Swinburne University of Technology Sarawak
Faculty of Engineering, Computing and Science

COS10011 Creating Web Applications
Assignment 2 - *Semester 1, 2021*

Due date: Week 9

Late submission penalty is 10% of total available marks per day

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Contribution to Final Assessment: 30%
Hurdle Note: You must meet the Essential Requirements of this assignment to be eligible to submit Assignment 3.

Purpose of the assignment

In this assignment you will extend your Assignment 1 website by adding a link/button/icon to each product/service offered by your Website. This link would ease users to send an inquiry regarding a certain product. All inquiry information must be validated before it can be submitted successfully.

In short you will:

- Use *client-side storage* to transfer data between pages and within a page.
- Use only *JavaScript* to validate forms and provide user feedback.

Detailed marking criteria are contained on the separated marking sheet.
In summary the mark's distributions are:

- Essential specified requirements (approx. 50%)
- Other specified requirements (approx. 10%)
- Enhancements to specified requirements (approx. 20%)

Essential & Other Specified Requirements

1. Data Transfer between Web pages

Add a "Subject" input field into your existing **enquiry.html** page. This page must be accessible from any page where a product/service is displayed. When a link/button on a specific product is clicked, the user will be redirected to the **enquiry.html** page and the "Subject" input field will be pre-filled with the relevant product name/description. You will need to use JavaScript to obtain this data and store it locally using either **session objects** or **cookies**. You can decide the format of the "Subject" input field's value, such as `RE: Enquiry on [service name]'.

If you wish to make other alterations to your Assignment 1, that is OK. All newly added pages in the website should be directly or indirectly accessible from your main website menu.

Remember to implement your web pages using the standard HTML5 elements (*unless indicated otherwise*) that are also well-formed XML.

2. Data transfer in the same page

It should be possible for a user to navigate to the enquiry.html page *without* first selecting a particular product. Therefore, add JavaScript codes, which will automatically fill the "Subject" input field each time the user selects a product from the "Service" input field of the existing form.

3. Data validation and input checking of Forms

You will demonstrate different techniques for using client-side validation of data entered into the form. On the enquiry.html page, use JavaScript for input validation. Replace HTML5-specific input types that have embedded validation functionalities (e.g. *email*, *number* and *tel*) types with the normal HTML input *text* type.

4. Populate drop-down list using Javascript

Create an array to store the product list in Javascript. Change the drop-down list on the enquiry.html to obtain the list of products from the array. You are to programmatically create a new DOM node for each product and append it to the HTML element. Do the same for the drop-down menu on the navigation bar.

5. Produce a report

Please continue your assignment 2 report from your assignment 1. In this report should list and describe the following areas:

- Brief description of how Javascript is implemented (include code snippets and explain on how it is done)
- Enhancements (if any)

Other Requirements

All JavaScript used for your forms should be stored in a single JavaScript file called **script.js**. There should be **no** JavaScript embedded in your html files.

Note: Do *not* use JavaScript libraries (e.g. jQuery) in this assignment (refer to the marking criteria).

All form values, except the Comment field, are 'required'. If any of these required fields are blank, the user should not be able to submit the form. If a field does not validate properly (i.e., Invalid input or missing inputs), you are to point the invalid input field to the user. You may use JavaScript alerts for this. Alternatively, display errors message onto the Web page itself. If there are multiple errors, then highlight these errors on a single message.

Finally, if you have not done so, apply CSS to style and present the form pages appropriately. Form elements should be appropriately aligned. The forms should remain well-laid out when the browser window is resized using appropriate properties like min-width and max-width.

Enhancements using JavaScript

You should complete the above requirements before attempting enhancements.

Similar to Assignment 1, you have the opportunity to implement enhancements to your Website using techniques not covered in the tutorials. Each enhancement must be listed of a page called **enhancements2.html**. The entries on this page should:

- Briefly describe the interaction required to trigger the event and what a programmer has to do to implement the feature.
- Provide a hyperlink to the page where the enhancement is implemented in your website.
- Reference any 3rd party contribution to the enhancement

The JavaScript enhances features should be in a separate **enhancements.js** file. Make sure there are adequate comments to explain the enhancement (including the source for its code, if applicable). ***Examples*** of JavaScript and other enhancements that you might include:

- Pop-up a preview page prior feedback form submission.
- Use **regular expression** patterns in JavaScript to validate the data in more depth. In relation to this, you may introduce additional validation criteria when validating the form.
- The "Navigation Menu" automatically highlights the current page being viewed.
- Create an extra client side JavaScript dynamic effect: e.g. slideshow, random image displayed onload, etc. The code and structure of this is open, but must be documented and explained as clearly as possible.
- Use the HTML Form Element to manipulate/validate the form (e.g. see https://developer.mozilla.org/en-US/docs/Web/API/HTMLFormElement)
- Etc.

Any extensions that are not listed and linked on the page enhancements2.html will not be assessed. A maximum of 2 extensions will be assessed.

Web Site Folder Structure and Deployment Requirements

Your website folder structure should follow the same structure as Assignment 1. JavaScript can sit in the root folder or in a `/script` folder. All links to your files (JavaScript, CSS or images) should be relative. Do not use absolute links, as these links will probably be broken when the files are viewed for marking. **Marks will be deducted if links are broken**.

Assignment Submission

An electronic copy of your assignment should be submitted through Canvas before the due date.

- Make sure all your files are in the correct folders and compress your root folder with all your sub-folders with HTML, CSS, JavaScript, and image files into a zip file named "**yourname_assign2.zip**".
- You can submit a maximum of 3 times through Canvas.
- Note that all deliverables must be submitted as softcopy together with your report.

Finally, have fun coding!!!