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**Classses:**

ConsoleUtilities – Helper static class to get information from user using console UI

GarageUI – Responsible for creating and modifying vehicles in the data store

VehicleListing – Aggregates owner information together with vehicle info, and current vehicle state

VehicleInfo –All the information about a single vehicle

VehicleCreator– Instantiating a VehicleInfo object and filling it with the most basic info

OwnerInfo – All the information relating to the vehicle owner

GarageSystemManager – Managing logic part of system, including actions of updating info, adding vehicle to data base etc.

EnergySource – Abstract class representing the energy source the vehicle is using

ElectricalEnergySource – This class implements the Energy source abstract methods, and adds battery info

FuelEnergySource- This class implements the Energy source abstract methods, and adds fuel info

Feature- Abstract class representing a unique feature of vehicle, that a vehicle may have or may not

ColorFeature- Implementing feature class : property of having a color

DangerousComponentsCarryFeature- Implementing feature class : property of having a color

DoorsNumberFeature- Implementing feature class : property of having a number of doors

LicenseTypeFeature - Implementing feature class : property of having a License type

MaxCarryWeightFeature- Implementing feature class : property of having a maximum weight that the vehicle my carry

ValueOutOfRangeException - Exception class inheriting from Exception class, thrown whenever an argument is out of range

Tire - All information regarding the tire current state, air pressure etc.

**Enums:**

eFuelType – List of available fuel types

eMenuOptions – List of all Menu option in the garage

eInputKeyConstraints – Determine list of constraints regarding an input key (existing key, non existing, no constraints)

eColor – List of all possible color of a vehicle

eDoorsNumber – List of all Doors number of a vehicle possible

eLicenseType- List of all License type of a vehicle possible

eVehicleType- List of all Vehicle type possible (Car, Truck, Motorcycle etc..)

eVehicleStatus - List of all status type that a car can be in, in the garage

**GarageSystemManager**

- Dictionary<string, VehicleListing> r\_VehiclesListings

- VehicleCreator sr\_VehicleCreator

+ GetRegistrationNumbersList()

+ ChangeVehicleState()

+ AddVehicleToDataBase()

+ FillTiresOfAVehicleToMax()

+ FillFuelTankOfAVehicle()

+ ChargeElectricalVehicle

**DangerousComponentsCarryFeature**

- bool m\_ContainsDangeroudComponents

+ SetValue()

**DoorsNumberFeature**

- eDoorsNumber m\_DoorsNumber

+ SetValue()

Dictionary

**ValueOutOfRangeException**

- float r\_maxOutOfRangeValue

- float r\_MaxValue

- float r\_MinValue

1

1

1

List

List

1

1

**VehicleCreator**

- List<string> sr\_VehicleTypeDesc

+ CreateVehicle()

+ Parse()

+ CreateMotorcycle()

+Create ElectricalMotorcycle()

+ Create Car()

+ Create ElectricalCar()

+ CreateTruck()

**Tire**

- string m\_ManufacturerName

- float m\_CurrAirPressure

- float m\_MaxAirPressure

+ FillAirToMax()

**EnergySource** (abstract)

- float m\_EnergyPercentageLeft

+ abstract UpdateEnergyPercentageLeft()

**ElectricalEnergySource**

- float m\_BatteryHoursLeft

- m\_MaxBatteryHours

+ FillBatteryData ()

+ UpdateEnergyPercentageLeft()

+ FillBattery ()

**FuelEnergySource**

- eFuelType m\_FuelType

- float m\_CurrFuelLitersAmount

- float m\_MaxFuelLitersAmount

+ FillFuelAmountData()

+ UpdateEnergyPercentageLeft()

+ FillFuelTank()

**ConsoleUtilities** (static)

+ PromptMessage()

+ AskUserBooleanQuestion()

+ GetInputString()

+ GetPosNumFromUser()

+ ShowBadInputMessage()

**GarageUI**

- GarageSystemManager m\_GarageSystem

- bool m\_KeepRunning

+ StartGarageManagementProgram ()

**VehicleListing**

- OwnerInfo m\_OwnerInfo

- VehicleInfo m\_VehicleInfo

- eVehicleStatus m\_VehicleStatus

**OwnerInfo**

- string m\_Name

- string m\_PhoneNumber

**VehicleInfo**

- eVehicleType m\_VehicleType

- string m\_ModelName

- EnergySource m\_EnergySource

- List<Tire> m\_TiresList

- List<Feature> m\_FeaturesList

+ FillTiresToMax()

**LicenseTypeFeature**

- eLicenseType m\_LicenseType

+ SetValue()

**EngineCapacityFeature**

- int m\_EngineCapacity

+ SetValue()

**ColorFeature**

- eColor m\_Color

+ SetValue()

**MaxCarryWeightFeature**

- float m\_MaxCarryWeight

+ SetValue()

**Feature** (abstract)

- string m\_Description

- string m\_PossibleValues

+ abstract SetValue()

+ ToString()