# QA-Fundamentals Exam version 1.1

Congratulations On Making It This Far! After long and hard interviews with your employer you have finally got hired. At the Quality Assurance Engineer position in company’s most important project for an international client and well known car shop - “**Best Cars”** Inc. In this project company need to compare all car models fuel consumption. So after that they can target even better clients by providing this real information to them.

# Project Team

The Development lead is **Batman**, the lead of Design and Art is **Cat Woman**, and the Project Manager is **Robin**. They have gathered a highly motivated and skilled team to complete the project in time, you are there to help them do it in the proper manner.

# Software Requirements

1. Introduction
   1. Purpose

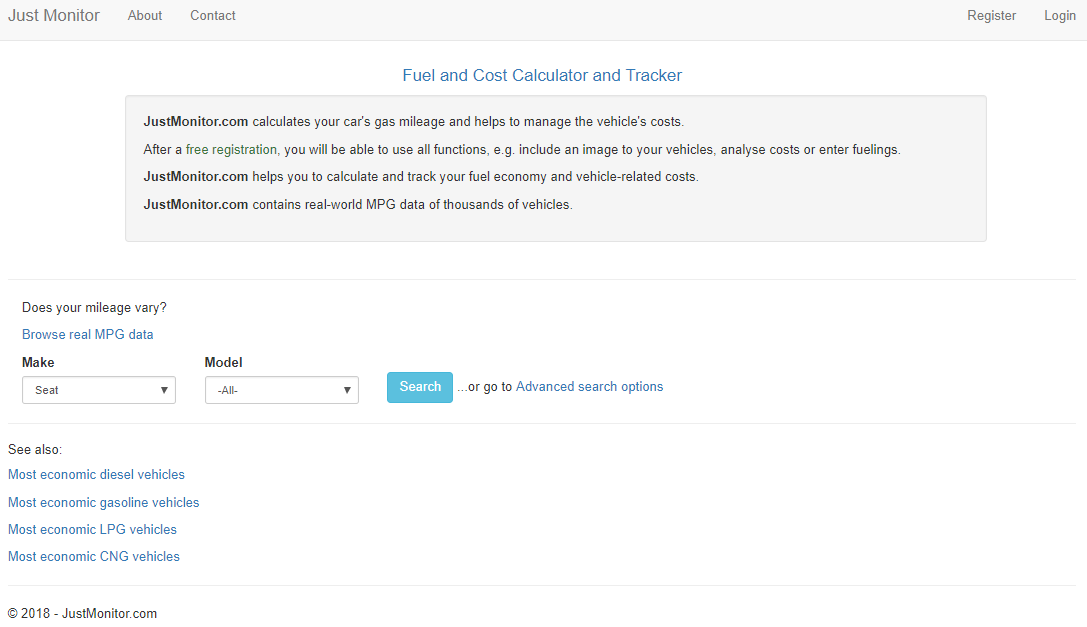
The purpose of this document is to present a detailed description of Fuel and Cost Calculator application (hereinafter called Calculator, Just Monitor or simply Project). It will explain some of the key features at very high level.

* 1. Scope

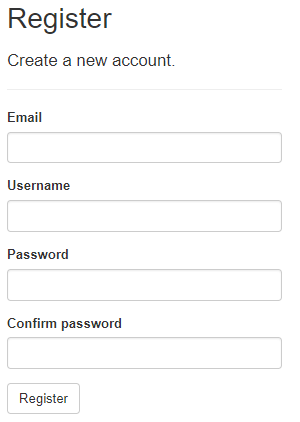
The document will cover the basic functionality on high level regarding the Just Monitor. The user-management system, which is over there to add some more features for registered users. The filter section for selecting car model. The details page for each specific car model that is part of our database.

1. Overall description
   1. System environment   
      The Project has two active actors, normal user and registered user. All of them are accessing their parts from the internet. The Unregistered user can access the basic functionality of the project. It can view products, categories and pictures rate and compare products as well. The Registered user can access some of the basic CRUD operations over the orders. It can add new car models, edit current models, add and remove details from it.
   2. Design
      1. **Pages** should contain Header and Footer, which need to be equal for each page

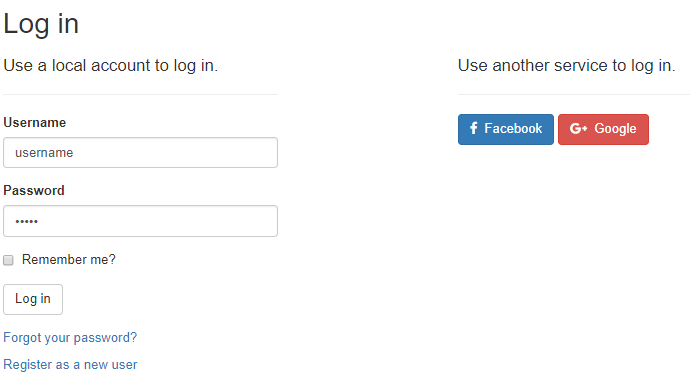
* Header should contain Register and Login links, which navigates to new page, where users can complete these operations. It also need to have About link, which redirect user to new page, where he can find information about Project.
* Footer should say that all rights for this site are reserved by our company. Also it has to contain link, which redirect to page with information about creators of the Just Monitor.
  + 1. **Home page** should have short description of the Project and its main functionalities. Possibility for simple selection for car brand selection or even for specific car. Body also have to have 4 links for getting top 30 car models in some categories for most economic vehicles (diesel, gasoline, LPG, CNG)



* + 1. **Register/Login pages** Both pages need to be very simple and provide basic functionalities.
* Register page must have button for registration, which to be active after user add some information in all 4 necessary fields:

1. Email
2. Username
3. Password
4. Confirm password

* **Login page** should have basic functionality for Login by providing user name and password. We need to integrate our site with Facebook and Google APIs, so we can provide possibility for our user to login in with their Facebook or Google account. There should be buttons, which redirect to right platform to login in it.

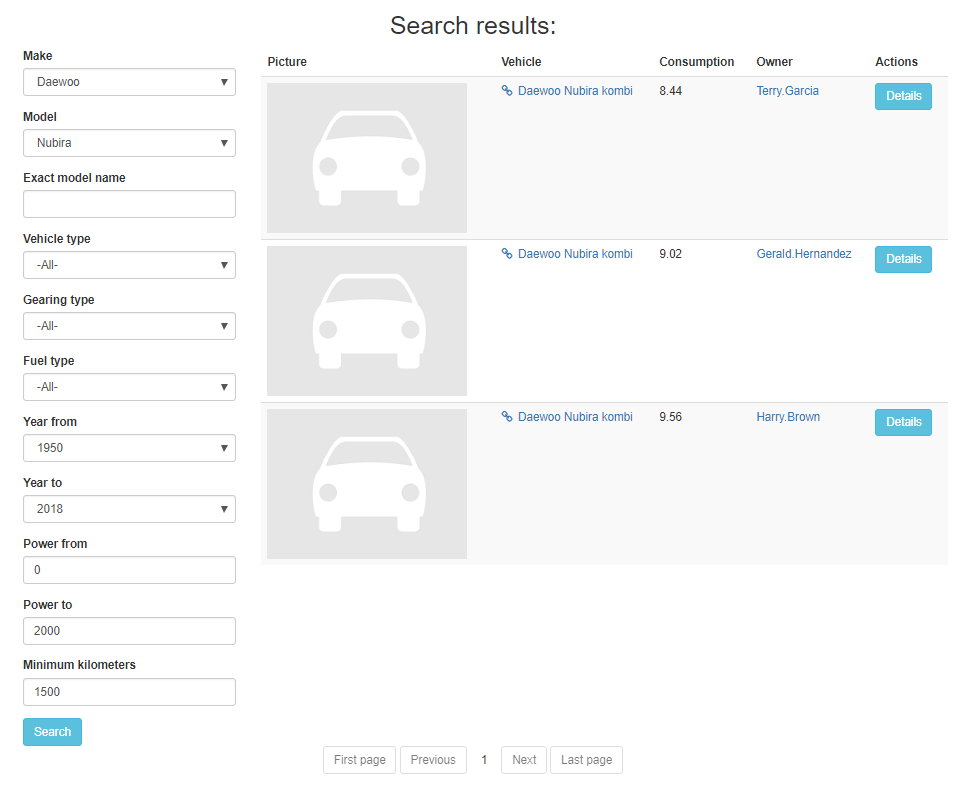


* + 1. **Search page** should provide a lot of criteria for filtering brands and models of cars. All filters should be placed on the left part of the page and on the right the right part have to be shown all results of filtering. Most of search criteria should be displayed only for registered users.
    - Make
    - Model
    - Exact Model Name – registered user only
    - Vehicle Type – registered user only
    - Gearing Type – registered user only
    - Fuel Type – registered user only
    - Year from – registered user only
    - Year to – registered user only
    - Power from – registered user only
    - Power to – registered user only
    - Minimum Kilometers – registered user only

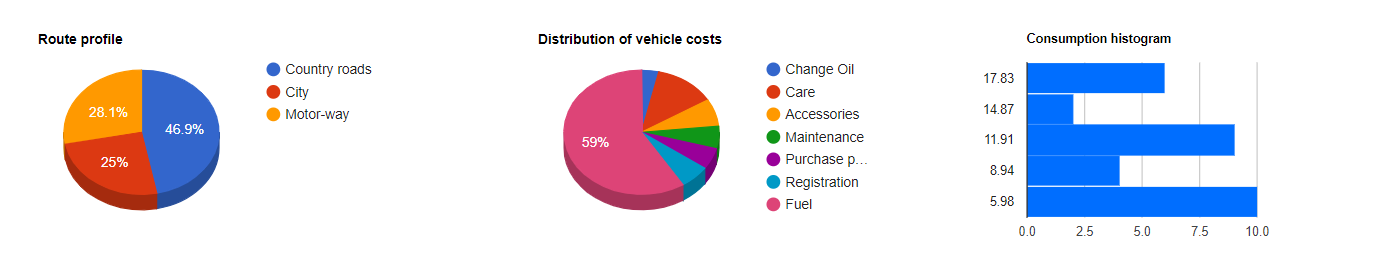
Each time when Search button is click, on the right side must be shown all models that have these properties. All results should have 5 different properties:

* + - Image
    - Vehicle – link navigate to Vehicle Page
    - Consumption
    - Owner – link navigate to Owner page
    - Actions – link navigate to Details page

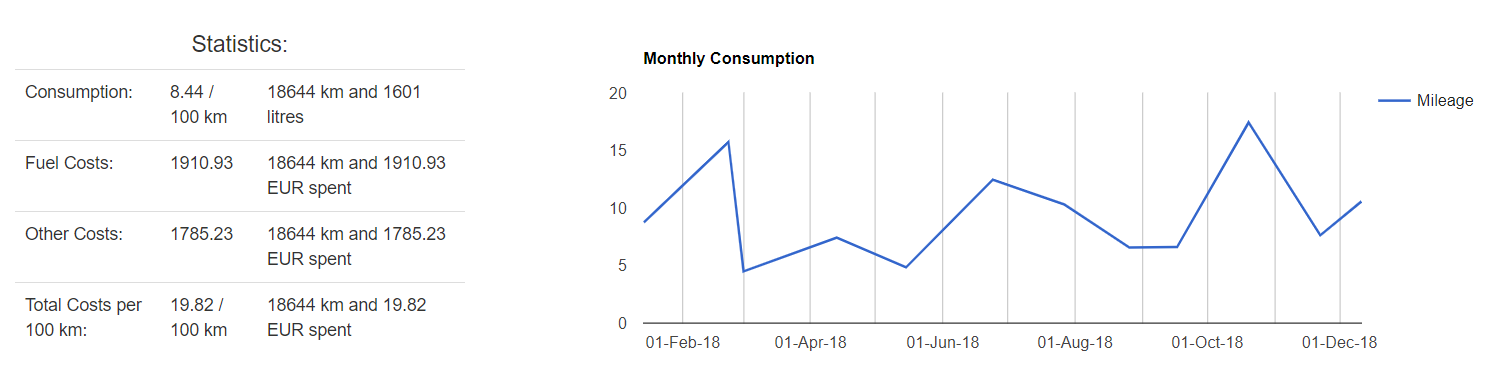
Search section will be peggable, so if there are many results on the bottom of the page should be displayed buttons for First page, Prev. page, Number of page, Next page, Last page. This section should be displayed only if there are



* + 1. **Details page** First section on this page contains 3 diagrams, which are visual of representation of data for the car. First one is Route profile, where users can check types where car is driven. Second chart shown Distribution of vehicle cost. Here user can easy check how are separated money for maintenance. Last chart should be Consumption histogram, which is specially generated for each car.

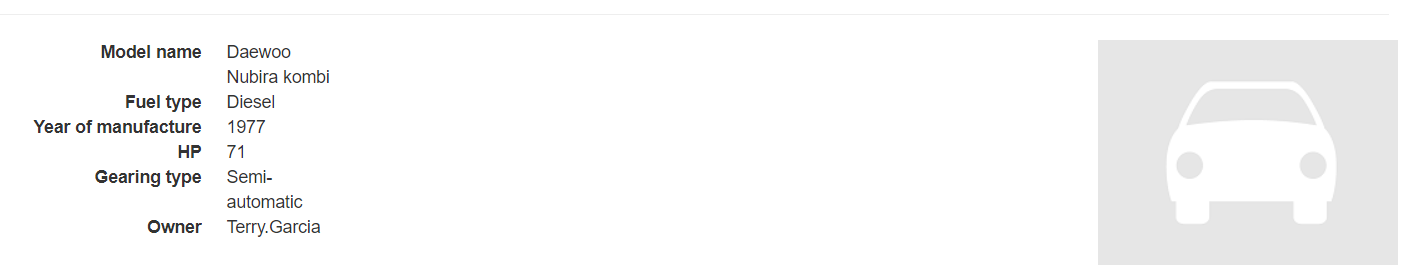


Below we have to see section with statistics

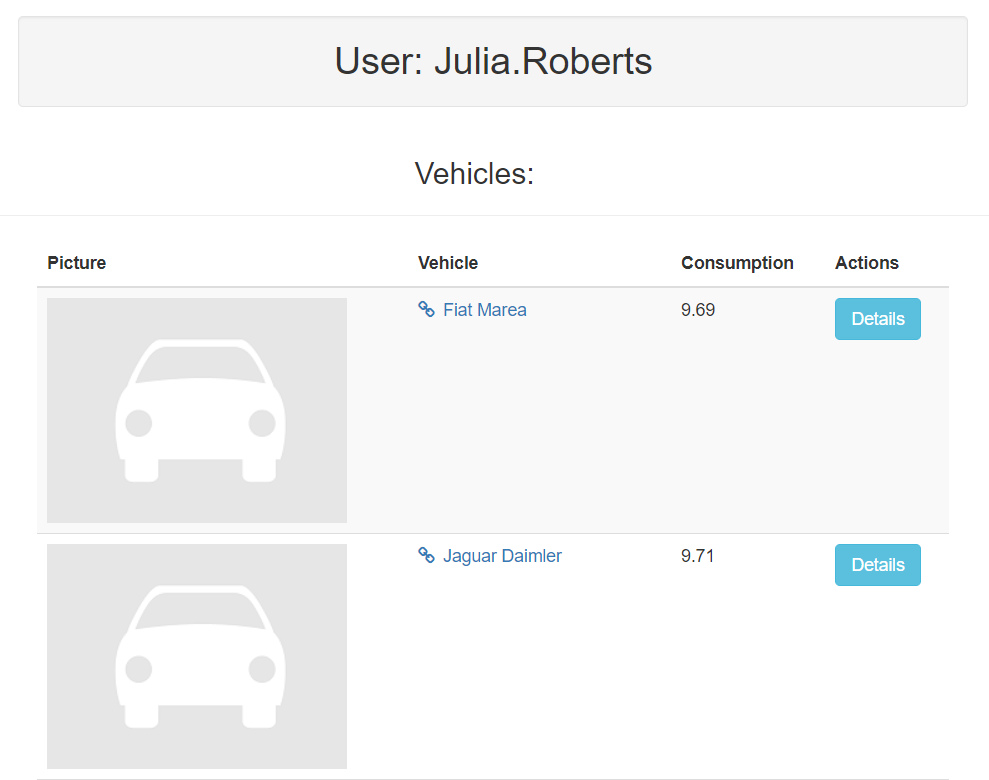


For the registered user there is one more section, where current user can see all Entries of his colleague with his car. Each entry has 9 properties:

* + - Date
    - Odometer
    - Trip Odometer
    - Quantity
    - Fuel
    - Price (USD)
    - Average
    - Type
    - Options
    1. **Top cars page** should have section with all top 30 ordered car models by their stats. Below this section user can find a link, which download excel file with all top 30 ordered car models.
    2. **Vehicle page** should display manufacturer information for each car. It need to have some properties:
* Exact model name
* Fuel type
* Year of manufacture
* Horse power
* Gearing type
* Official fuels consumption



* + 1. **Owner page** is shown only for registered users and show all cars own by selected user.



* 1. Functional requirement specification

* + 1. Use Case 1 (Accessing the system)

The system is accessed through the internet from its initial URL. It loads header, navigation bar and a home page.

* + 1. Use Case 2 (Navigation bar)

The navigation bar has navigational hyperlinks to the Register and Login. When user is successfully Log in, this link has to change to {username} page (My Account page).

* + - 1. Navigation bar – Login with username

When user fill valid user name and password, he/she should be logged in the system. After successful log in user have to be redirected to Home page.

* + - 1. Navigation bar – Login with third-party API

When user click on third-party icons (Facebook and Google), new windows need to pop-up, where connection with third-party API is confirmed.

* + - 1. Navigation bar – Register

When the visitor is unregistered, this hyperlink navigates to the Register page. After filling the right data in every field user should be informed that he/she receive mail in his mail box for confirmation of registration. This link has to navigate to Home page, where user is automatically logged in for the first time.

* + - 1. Navigation bar – About

When user click on About link, new page should be loaded, where user can see basic description of project

* + 1. Use Case 3 (Home page)

User can do some action on Home page. He can do simple search by providing brand and model of the car. After clicking "search" button, user should be redirected to search page.  
If user is logged in he can see links for top 30 for some categories of cars.

* + 1. Use Case 4 (Search page)

On page user can see results of his search on the right side. On the left user can see all criteria for searching in Just Monitor. User can change his/her search at any time by setting new values in any or all criteria from the left bar. There will be 11 criteria:

* + - 1. **Make** criteria should contain all of brands that we will support in Just Monitor
      2. **Model** criteria should show all models for selected brand
      3. **Exact Model Name** have to be input field, where user can fill text and look for concrete model, if he/she know exact model name
      4. **Vehicle type -** dropdown with all supported types of vehicle
* Car
* Motors
* Bus
* Truck
* Other
  + - 1. **Gearing Type** **-** dropdown with all supported gearing types for vehicles
* Automatic
* Manual
* Continuously variable
* Direct shift gearbox
* Semi-automatic
  + - 1. **Fuel type** **-** dropdown with all supported fuel types for vehicles
* CNG
* Diesel
* Electricity
* LPG
  + - 1. **Year from / Year to** **-** dropdown with all years after 1950
      2. **Power from / Power to** - field boxes for only positive values of vehicles horse power
      3. **Minimum Kilometers -** fieldbox for only positive numbers, which represent current vehicle driven distance
    1. Use Case 5 (Details page)

Only registered users can access this page.   
First one should contains details for the car (Model name, Fuel type, Year of manufacture, Horse Power, Gearing type, Owner) and picture of the car.

Second section is chart section, where user can find Route profile and Consumption histogram.

Third section is statistics, where we can find information about (Consumption, Fuel Costs, Other Costs, Total Costs per 100 km). Also user have to see Monthly Consumption for selected year. This Monthly Consumption will be visualizing in form of chart. On top of chart user can selected one of all possible years for which our system has statistics.

Forth section have to have entries for each vehicle in our system. Here user can find info for every single time when current car is driven. Every car can have **many** entries, so this section need to be peggable and need to show only 20 entries by page. On the bottom of the section we can find current loaded page and buttons for first page, previous page, next page, last page. This section is shown only for registered users.

* + 1. Use Case 6 (Top cars page)

Reach only by registered user, which click on home page links. On this page user can see top cars in selected category. There will be 4 ranking:

* Most economic diesel vehicles
* Most economic gasoline vehicles
* Most economic LPG vehicles
* Most economic CNG vehicles
  + 1. Use case 7 (Vehicle page)

User can reach this page from some different places. On search page should have a link which navigate to a vehicle page. On Details page also should have a link which navigate to this page. And last is Owner page should have a link for every car owned by user.

* + 1. Use case 8 (Owner page)

Owner page can be access only by registered user. There user can check all cars owned by current user and of course he/she can check details for each car.

# Tasks

1. **Tests Cases**
   1. You need to write at least **15** **(25)** test cases.
   2. Every Use case have to have at least **1** **(2)** test case, specially written for it.
   3. Use case 4 must have at least **4** **(6)** test cases, specially written for it
2. **Bug Reports** 
   1. There are special 5 bugs, which need to be find and described
   2. Probably in the project have even more bugs, so feel free to look around and report as many as possible

Numbers in brackets are for students, who are participating for second time.

# Resources

The project is located at: <https://qafundexam.azurewebsites.net/>  
There is back-up copy at: <https://dev.platform.softuni.bg:52/>

You are given templates for test cases and bug reports.

**YOU ARE NOT ALLOWED TO CHANGE ANY COLUMN IN TEMPLATES.   
SEPARATE EACH TEST CASE OR BUG REPORT WITH EMPTY ROW.**

## Exam Information

You are allowed to use any resources you have like Internet, software, existing code.

You are not allowed to get help from other people: Skype, ICQ, FB, email, talks, phone calls, etc. are forbidden.

Exam time: **4 hours**.