

TECHNICAL REPORT

Workshop 3

User Stories:

- As an **admin**, I want to create a vehicle, so what I can save it in the catalog.
- As an **admin**, I want to update a vehicle, so what the users can see the new information about it.
- As an **admin**, I want to delete a vehicle, so what the users can't see it anymore in the catalog.
- As a **user**, I want to see vehicles, so what I can have information about it.
- As a **user**, I want to search vehicles, so what I can have information of a specific vehicle.
- As a **user**, I want to register on Vehicle Application, so what I can keep me informed about the latest vehicles created.
- As an **admin**, I want to register on Vehicle Application, so what I can make changes or create vehicles.
- As a **user** and an **admin**, I want to log in application, so what I can scroll on it.

Entities:

- Client (user or admin)
- Vehicle
- Engine
- Catalog
- LogIn

CRC Cards:

User	
<ul style="list-style-type: none">• See vehicles.• Search vehicles.	<ul style="list-style-type: none">• CatalogFacadeDecorator

Admin	
<ul style="list-style-type: none">• Create vehicles.• Update vehicles.• Delete vehicles	<ul style="list-style-type: none">• CatalogFacadeDecorator

Client	
<ul style="list-style-type: none">• Log in.• Register on app.	<ul style="list-style-type: none">• LoginFacade

Login System	
<ul style="list-style-type: none">• Users' authentication• Users' Register	<ul style="list-style-type: none">• LoginFacade

LoginFacade	
<ul style="list-style-type: none">• Valide user information	<ul style="list-style-type: none">• CatalogFacade

CatalogFacade	
<ul style="list-style-type: none">• Show menu to user.	<ul style="list-style-type: none">• Vehicle•

Vehicles	
<ul style="list-style-type: none">• Provide vehicles information.	<ul style="list-style-type: none">• CatalogFacade

Truck	
<ul style="list-style-type: none">• provide truck information.• calculate gas consumption	<ul style="list-style-type: none">• Vehicle

Monitoring System	
<ul style="list-style-type: none">• check the memory consumption.• check time execution of the searches in the application.• save stats in a performance_log file.	<ul style="list-style-type: none">• ClientRequest

Client Request	
<ul style="list-style-type: none">• receive user requests.• respond user request.	<ul style="list-style-type: none">• CatalogFacade

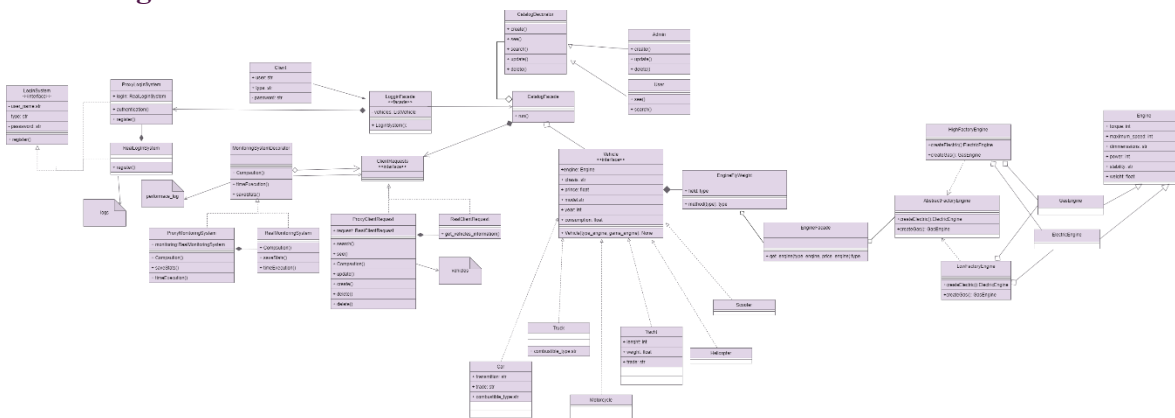
Catalog Facade Decorator	
<ul style="list-style-type: none">• Show vehicles.• Search vehicles.• Delete vehicles.• Update vehicles.• Create vehicles.	<ul style="list-style-type: none">• CatalogFacade

Engines	
<ul style="list-style-type: none"> provide engine information 	Vehicles

FactoryLowEngines	
<ul style="list-style-type: none"> • create low price engines. 	Vehicles

FactoryHighEngines	
- create high price engines	Vehicles

Class Diagram



As for the class diagram, several design and structural patterns were implemented.

As for the new requirements, there are two facades, one to log in and another one that will appear once the user type is validated.

On the side of LogginFacade a facade was used, and its Login service is given by a Proxy, which is connected to a log.txt file, where all existing users are saved for their respective validation.

Once this is done, it is redirected to a facade for each type of user, in the case user has only two roles, while Admin has 5, all that is create with help of CatalogDecorator. This facade is connected to the vehicle class and clientRequest, which receives all user requests, which in turn will be monitored and executed with a Decorator and a proxy. The actions must be saved in a Performace Log file.

As for memory reduction, proxies are used to store data in a file and avoid its consumption. To reduce memory for the vehicle and engine class, no viable alternative has been found.