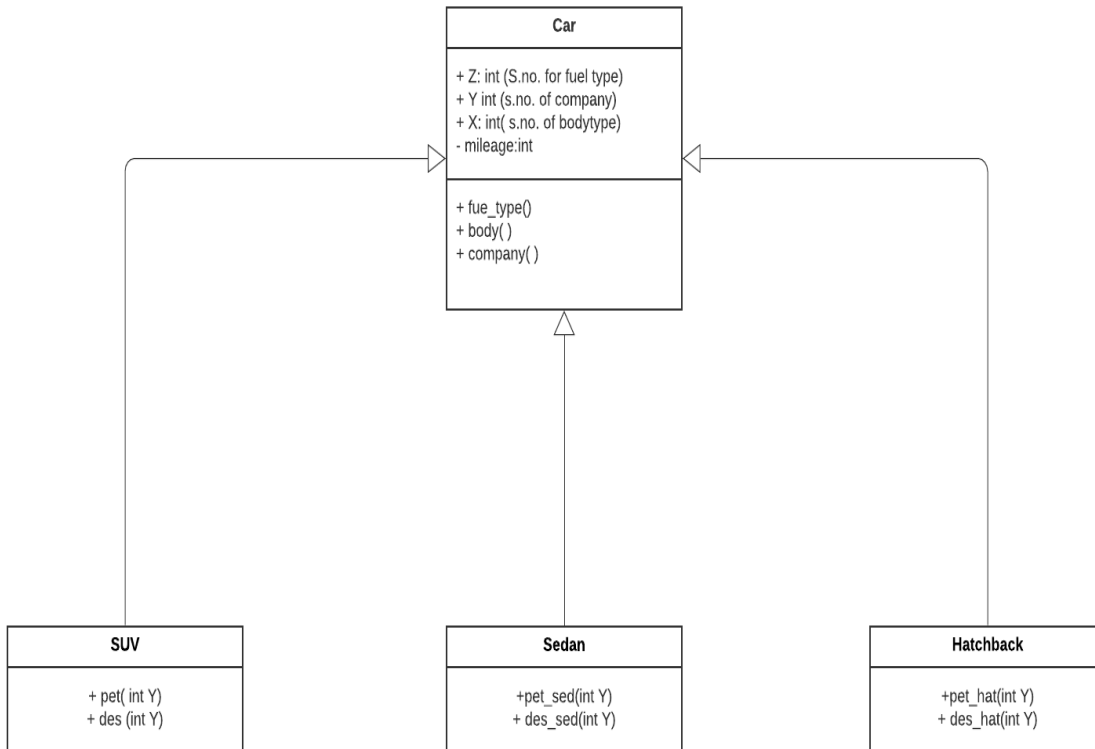
Requirements:

To build software which gives us the details about the types, specifications about cars.

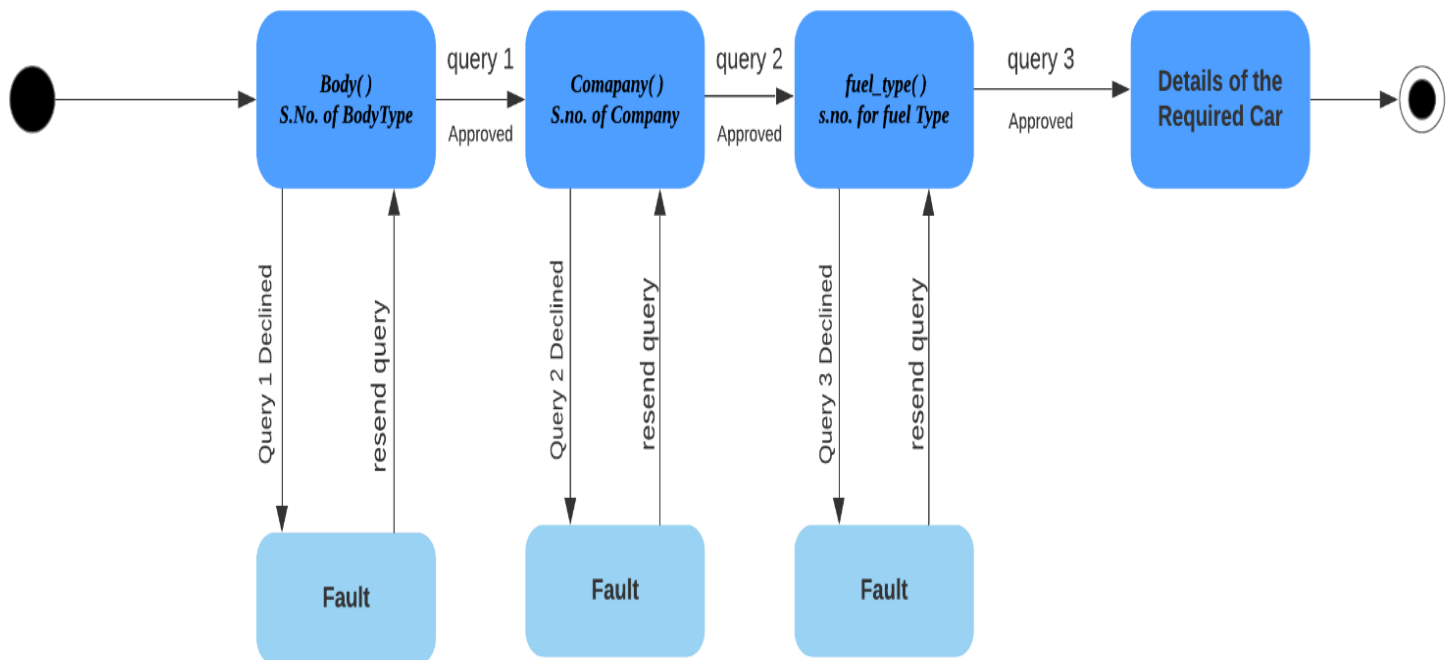
- 1) Allow the user to choose the body type of the car they want.
 - > Making a list to give the user the choice of choosing the body type.
 - > Facilitating users to select options of their choice.
- 2) Giving users scope to change invalid input, instantly rather than restarting the program.
- 3) Allow users to choose the car company.
- 4) Allow the user to choose the fuel type of car.
- 5) Users can then see all the available car options according to the above choices in the form of a list.

System Analysis

1. Class Diagram:



2. Activity Diagram :



Project Structure

OBJECTS	CONVECTIONS
HEADER FILE	iostream, string, cstdlib, ctime, Car.h, sedan.h, hatchback.h, suv.h
FUNCTIONS	body(), company(),fuel_type(), pet() des(),pet_sed(), des_sed(), pet_hat(), des_hat(),
CLASS	car, Sedan, suv, hatchback
PROGRAM VARIABLE	X, Y, Z, mileage
PROGRAM FILE	Car.cpp, main.cpp, sedan.cpp, hatchback.cpp, suv.cpp

Process Logic

Software Provides the information of the car concerning the preference given by the user.

Pieces of information taken from users are :

- BodyType of the Preferred Car.
- Company/Brand Name.
- Required Fuel type i.e, petrol or diesel.

Base class Car is responsible for taking and storing information from users.

- > When the User starts the program main function prints a welcome message.
- > And calls the method body() (for the body type of car) from Car Class.

> If the chosen option is invalid(in each function), the function behaves as a recursive function. Until a valid option is not chosen.

> If the chosen option is valid, the company() method will be called to take the preferred company choice.

> If the chosen option is valid, the fuel_type() method will be called to take the required fuel type.

This is the end for Class Car and information is inherited to the required derived class.

Derived classes are: Sedan, SUV, and hatchback.

Derived class say, SUV will process company name say, Tata. For diesel fuel type method des() will print detailed models for SUV's in Tata in Diesel.

```
YOU choose: 2 as your preference
-----List of SUV's of TATa in diesel-----

1. Harrier
> Total variants are 9
> PRICE RANGE is ₹14.3-20.82 Lakh
> MILEAGE :: 15-16 kmpl
> BOOKINGS AVAILABLE

2. Nexon XZ> Total variants are 18
> PRICE RANGE is ₹9.48-12.95 Lakh
> MILEAGE :: 21.5 kmpl
> BOOKINGS AVAILABLE
```

Output Screenshot

When we choose an option other than the given, here's the output.

```
-----Welcome to CAR World-----  
  
-----CHOOSE A BODY TYPE-----  
CHOOSE 1 FOR SUV  
CHOOSE 2 FOR SEDAN  
CHOOSE 3 FOR HATCHBACK  
  
4  
INVALID OPTION  
  
-----CHOOSE A BODY TYPE-----  
CHOOSE 1 FOR SUV  
CHOOSE 2 FOR SEDAN  
CHOOSE 3 FOR HATCHBACK
```

Choosing other option:

```
-----CHOOSE A BODY TYPE----  
CHOOSE 1 FOR SUV  
CHOOSE 2 FOR SEDAN  
CHOOSE 3 FOR HATCHBACK  
  
1  
YOU CHOOSE: 1 as your choice  
  
----HERE IS A LIST OF CAR COMPANY NAME----  
CHOOSE 1 FOR HYUNDAI  
CHOOSE 2 FOR TATA  
CHOOSE 3 FOR MARUTI_SUZUKI  
  
CHOOSE A NUMBER FOR THE COMPANY  
2  
YOU CHOOSE: 2 as your company choice  
SELECT 1 FOR PETROL  
SELECT 2 FOR DEISEL  
2  
YOU choose: 2 as your prefernce  
-----List of SUV's of TATa in diesel-----  
  
1. Harrier  
> Total variants are 9  
> PRICE RANGE is ₹14.3-20.82 Lakh  
> MILEAGE :: 15-16 kmpl  
> BOOKINGS AVAILABLE  
  
2. Nexon XZ> Total variants are 18  
> PRICE RANGE is ₹9.48-12.95 Lakh  
> MILEAGE :: 21.5 kmpl  
> BOOKINGS AVAILABLE
```

```
-----Welcome to CAR World-----

-----CHOOSE A BODY TYPE-----
CHOOSE 1 FOR SUV
CHOOSE 2 FOR SEDAN
CHOOSE 3 FOR HATCHBACK

3
YOU CHOOSE: 3  as your choice

----HERE IS A LIST OF CAR COMPANY NAME----
CHOOSE 1 FOR HYUNDAI
CHOOSE 2 FOR TATA
CHOOSE 3 FOR MARUTI_SUZUKI

CHOOSE A NUMBER FOR THE COMPANY
3
YOU CHOOSE: 3  as your company choice
SELECT 1 FOR PETROL
SELECT 2 FOR DEISEL
1
YOU choose: 1  as your prefernce
-----List of hatchbacks of MARUTI SUZUKI in Petrol-----

1. BALENO
> Total variants are 10
> PRICE RANGE is ₹ 5.97-9.27 Lakh
> MILEAGE :: 19.56-21.96 kmpl combined
> BOOKINGS AVAILABLE

2. Celerio
> Total variants are 9
> PRICE RANGE is Rs. 4.65-5.90 Lakh
> MILEAGE :: 21.63 kmpl combined
> BOOKINGS AVAILABLE
```

```
-----Welcome to CAR World-----

-----CHOOSE A BODY TYPE-----
CHOOSE 1 FOR SUV
CHOOSE 2 FOR SEDAN
CHOOSE 3 FOR HATCHBACK

2
YOU CHOOSE: 2 as your choice

----HERE IS A LIST OF CAR COMPANY NAME----
CHOOSE 1 FOR HYUNDAI
CHOOSE 2 FOR TATA
CHOOSE 3 FOR MARUTI_SUZUKI

CHOOSE A NUMBER FOR THE COMPANY
1
YOU CHOOSE: 1 as your company choice
SELECT 1 FOR PETROL
SELECT 2 FOR DEISEL
1
YOU choose: 1 as your prefernce
-----List of Sedans of HYUNDAI in Petrol-----

1. VERNA
> Total variants are 10
> PRICE RANGE is Rs. 9.19-15.25 Lakh
> MILEAGE :: 17-25 kmpl combined
> BOOKINGS AVAILABLE

2. ELANTRA
> Total variants are 9
> PRICE RANGE is Rs. 17.85 - 21.12 Lakh
> MILEAGE :: 11-16 kmpl combined
> BOOKINGS AVAILABLE
```

Group Members:

1. LCI2020014 Ankur Gupta
2. LCI2020070 Mradul Kumar Gangle
3. LCI2020075 Khyati Vaishnavi Singh
4. LCI2020077 Nikhil Sharma