UNIVERSIDAD DISTRITAL
FRANCISCO JOSÉ DE CALDAS

Faculty of Engineering.

Subject: Advanced Programming

Teacher: Carlos Andres Sierra

Project: WorkShop 2

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Program Description:

The program aims to develop an internal platform for a vehicle constructor company. The main objective is to create a catalog of vehicles that allows users to manage information about different types of vehicles, including their specific features such as engine, chassis, model, fuel consumption, among others. Additionally, a command-line menu should be implemented to create and display vehicles and engines.

User Stories:

- As a user, I want to be able to create new vehicles specifying their type, engine, chassis, model, and other relevant details.
- As a user, I want to be able to register different types of engines with their respective specifications.
- As a user, I want to calculate the fuel consumption of a vehicle based on its engine characteristics.
- As a user, I want to see all vehicles registered in the catalog.
- As a user, I want to see all engines registered in the system.
- As a user, I want to have an intuitive command-line interface to navigate and use the program's functions, such as navigating menus and filtering searches.

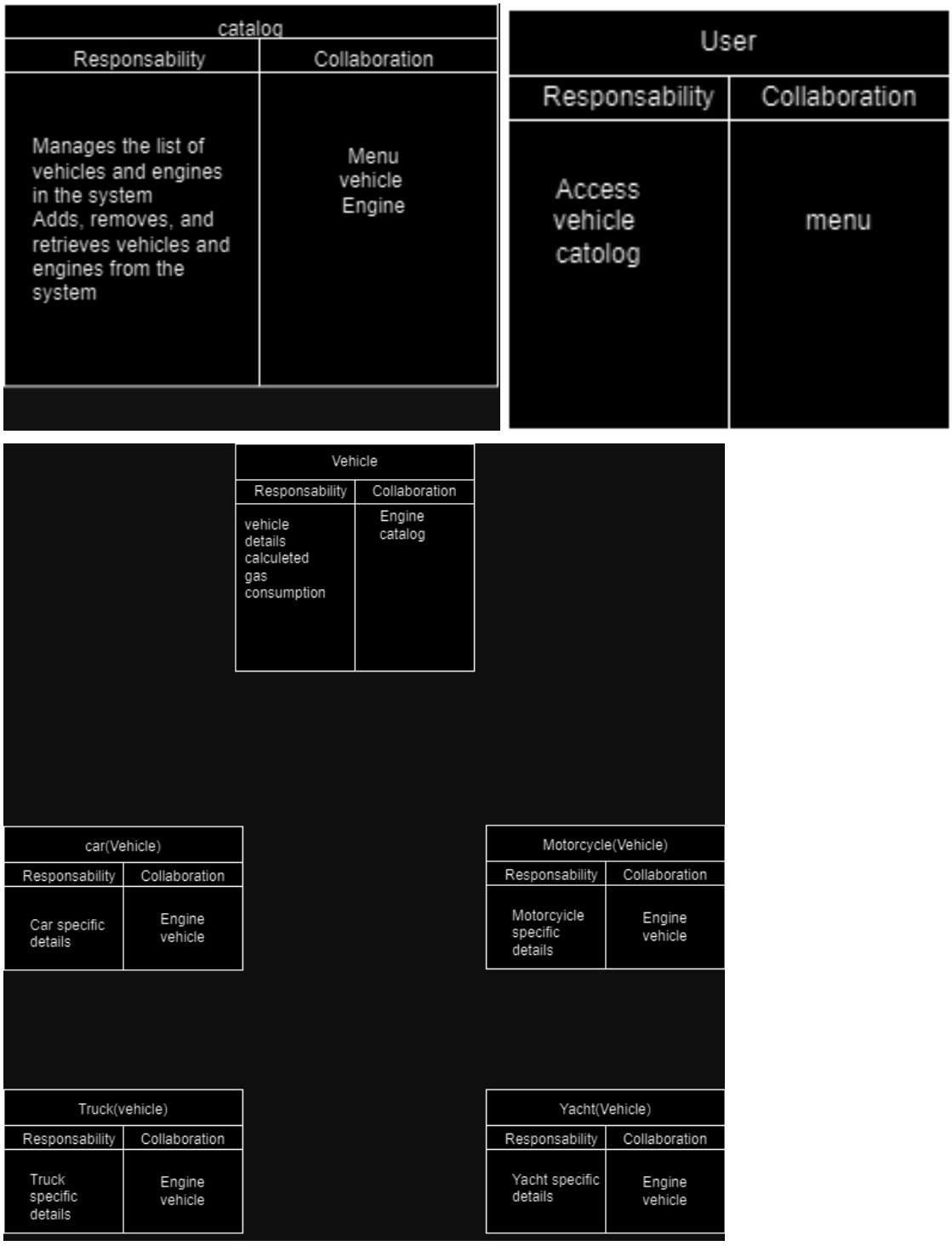
Stakeholders:

- *Company CTO:* Responsible for the strategic direction of the project and making important decisions.
- *Developers:* Responsible for implementing the program's functionalities and meeting the established requirements.
- *End Users:* Employees of the vehicle constructor company who will use the platform to manage the vehicle catalog.

Main Entities:

- *Vehicle:* Represents a vehicle registered in the catalog, with properties such as type, engine, chassis, model..
- *Engine:* Represents an engine registered in the system, with properties such as name, type, potency, weight-
- *Command-Line Menu:* Interface that allows users to interact with the program through text commands in the console.

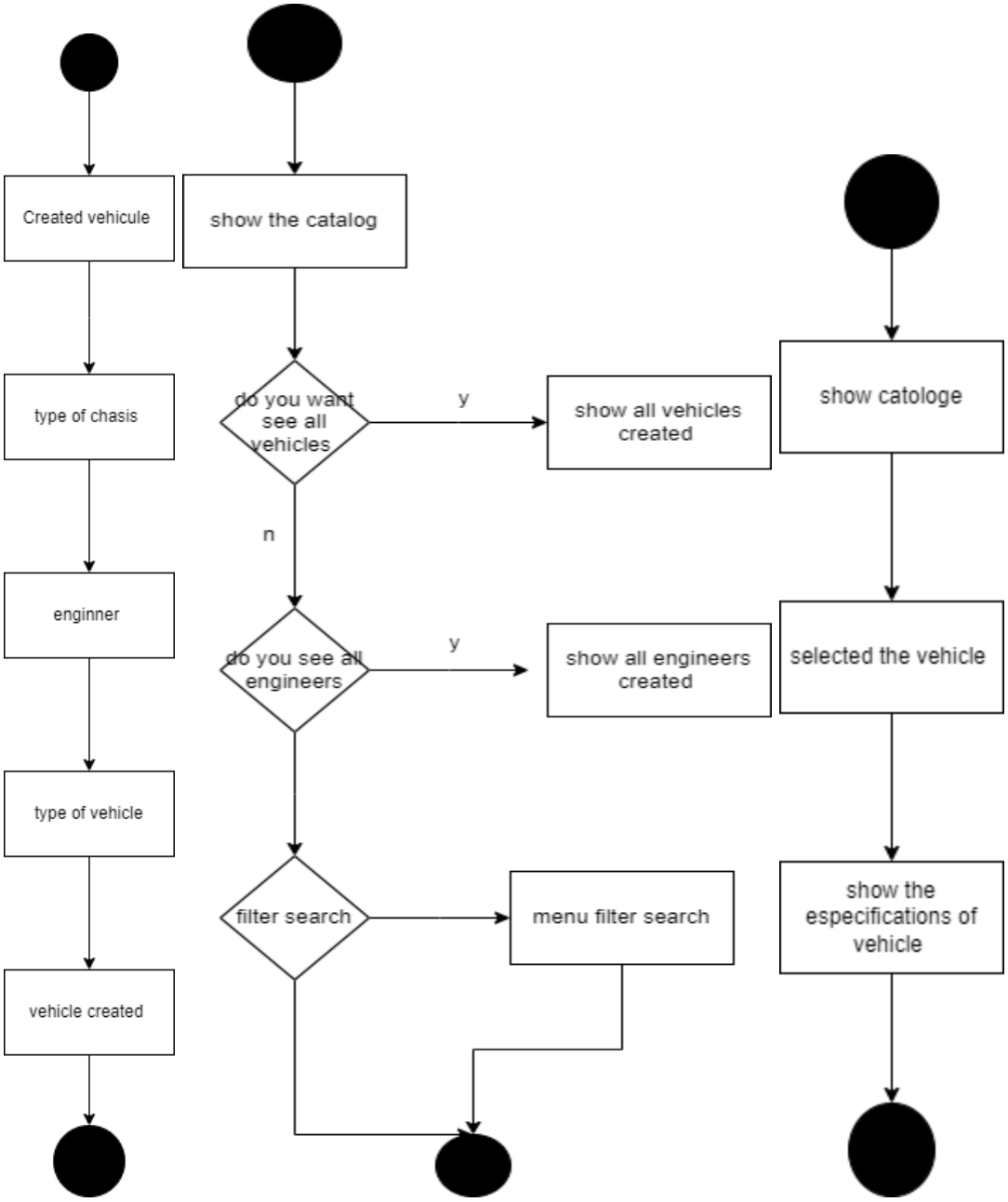
CRC Cards

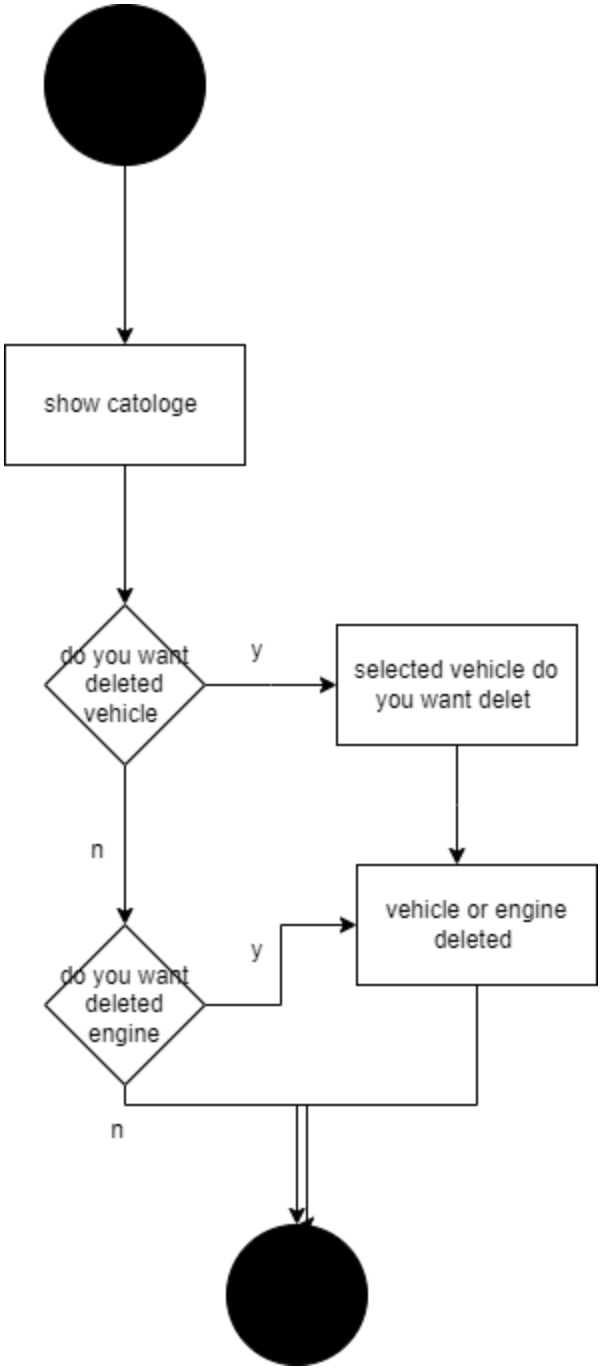

catalog
Responsability
Collaboration
Manages the list of vehicles and engines in the system
Adds, removes, and retrieves vehicles and engines from the system
Menu
vehicle
Engine
User
Responsability
Collaboration
Access vehicle catolog
menu
Vehicle
Responsability
Collaboration
vehicle details calculeted gas consumption
Engine catalog
car(Vehicle)
Responsability
Collaboration
Car specific details
Engine vehicle
Motorcycle(Vehicle)
Responsability
Collaboration
Motorcyicle specific details
Engine vehicle
Truck(vehicle)
Responsability
Collaboration
Truck specific details
Engine vehicle
Yacht(Vehicle)
Responsability
Collaboration
Yacht specific details
Engine vehicle

Menu	
Responsability	Collaboration
Manage comand-line menu	vehicle Engine

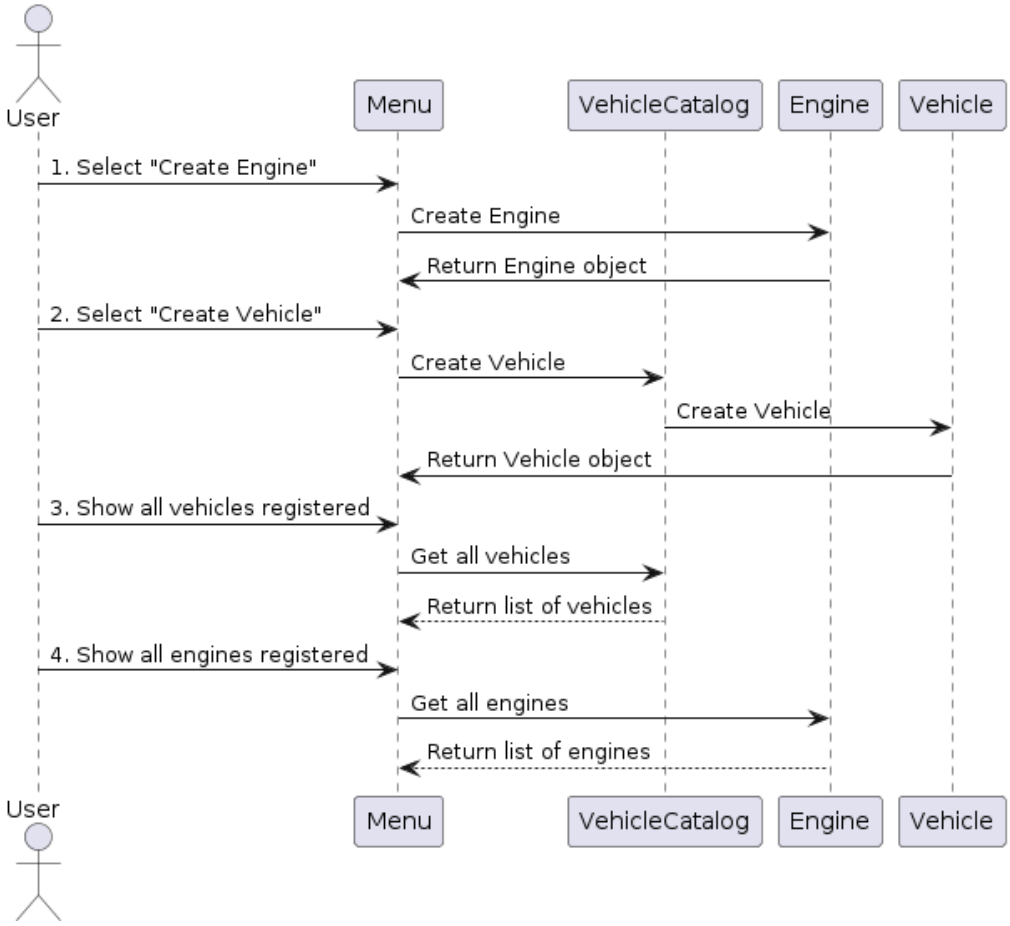
Engine	
Responsability	Collaboration
Engine details calculeted gas consumption	Vehicle catalog

Activity diagrams

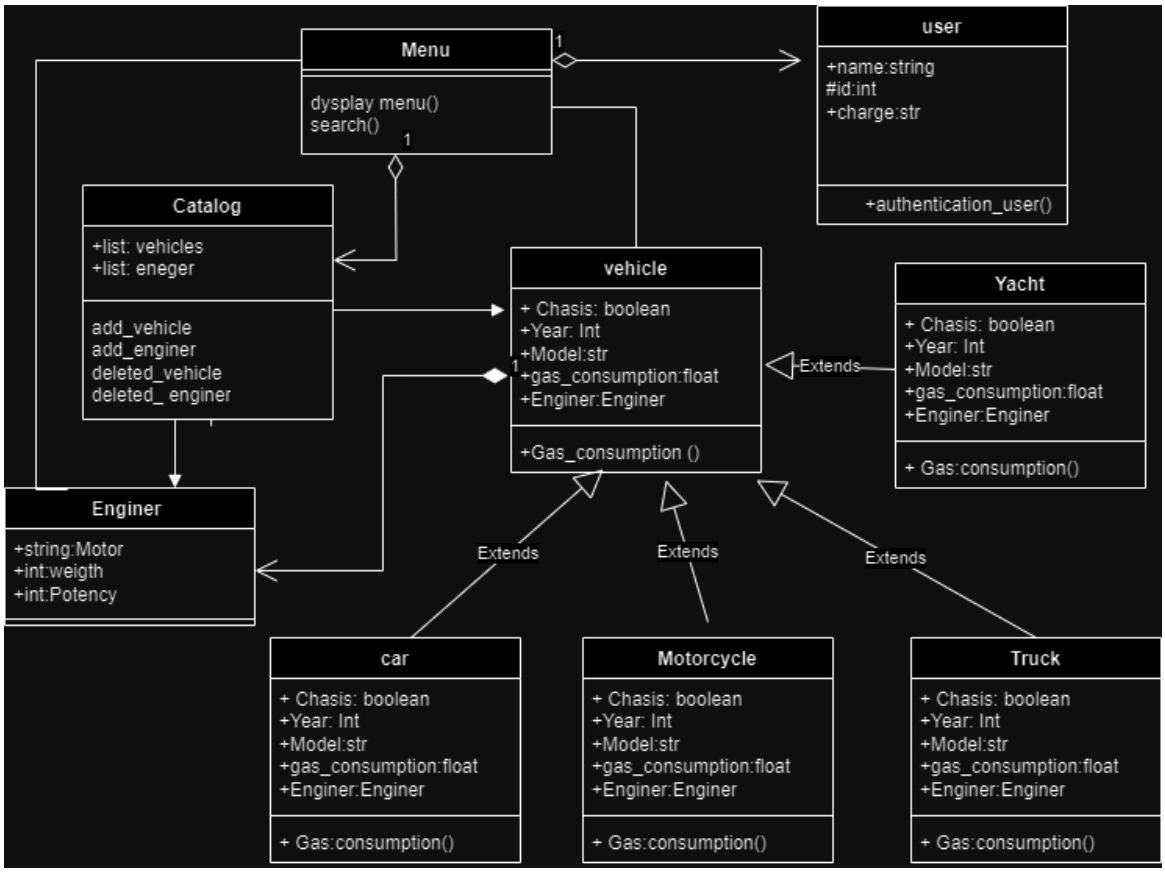

Created vehicule
type of chasis
enginner
type of vehicle
vehicle created
show the catalog
do you want see all vehicles
y
n
do you see all engineers
y
filter search
menu filter search
show all vehicles created
show all engineers created
show catologe
selected the vehicle
show the especifications of vehicle


show catologe
do you want deleted vehicle
y
selected vehicle do you want delet
n
do you want deleted engine
y
vehicle or engine deleted
n

Sequence Diagram

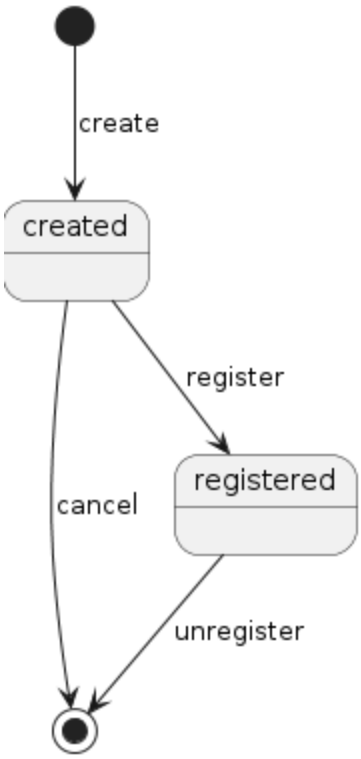


Class Diagram

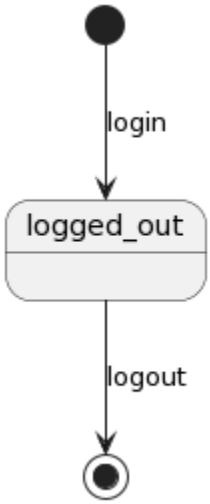


State Diagram

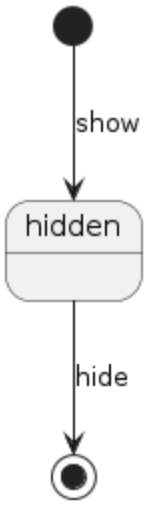
vehicle and engine state



user state



menu state


show
hidden
hide