

## **Advanced Programming Workshop #2**

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V 2.0

This program create various types of vehicles and add them to a list. It have classes for Engine, Vehicle ,Car, Truck, Yacht, and Motorcycle. The program will not manage MVC model anymore, it will be like a monolith system.

### **Bussines Model:**

In this type of platforms, the users can see a catalog of the vehicles. So, exists the designers who creates the vehicles an upload it to the platform. This can be usefull to sell their products.

### **Business rules:**

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### **User Stories:**

As User (Designer )I want to create an account to log in and see the created vehicles.

As Designer I want to create a various types of vehicles to have a list of them and upload it

As Designer I want to watch the information of my created vehicles list

As User I want to watch another created vehicles in a catalog

### **Entities:**

User

Designer

Vehicles

Catalog

Account

**CRC cards:**

Vehicle	
Responsability:  Show it owns attributes  calculate gas consumption	Collaborators:  Engine  Designer

Engine	
Responsability:  Show it owns attributes  is added to a vehicle	Collaborators:  Vehicle Designer

User	
Responsability:  Register and login  watch vehicles catalog	Collaborators:  Catalog  DataBase

Designer	
Responsability:  Create Vehicles and engines  Upload their new vehicles	Collaborators:  Vehicle Engine Catalog

Data_base	
Responsability: Save users information return access verification	Collaborators: User

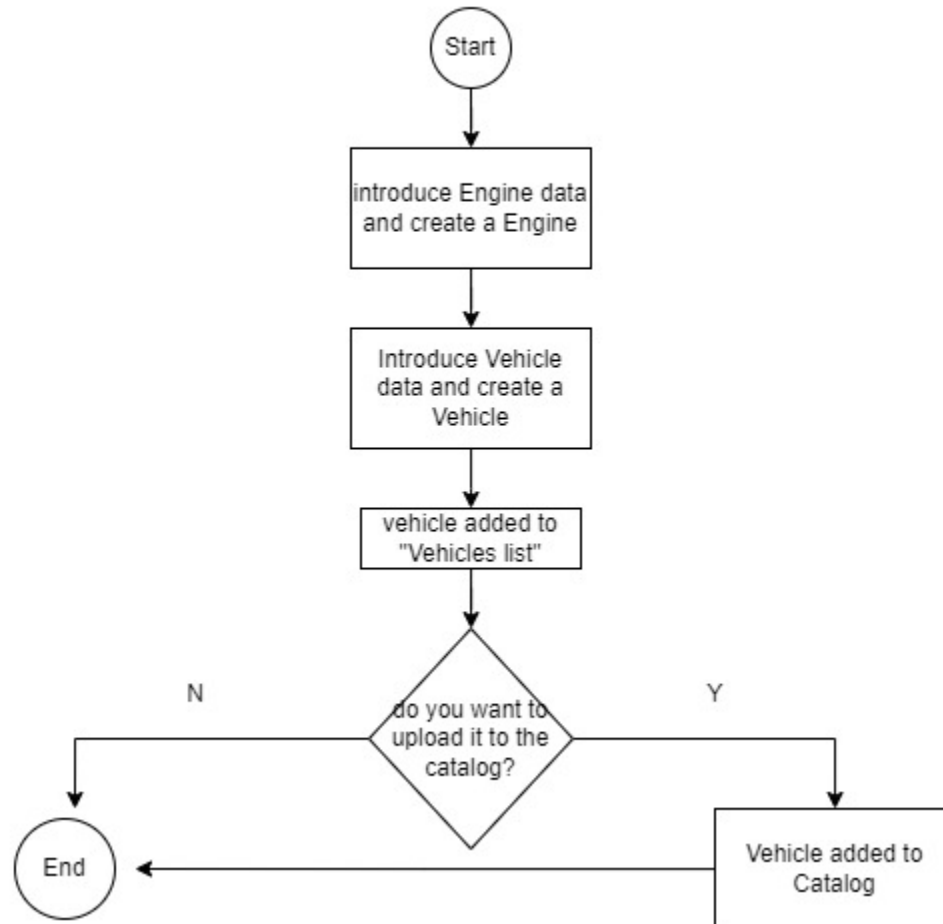
  

Catalog	
Responsability: Show created vehicles list Update created vehicles list adding new vehicles	Collaborators: User Designer

**Note:** These are the enough CRC Cards, because the yacht, car, motorcycle and truck classes are just concrete versions of vehicle.

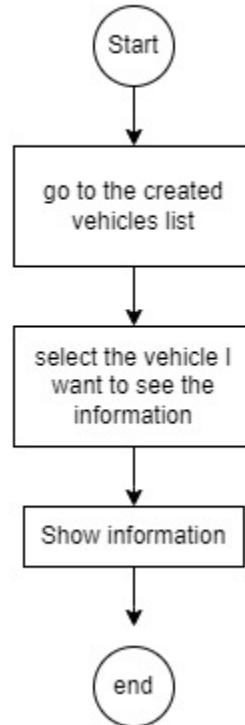
**Activity Diagrams:**

As Designer I want to create a various types of vehicles to have a list of them and upload it



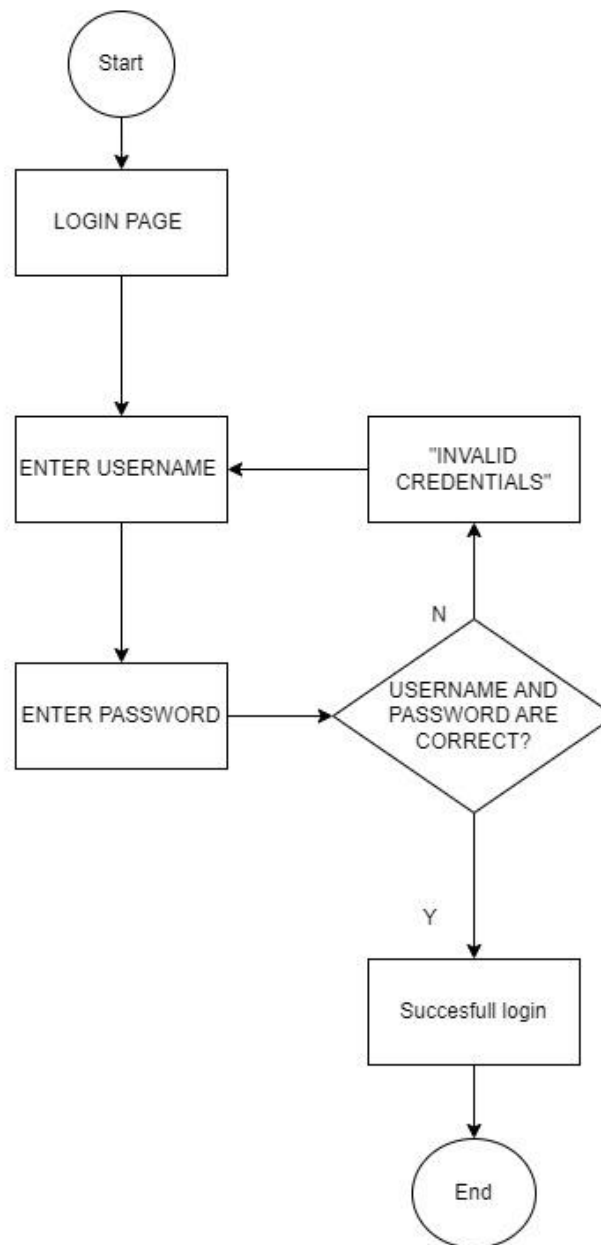
This diagram shows how to create a vehicle being a Designer, and how it can be upload to the catalog.

As Designer I want to watch the information of my created vehicles list



This diagram shows how to watch the created vehicles list for the Designers.

As User I want to create an account to log in and see the created vehicles.

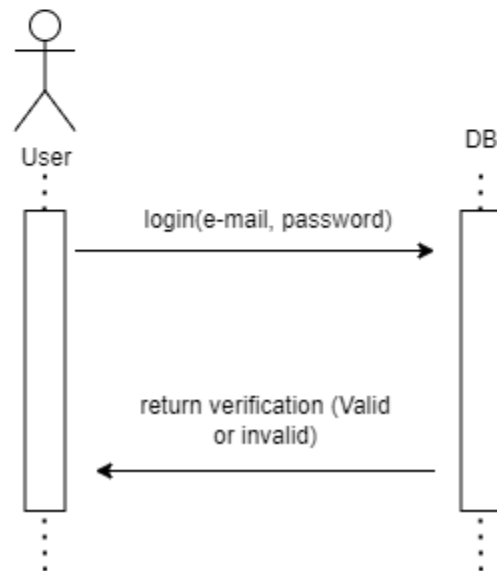
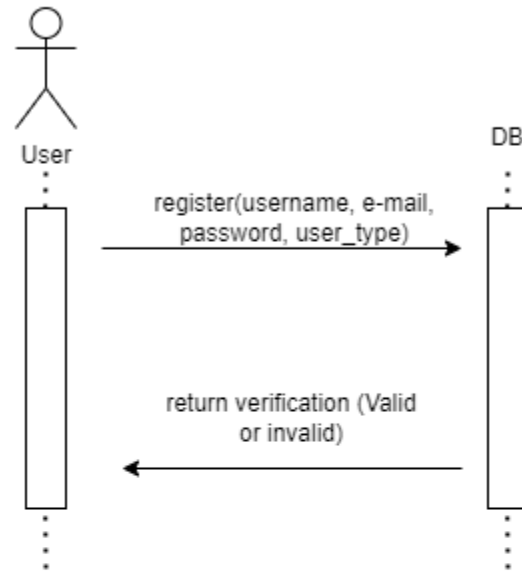


This diagram shows how log int to the system.

**Note:** The user Story “As User I want to watch another created vehicles in a catalog” Has not an activity diagramm, because it is a obvious and short process.

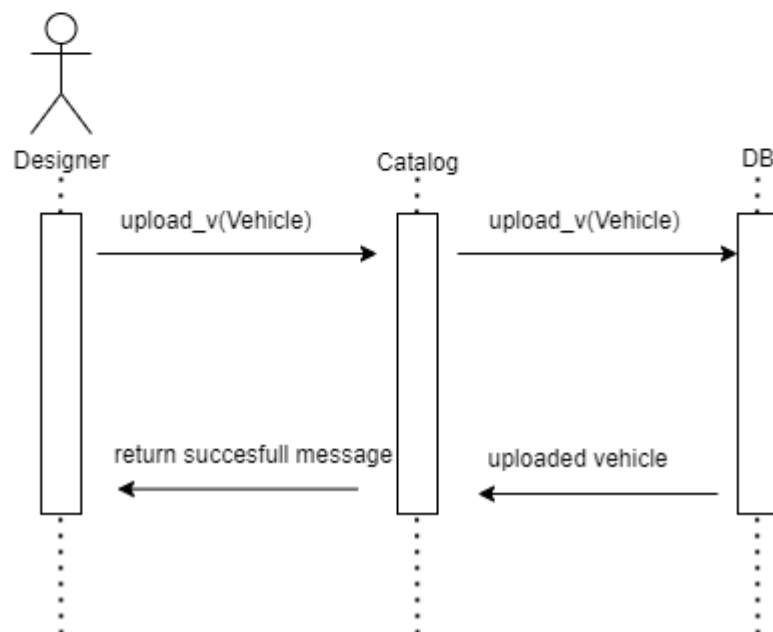
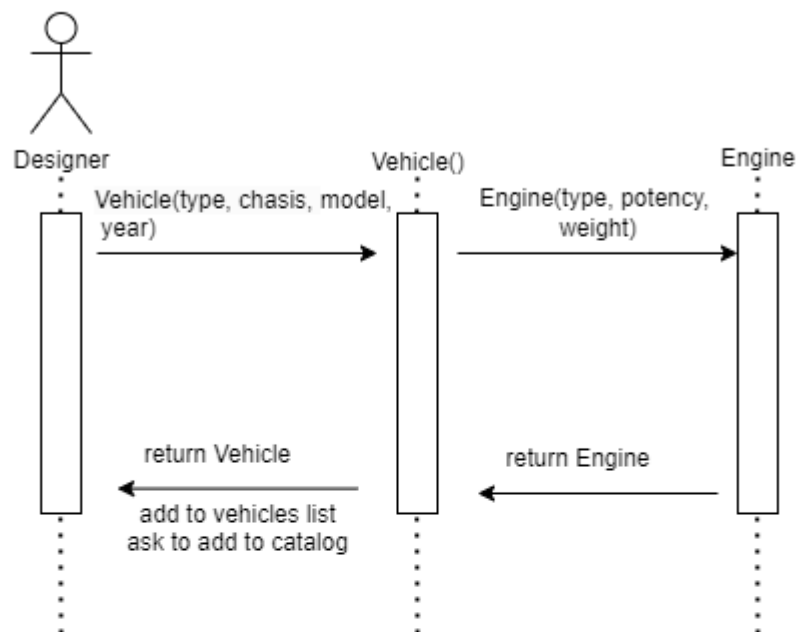
## Sequence Diagrams:

As User I want to create an account to log in and see the created vehicles.



These diagrams shows how an user object and a DataBase object interact to obtain the verification of the register or the login.

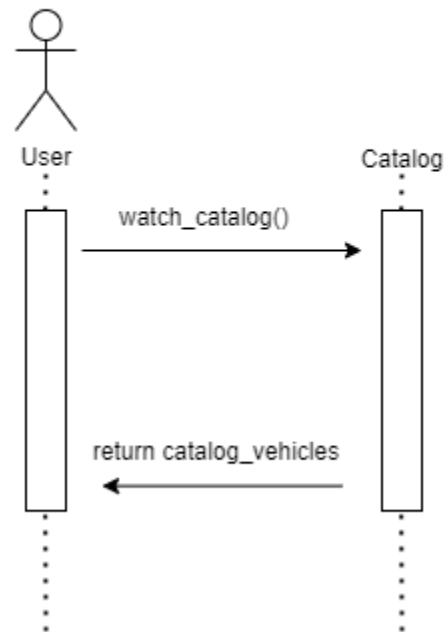
As Designer I want to create a various types of vehicles to have a list of them and upload it



These diagrams shows how a designer object create a vehicle, so it has to create an engine too, also shows how it can upload a vehicle to the catalog and to the DataBase object.



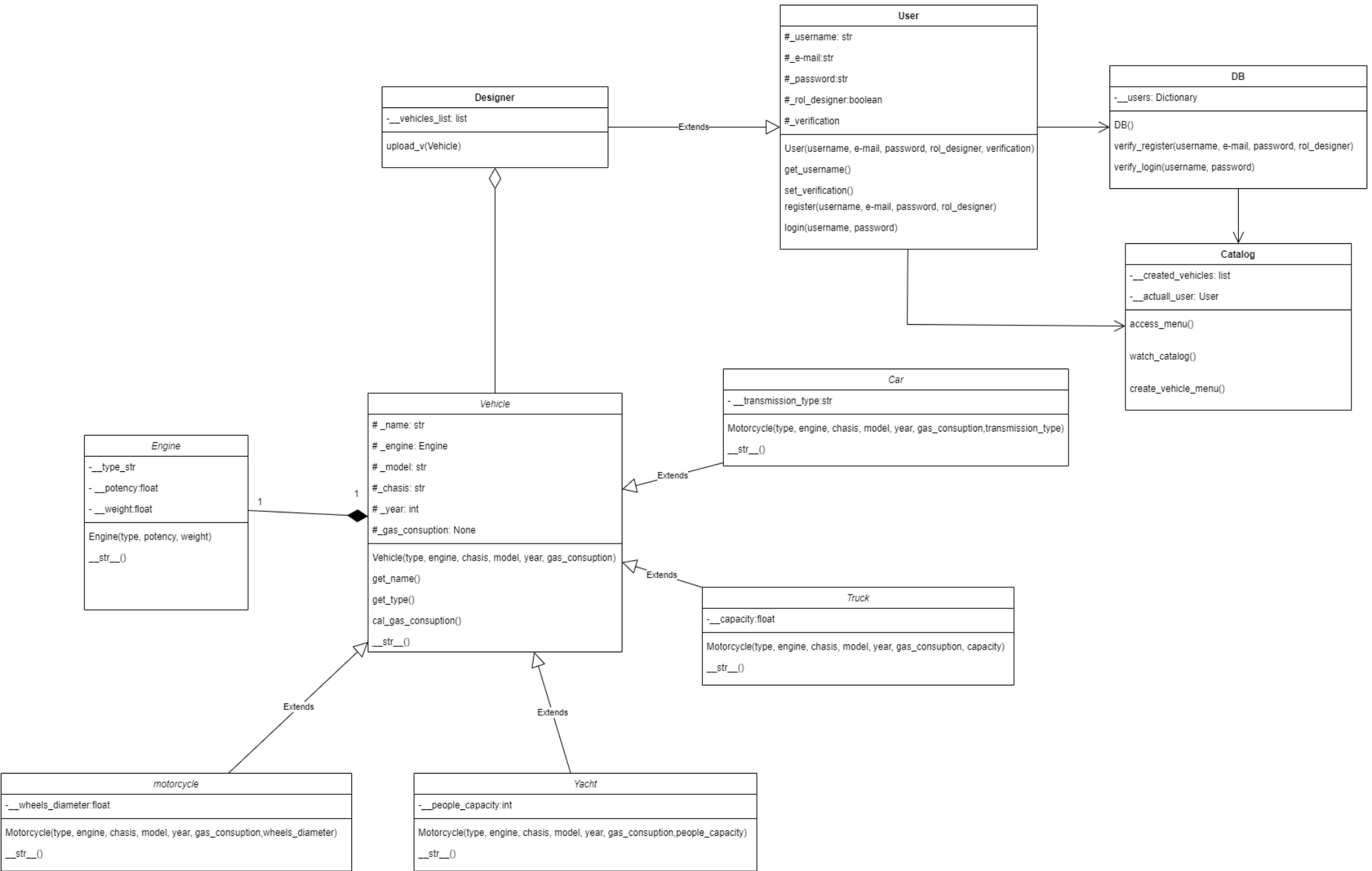
As User I want to watch another created vehicles in a catalog



This diagram shows how a User can watch the catalog and its information.

**Note:** The User story “As Designer I want to watch the information of my created vehicles list” has not an object interaction. So it has not a sequence diagram.

Class Diagram New Version:



**New changes:**

1. New Classes: User, Designer, DB and Catalog
2. New module separation: vehicles and users.
3. New Relations, aggregation, association, composition.
4. Now vehicle has a name attribute
5. No more get-Setter methods, just one that method that return all the attributes of the vehicles, and the engine (`__str__()` method). The method to get the vehicle type keeps.
6. `cal_gas_consumption()` method will pass from Main class to Vehicle class

**General Description:**