

CS-1520: Midterm Project Part 2

1 Introduction

In this second part of the midterm project, you will implement the JavaScript code that will interact with the webpage DOM elements to allow your page to respond to user interaction with some components of your page, mainly the type of car, its color, and insurance type.

2 The general requirements for your page

These are the general requirements for your page:

- The Car Type drop-down menu shall have the following **hard-coded** options: Ferrari, Lamborghini, and Mustang
- The manufacturer of each car provides a set of available colors for that given car. The available colors are listed below:
 - Ferrari: Red, White, and Yellow
 - Lamborghini: Blue, Green, and Yellow
 - Mustang: Black, Silver, White
- The Car Color drop-down menu shall be updated every time a car type is selected, based on the available colors shown above.
- The Car Image shall be updated every time that either:
 - A new car type is selected: you can default to the car color to be the first one provided in the available colors.
 - Or when the user selects a different car color from the drop-down menu.
- The car description text area shall be updated every time that either:
 - A new car type is selected
 - A new car color is selected
 - The insurance selection is changed
- The description text area shall have a description of the car type, its description, chosen color, basic price, and the insurance cost (for a 3-year insurance, it is 30% of its basic price)

3 Code implementation hints

3.1 Create a Car class

Create a JavaScript class that contains a single constructor with the following features:

- Car type
- Available car colors
- Car description
- Basic price
- Available images

Note: insurance is not really a part of a car, so it should not be part of the Car class.

3.2 Create three cars based on the Car class

Create a function in your JavaScript file that creates 3 cars:

- A Ferrari car
- A Lamborghini car
- A Mustang car

You create three cars using the “new Car(...)”, which runs the Car constructor. You will need to provide the required inputs when calling the “new Car(...)”. The car description can be obtained by internet search. Grab any text for the description.

3.3 Setting Ferrari Car as the initial car

As soon as your page is displayed, the Ferrari car, with the first available color picked shall be used in your application. This means that:

- The car type drop-down menu shall be set to Ferrari
- The car color drop-down menu shall be set to the Ferrari available colors (found in the Ferrari car you have created in Section 3.2). The default color shall be Red (the first color in the Ferrari’s available color array)
- Set the insurance to 3-year type (for all the cars)
- Update the car image to Red Ferrari
- Update the purchase description accordingly

3.4 Create event listeners for your application

3.4.1 Create an event listener for the Car Type drop-down menu

This listener shall run a function that:

- Sets a new car object, such as “selectedCar” based on the selection in the car type drop-down menu (i.e., var selectedCar = chosen car from the drop-down menu).
- Calls a function that calls functions that perform the following tasks:
 - One function resets the car color drop-down menu based on the selectedCar available colors
 - One function that updates the car image (in this case for the first color in the drop-down menu, also based on the selectedCar available images
 - One function that updates the purchase description

3.4.2 Create an event listener for the Car Color drop-down menu

The listener shall run a function that calls functions that perform the following tasks::

- One function that updates the car image (in this case for the first color in the drop-down menu, also based on the selectedCar available images
- One function that updates the purchase description

3.4.3 Create an event listener for the Insurance options

- Create event listeners for the 3-year insurance and no insurance options
- Both event listeners should call a function that updates the purchase description and nothing else

4 Car types and Car images

You can use other car types and/or car images. I do not really care about it. To tell you the truth I like to see projects that show different cars or motorcycles, cell phones, dolls, or whatever you would like to place there. Just do a quick internet search and download images of cars that you like most, and surprise me!

Car Dealer App

Car Type

Ferrari ▼

Car Color

red ▼

red
white
yellow

Insurance Plan

☐ No Insurance

☒ Three Year Insurance



Description

Car: Ferrari
Description: Ferraris are what dreams are made of. Fast, sexy, and highly exclusive, these Italian supercars push the boundaries of performance and cause a stir wherever they go. The sensually styled Roma coupe is the most accessible in terms of price, but even it is far too expensive for most people.
Selected color: red
Basic Price: 100,000

Figure 1: Example of your program should display