CAR DESİGNER
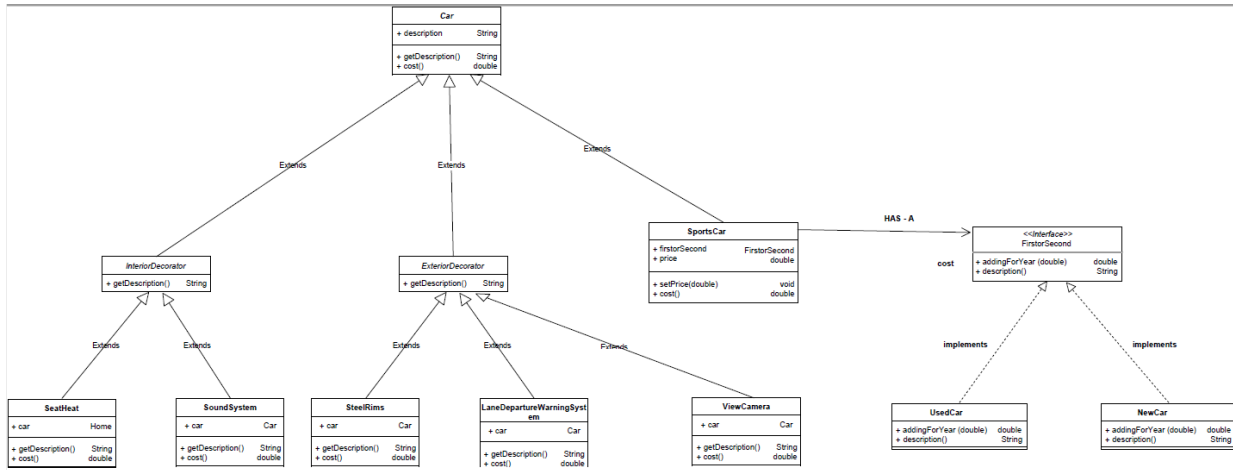
1.Statement of Work:

Nowadays, every person needs special cars to improve their living standards. For this reason, car companies develop and add new features to the users every day. They do a lot of advertisements and promotions to sell later developed cars, but they don't stop there. Then People try to improve their cars according to their tastes. They visit many auto galleries and websites and adapt their favorite features to their new cars. Instead, the car can be sold according to the properties selected by showing the catalog to the people. As a result, people can be offered a better lifestyle. It can even be classified according to some car similarities. Here is new or used; sound systems, the style of the car,like various camera systems. In short, I think that the work of car companies can be compatible with the software world. In this way, people can easily buy cars that suit their tastes and adapt to them.

2.Design Patterns:

In this study, I preferred to use decorator pattern and strategy pattern to solving the problem.These models can be a useful solution for him. Okay why? Because I used a decorator model so that people can make the changes inside and outside of their cars or cars in their own way. People can use reversing camera, lane warning system, comfortable seats or lighting, seat heater, etc. May want. The decorator model dynamically places additional responsibilities on an object. Decorators provide a flexible alternative to subclasses to expand functionally. Second, I used a strategy pattern because people can vary according to their physical characteristics. For example, the new use of the vehicle, etc. This pattern defines a family of algorithms,it covers each of them and makes them interchangeable. The strategy allows the algorithm to change regardless of the clients using it.

3.UML:

4.Research:

I researched free and open source floor plan and arrange furniture freely, I saw a lot of projects on the internet about of this. These projects usually works with programs installed on the computer. So, I need to do a more detailed and comprehensive research.

Testing Class

```java
import static java.lang.Math.round;

public class Test {
    public static void main(String[] args) {
        Car car = new SportsCar(new UsedCar());
        ((SportsCar) car).setPrice(car.cost());
        car = new SeatHeater(car);
        car = new SteelRims(car);
        car = new SoundSystem(car);
        car=new LaneDepartureWarningSystem(car);
        car=new ViewCamera(car);
        System.out.println(car.getDescription());
        System.out.println("The amount you have to pay : " + round(car.cost())+" Turkish Lira");

    }
}
```

FURKAN ZORLU