**ASSESSMENT AND INTERNAL VERIFICATION FRONT SHEET (Individual Criteria)**

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| Course Title | Advanced Diploma in IT (MQF Level 4) | | | Lecturer Name & Surname |  | |
| Unit Number & Title | | **ITSFT-406-1506–Client-Side Scripting** | | | | |
| Assignment Number, Title / Type | | **02, Client-Side Scripting Project (Home Assignment)** | | | | |
| Date Set | | **12-03-2025** | **Deadline Date** | **27-03-2025** | | |
| Student Name | Sara Bella Gauci | | **ID Number** | **154496M** | **Class / Group** | **4.2A** |

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| Assessment Criteria | Maximum Mark | Mark Achieved |
| *KU1.4: Identify advantages of supporting technologies* | 5 |  |
| *KU1.5: Describe the necessity for responsive design* | 5 |  |
| *KU1.6: Explain the need for validation of input on the client* | 5 |  |
| *KU3.3: Examine and ensure form validation is carried out on the client* | 5 |  |
| *KU3.4: Test, log, identify, and rectify errors ensuring testing using a number of browsers* | 5 |  |
| *AA2.3: Use event handlers to enhance the user experience* | 7 |  |
| *AA2.5: Apply scripts to validate user input and to improve a design element* | 7 |  |
| *SE3.1: Create an interactive web application making use of scripting techniques to enhance functionality* | 10 |  |
| *SE3.2: Create a dynamic navigation system* | 10 |  |
| Total Mark | **59** |  |

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| **Notes to Students:** |
| * This assignment brief has been approved and released by the Internal Verifier through Classter. * Assessment marks and feedback by the lecturer will be available online via Classter (<Http://mcast.classter.com>) following release by the Internal Verifier * Students submitting their assignment on VLE/Turnitin will be requested to confirm online the following statements:   **Student’s declaration prior to handing-in of assignment**   * I certify that the work submitted for this assignment is my own and that I have read and understood the respective Plagiarism Policy   **Student’s declaration on assessment special arrangements**   * I certify that adequate support was given to me during the assignment through the Institute and/or the Inclusive Education Unit. * I declare that I refused the special support offered by the Institute. |

Graphical user interface

Description automatically generated with medium confidence

Advanced Diploma in IT (MQF Level 4)

ITSFT-406-1506: Client-Side Scripting

**Home Assignment: Client-Side Scripting Project**

**Assignment Guidelines**

* This assignment is a **Home Assignment** and should be strictly completed by **27th March 2025**.
* Fill in the assignment **cover sheet completely**. The student’s assignment cover sheet should be attached to the project being submitted. Note that assignments handed in without the cover sheet will be considered as ***Not Submitted***.
* Answer all the questions in a structured document and relevant programs/files.
* Highlight clearly the Criteria Number/Question Number and your answer in your work.
* Submission method: **soft copy only** through **VLE** (more instructions will be given by your lecturer).
* **Plagiarism is strictly prohibited. Proper references must be used**. **Copying** will be **penalized** in line with the College’s disciplinary procedures.
* Any **AI generated code is strictly prohibited** and will be penalized according to MCAST's plagiarism policy.
* **Individual interviews** may be held and hence the achievement of marks will depend on the outcome of the interview accordingly.

Using a web code editor (such as *Brackets* or *Visual Studio Code*), you are to create a Web Application for a ***scenario of your choice*** using *HTML, CSS, JavaScript* and *Bootstrap* accordingly.

The following web pages are required:

* Home page
* Gallery page
* Contact Us page

The required functionalities to be included in the above pages will be explained in the coming questions and therefore it is suggested that you read the whole assignment before starting any of the questions.

***Question 1 (KU1.4 – 5marks):***

**Proposal:**

1. You are to write a paragraph describing the scenario/topic you have chosen about which you are going to create your web application.

The primary objective of this web page is to provide users with personalized plant recommendations and generate an accurate quotation based on the specific details they enter. Designed with user-friendliness in mind, this platform requires minimal information for processing: your name and surname, your preferred type of plant, whether you have a garden or not, and the number of plants you wish to purchase.

Upon submitting this information, the application goes to work. It analyses the details you've provided to identify which plants would be the best fit for your needs. Furthermore, once the suitable plant is identified, the application will calculate and display a comprehensive quotation. This quotation will break down the costs associated with the suggested plant.

In summary, this web page serves as a tool for anyone starting to look to add greenery to their lives, offering suggestions so that the user may find the resources needed to embark on this journey successfully.

1. You are also to create a proper design of your **home page** clearly showing elements and components (labels, inputs, button, etc) upon which your JavaScript functionality will work.

A screenshot of a computer

AI-generated content may be incorrect.

***Question 2 (AA2.3 – 7marks; KU1.6 – 5marks; AA2.5 – 7marks):*** The Home page must include some informative contents such as a welcoming title, banner and so on, and *at least* 4 user inputs for your custom JavaScript functionality.

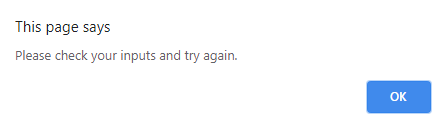
**Note:** *at least 1 of the inputs must be an input field (number or text); and all inputs must not be of the same type.*

Below is a generic sample of such input components:  
  
Graphical user interface, text, application

Description automatically generated

When the user makes the necessary inputs and clicks the button, the ***onclick*** event must trigger a *JavaScript* function called ***ValidateAndCalculate()***. You are to code the ***ValidateAndCalculate()*** with the following functionalities:

* Check that all the inputs are valid (not left blank, valid numeric values entered in a numeric input, correct value range, etc). The inputs must be parsed if necessary. If the inputs are not valid, an error message must be shown such that the user can amend the inputs, such as follows:

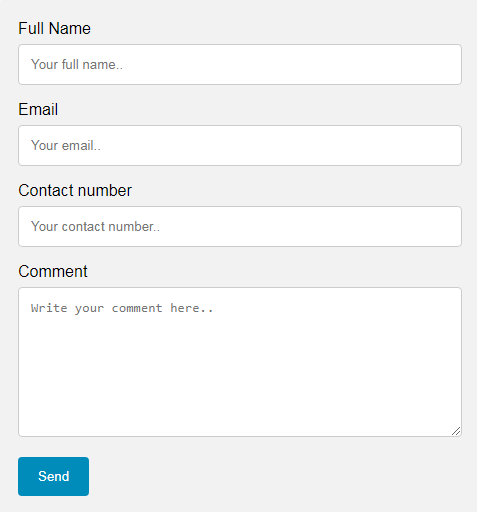


* Once the inputs are valid, the calculated value must be displayed to the user. For example, if a quotation with a Total Price was calculated then something as follows must be shown as a result:

Text

Description automatically generated

***Question 3 (KU3.3 – 5marks):*** Within the *Contact Us* page you are required to include a *functional* contact form having a *mailto* attribute linked to your email address. A sample layout of the contact form is shown below:



You are required to create a JavaScript function called ***validateForm()***, such that when the user clicks the ***Send*** button, it will check that the user has filled in ALL of the fields, otherwise an error message is displayed as follows:

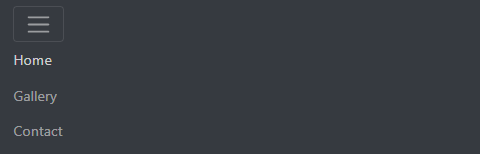
Graphical user interface, text, application

Description automatically generated

***Question 4 (SE3.1 – 10marks):*** Within the *Gallery* page you are required to implement a fully functional Carousel Gallery containing at least 4 images using *Bootstrap* technology. A sample design including gallery controls (previous image, next image and indicators) is shown below:  
  


***Question 5 (SE3.2 – 10marks):*** All of your web application pages must include a *Bootstrap* horizontal navigation menu bar, which when viewed on a wide screen device (such as a desktop monitor) it should be as follows:  
  


While when the website pages are then shown on a smaller/narrow screen device (such as smartphone) it should hide all menu items and display a burger button instead:  
  


When clicked, the above burger button should unveil the menu items as shown below:  
  


***Question 6 (KU1.5 – 5marks):*** You are to explain what benefits you achieved by using *Bootstrap* framework in your web application in questions 4 and 5. Moreover, you are to further explain why responsive web design is important and desirable.

Benefits of Bootstrap:

Bootstrap is a powerful front-end framework that simplifies the process of designing and customizing web pages. It is widely known for its ease of use, responsiveness, and extensive library of pre-built components. By utilizing the ready-made templates and design elements available in its documentation, developers can significantly speed up the development process while maintaining a professional and visually appealing design. Additionally, Bootstrap’s responsive grid system ensures that web pages adapt seamlessly to different screen sizes, enhancing the user experience across various devices. This makes it an excellent choice for both beginners and experienced developers looking to create modern, functional, and aesthetically pleasing websites with minimal effort.

Importance of Responsive Web Design:

In today's digital age, users access web pages on a wide range of devices, from large desktop monitors to small mobile screens. Due to these varying screen sizes, the browsing experience can differ significantly. To ensure a seamless and user-friendly experience across all devices, developers must implement responsive web design techniques. This involves using flexible layouts, adaptive images, and CSS media queries to adjust the content dynamically based on the screen size. Additionally, frameworks like Bootstrap 5 provide built-in responsiveness features, making it easier for developers to create visually appealing and functional websites that work smoothly on any device.

***Question 7 (KU3.4 – 5marks):*** Using the below test case template, you are required to test your website’s navigation menu bar/burger button that you have implemented using *Bootstrap* framework. You need to perform and fill in this test case template using a specific web browser of your choice and include at least 2 screenshots showing the full menu bar and the burger menu button.

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| **Project:** | | Plant Suggestion Giver – Home Project | | |
| **Author:** | | Sara Bella Gauci | | |
| **Test Case Number:** | | 1 | | |
| **Test Case Title:** | | Navigation menu bar/burger button | | |
| **Test Case Description:** | | Testing the navigation menu functions in Google Chrome Browser | | |
| **Actual Steps Performed** | **Expected outcome** | **Actual outcome** | **Result (Pass/Fail)** | **Further comments** |
| Open Google Chrome and start from the index page, I started to check that once clicked, the page is displayed correctly from each page.  First, I changed the window size to a smaller one, then I checked each page to make sure that each has a visible burger button. | The index, gallery, and contact pages have a visible navigation menu, which, once clicked, opens that page from any other page.  Each page has a burger button instead of the navigation menu bar. | All three pages have a functional navigation menu, and each takes the user to the respective page.  Each page has its own burger button when the screen is smaller. | Pass  Pass |  |

**Full Screen:**

A screenshot of a computer

AI-generated content may be incorrect.

**Smaller Screen:**

A screenshot of a computer

AI-generated content may be incorrect.

Marking scheme

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| --- | --- | --- | --- |
| Criteria | Marking structure | Maximum mark | Mark Awarded |
| *KU1.4 (Q1)* | **1 mark** for a proper proposal paragraph describing the scenario/topic chosen by the student. (Q1a)  **4 marks** for the created design of your **home page** clearly showing elements and components (labels, inputs, button, etc) upon which your JavaScript functionality will work. (Q1b) | 5 |  |
| *AA2.3 (Q2)* | **1 mark** for correct use of onclick button event handler such that the *ValidateAndCalculatePrice()* function is properly executed  **2 marks** for proper handling/parsing/storage (in variables/arrays) of user inputs (according to the proposed scenario by student)  **4 marks** for proper use of if statement/s leading to result calculation (according to the proposed scenario by student) | 7 |  |
| *KU1.6 (Q2)* | Properly output messages to the user:  **2 marks** for showing a message to the user in case of invalid inputs (according to the proposed scenario by student)  **3 marks** for showing the final output result (according to the proposed scenario by student) | 5 |  |
| *AA2.5 (Q2)* | **7 marks** for validating user inputs (not left blank, valid numeric values entered in a numeric input, correct value range, etc) on homepage using JavaScript and properly accepting only valid inputs (according to the proposed scenario by student) | 7 |  |
| *KU3.3 (Q3)* | **1 mark** for creating the *validateForm()* function and calling it when the user submits the form **1 mark** for each validated field (full name, email, contact number, and comment) using JavaScript | 5 |  |
| *SE3.1 (Q4)* | **1 mark** for including the necessary Bootstrap and Javascript libraries/files  **5 marks** for creating the fully functional Bootstrap Carousel gallery/slideshow having at least 4 images  **2 marks** for correct implementation of the previous-image and next-image buttons within the Bootstrap Carousel gallery  **2 marks** for correct implementation of the carousel indicators (bottom of carousel) within the Bootstrap Carousel gallery | 10 |  |
| *SE3.2 (Q5)* | **5 marks** for creating the actual navigation menu bar using Bootstrap **5 marks** for making the navigation menu burger act in a responsive manner on small screen sizes by hiding its menu items under a burger button, which when clicked unveils all of the menu items again | 10 |  |
| *KU1.5 (Q6)* | **2.5 marks** for explaining what benefits you achieved by using Bootstrap in questions 4 and 5 **2.5 marks** for further explaining why responsive web design is important and desirable. | 5 |  |
| *KU3.4 (Q7)* | **5 marks** for a completely correct test case in a specific browser | 5 |  |

**Total Marks (out of 59): \_\_\_\_\_\_**