



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

COS10011 Creating Web Applications Assignment 2 - Semester 1, 2018

Deadline: Monday, 7 May 2018 at 05.00 pm (Malaysian local time)

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

Contribution to Final Assessment: 15%

Hurdle Note: You must meet the *Essential Requirements* of this assignment to be eligible to submit Assignment 3, and to be eligible to pass this subject.

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.

As with Assignment 1, there will be an opportunity to enhance your website beyond the basic requirements.

Prerequisite (to be done as a group)

If you failed to meet the essential requirements of **Assignment 1** before **this** assignment is submitted and marked, you need to demonstrate that you have fixed problems in your first assignment. Note that these fixes will **not** alter the mark you received for your Assignment 1.

It is advisable to get these fixes completed and signed off *much earlier before* you hand in this assignment. The tutor will check the fixes and sign-off that they have been completed. Your tutor will be happy to advise you during labs or during consultation sessions if you need assistance fixing Assignment 1.

How to get your fixes signed off:

1. Arrange a time with your tutor to check your work during your allocated tutorial session.
2. Your tutor will check that the fixes to your assignment address the issues identified on the marking sheet (fixes will not be required to the features html page).
3. If the fixes are successful, your tutor will record this and you will be eligible to have this assignment (Assignment 2) assessed. If there are issues that have not been fixed, your tutor will inform you of this and you will have *another chance* to fix the assignment.

Detailed marking criteria are contained on the separated marking sheet.

In summary the mark weightage are:

- Essential specified requirements (approx. 50%)
- Other specified requirements (approx. 30%)
- 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 into the enquiry.html page and the “Subject” input field will be pre-filled with the relevant product name/code/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 [product name]`.

If you wish to make other alterations to your Assignment 1, that is OK. All pages in the extended 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 “Product” 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 forms. 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

Your report should list and describe the enhancement made (if any). It should also contain the contributions of each member in your team in detail, describe where and how Javascript is implemented.

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 (see 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 appropriately, tailor your feedback to point the user to the invalid input field. You may use JavaScript alerts for this. Alternatively, write errors message onto the Web page itself. If there are multiple errors then highlight these errors as 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 on 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 `HTMLFormElement` 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 5 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 files are transferred for marking. **No marks will be allocated if links are broken.**

Assignment Submission

An electronic copy of your assignment should be submitted through blackboard at <https://blackboard.swinburne.edu.my> on or 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 "assign2.zip".
- You can submit more than once through blackboard.
- Note that all deliverables must be submitted as softcopy. You need to submit an assignment cover sheet. *Print out the cover sheet and bring it with you to your demonstration.*

Demonstration Procedure

Note: During demonstration, your lecturer will not only be examining how the Web site works and looks, but primarily how it is **written**. You need to have your source code displayed during the demonstration.

1. *You must attend the demonstration session to receive a mark for this assignment.* If you cannot attend the scheduled session due to illness, you must provide a copy of the medical certificate to the convener.
2. **Bring** the following to your demonstration:
 - a. A copy of the Marking Sheet with your self-assessment part completed.
 - b. A printed copy of your report attached with the cover sheet.
3. **Before** your demonstration starts
 - a. Fill in and sign the Declaration on the Marking Sheet.
 - b. Make sure your website is running **on the local server (XAMPP)**.
 - c. Load the website into **Firefox**. All demonstrations will be done on Firefox.
 - d. Load Web Developer in Firefox. Validate all your new/alterd web pages for both HTML5 and XML and the results display in separate browser windows.
 - e. On separate windows display the **source code** for your HTML, CSS and JavaScript.
4. **During** the demonstration run through the steps set out below.
 - a. Load *index.html* then click through on the link to each page you have created, and validate them as you go using the Firefox developer extension.
 - b. **Only if your assignment meets the essential minimum standard** will the lecturer mark the additional HTML and JavaScript criteria listed in the Marking Scheme.
5. As you demonstrate your Website, your lecturer **will ask you to show the JavaScript and HTML code** in your browser and explain how you have implemented various aspects of it.
6. If there is time then you may have the opportunity to demonstrate and explain your enhancements page. If not, your lecturer will mark this from your Blackboard submission.