

COS10026 Computing Technology Inquiry Project

Assignment Part 1, Semester 2, 2022

Develop a Simple Static Web Site

Due Date	10 pm on Monday in Week 7 (Late submission penalty: 10% of total available marks per calendar day)
Contribution to Final Assessment:	40%

Important: All work must be done by your group. Submissions are automatically checked for similarities. Unexplained/acknowledge similarities may constitute plagiarism. Carefully read the section on plagiarism in the Unit Outline before you proceed (including the section forbidding sharing your work with others).

Purpose

This group assignment will familiarise you with the techniques and skills involved in designing and creating static webpages utilising validated HTML and CSS created with a standard text editor. You will deploy these Web pages on a Unix / Apache server. This should be done in a way that keeps HTML content and CSS presentation separate, as discussed in the lectures.

No JavaScript to be used in this part of the assignment.

Essential Requirements

The Web site you will develop will describe a product/service for sale or hire.

Each group will be allocated a different type of product or service by their tutor.

It is up to you to provide details of the particular product or service and its features.

Your Web site will have the following web pages linked by a common menu:

- An introductory / home page (**index.html**)
- A product description page (**product.html**)
- A product enquiry page (**enquire.html**)
- A page about your assignment (**about.html**)
- A page that lists any enhancements you have made (**enhancements.html**)

You must call these files **exactly** by these names, otherwise the marking program will not know they exist!

You will also include

- A CSS file that styles your website (**style.css**).

In general the web pages must:

- have relevant content
- include the HTML markup specified in the marking guide
- validate to HTML5 without errors
- have a <head> with Title, Meta tags as specified in template (including author)

- be styled by a validated CSS3 file
- be linked to each other via a menu
- be deployed on Mercury.

All web pages in your website should have a consistent layout and navigation. Where “in-house” templates have been defined in this unit (e.g. for meta-data; tables; etc.) these should be followed. These include accessibility alternatives.

The HTML in your Web pages must validate against the W3C HTML5 validator (<http://validator.w3.org/nu>) .

Pages should not contain any deprecated elements/attributes (e.g. <i> ,). Do not use iframe elements in your assignment.

Note: Generic structural elements like div or span should only be used where there is no more meaningful HTML5 element (e.g. section) that is appropriate.

1. Introductory home page (*index.html*)

This page should contain appropriate header and graphic related to your allocated product, and should contain a menu that links to the other pages on your Web site.

This common menu should appear on every page of your website.

2. Product range page (*product.html*)

Your tutor will allocate you a product type. For example, the product you are allocated might be “restaurant meal”; or “SLR Camera”; or a “university course”.

The page must contain:

- Hierarchically structured headings of at least 2 levels
- More than one <section>
- An <aside> with appropriate content
- At least one appropriate image related to your product
. This image should be less 100kb so it does not take too long to load.
- A table containing some data related to your product.
- At least one ordered list
- At least one unordered list
- At least one image

Your web page should describe a small range of products of this type (say 3 or 4). It is up to you to describe the details of the products. The products you describe can be real or imaginary. The products you describe *must* have a range of *optional features* from which the purchaser can select. For example, a restaurant meal could consist of a range of courses, with dine-in or take-away options etc. A camera might come in a number of models, with options of colours, lenses, etc.

You should write at least 150 words on the allocated product and its options. Appropriately structure the content with headings, paragraphs, lists etc. At least one product image must be included.

Sources / References:

In this assignment, you may use material from other web sites but the source of all material **must be acknowledged**. This acknowledgement should be immediately after the material *and* include a **hyperlinked URL** to the original source. The text of the hyperlink reference can be a short name but the hyperlink must work. (Normally permission must be given before re-publishing content, but our websites are not live.)

3. Product enquiry page (*enquire.html*)

This page has a form where a user can lodge an enquiry about a particular product.

The form will have the following form controls:

- a. First name: type *text*, *maximum of 25 characters, alphabetical only*
- b. Last name: type *text*, *maximum of 25 characters, alphabetical only*
- c. Email address: type *email*
- d. Address (group these inputs with a fieldset and label)
 - i. Street address: type *text*, *maximum of 40 characters*
 - ii. Suburb/town: type *text*, *maximum of 20 characters*
 - iii. State: use a select list with options VIC,NSW,QLD,NT,WA,SA,TAS,ACT
 - iv. Postcode: exactly 4 digits
- e. Phone number: type *text*, *maximum of 10 digit. Use a placeholder*
- f. Preferred contact: (email, post, phone). use *radio*.
- g. Product - from the range the user wants to enquire about. use *select*.
- h. Product features: use *checkboxes*
- i. Comment field, for example, allowing the reader to specify particular aspect they are interested in: use *textarea*, use a *placeholder*

All inputs should have labels. All form values, except the comment textarea are 'required' or have a default value (e.g. select, checkbox, radio). **The user should not be able to submit the form if any of these required fields are blank.** Use HTML5 validation to check the format.

Data Submission to Server

This form must have a Submit input. When this submit is activated, the name-values from the form will be sent to the server using the post http method. The server action address <https://mercury.swin.edu.au/it000000/formtest.php>. The server will then just echo back the name value pairs to the client. While nothing will be stored on the server in this part of the assignment, (we will do this in Part 3) this will allow the form to be tested.

4. A page about you (*about.html*)

This page will contain your details.

The following information should be structured with a **definition list** and formatted appropriately. For example:

Name:	Amy Smith
Student ID:	s1234567
Course:	Bachelor of Science
Email:	1234567@student.swin.edu.au

The following information should also be included and formatted accordingly:

Information	Format requirement
Photo of you.	Inside <figure>, Floating right, Double border with 20px padding, Size in bytes less than 100k
Your Swinburne timetable set in an HTML table	Centred, Headings in bold, Table cells have a background colour specified in hexadecimal number

It could also include personal profile, such as resume, interests, or information that is related to you. This extra information gives you an opportunity to extend the techniques you apply in your assignment, and could include:

- Demographic information about you
- Description of hometown
- A list of your favourite books, music, films etc.

5. CSS Requirements

No style markup should be included in your HTML file.

The pages in your web site must be styled with CSS and have a consistent 'look and feel', particularly with markup of menus, headers and footers. While the emphasis in this assignment is on the appropriate application of techniques rather than graphic design, your pages should follow basic usability / accessibility principles, e.g. distinguishable foreground and background colours, and font readability, etc.

You are to create your own single **external** stylesheet to implement your design.

1. CSS should be commented at the beginning of the CSS file to identify author and purpose, and individual line comments should be used as necessary to explain particular styles and explain where they are applied.
2. **All** the following CSS Selectors should be used *appropriately* at some point in your assignment:
 - element, #id, .class, grouping, contextual
 - pseudo class or element
3. Provide appropriate formatting to your menu with a background colour.
4. The following specific CSS rules should be demonstrated on your **index.html** page:
 - display a background graphic.
 - the footer text should be in a small font and centred in the footer.
5. The following specific CSS rules should be demonstrated on your **product.html** page:
 - <h1> elements should have their font variant, size and family etc. set using the short-hand **font** property.
 - The table should have one background colour for the headings and another background for the data cells
 - The <aside> should be 25% of the width of page and float to the right.
 - The <aside> should have a coloured border with an appropriate margin and padding.
 - The footer should cover the full width of the page.
6. All pages should have a fluid layout (the page should "Reflow" on page resize).

Other CSS selectors and properties can also be used if deemed necessary and appropriate for the presentation. *Your menu should have its own set of styles applied.* **CSS should be commented** at the beginning of the CSS file to identify author and purpose, and individual line comments should be used as necessary to explain particular styles and explain where they are applied.

For this assignment you should create one **single** CSS file that applies to *all* your Web pages. This file should be named **style.css**. You can use another CSS file for enhancements.

Hint: CSS validators will validate against a particular version of CSS e.g. CSS2.1 or 3. This assignment should be valid CSS3. Make sure that you are checking your CSS using the correct version of the validator. For example, if you include CSS3 markup and validate as CSS2.1 it will show errors. Do not include any proprietary CSS mark-up, such as -moz- or -webkit- etc.

Enhancements

Note: Make sure you get all the basics working first before you attempt any enhancements.

The technologies for developing Web applications are rapidly changing. One of the key skills you will need is finding out about these techniques (from the Web) and applying them. This assessment gives you an opportunity to demonstrate your ability to implement features/techniques that go beyond the specified requirements above. This is an opportunity to demonstrate your ability to discover techniques from a range of sources and apply them in a standards compliant manner.

These enhancements need to be implemented *within* the Web pages (index.html, product.html, enquire.html, about.html). The extra feature needs to enhance your Web site in a relevant way.

On a separate Web page called *enhancements.html* **list** and **describe** each enhancement you have made and how you have significantly extended the basic HTML and CSS beyond what is covered in the Tutorials. Hyperlink from this list to where the feature is implemented in your Web site. If it is a CSS feature, hyperlink to an example of the html that is selected by the CSS rule. For each enhancement feature briefly explain:

- ☒ how it goes beyond the basic requirements of the assignment
- ☒ what code is needed to implement the feature
- ☒ if you have sourced your technique from a third party the source of this technique (e.g. URL) **must be cited**.
- ☒ **a hyperlink to where you have applied that extension in your Web site** (this is needed so the tutor can quickly assess your enhancements).
- ☒ All enhancements **must** be able to run on Firefox or Chrome. Make sure you check this.

A *maximum of 2 enhancements* will be assessed (*up to 10 marks each*). **Examples** of HTML/CSS enhancements include:

- *Effective, appropriate and innovative* use of a **number** of distinct HTML elements not covered in tutorials (e.g. Image maps) used in a way that improves the user experience of the website.
- A **number** of additional CSS properties or selectors (e.g. support for interactivity) not covered in the tutorials. For example the use of a range CSS3 pseudo-elements and classes, child or siblings combinators, attribute selectors, etc.
- Implement Responsive Design with additional CSS that presents your website specifically for mobile phone / tablet sized displays.
- **In addition** to you standard CSS, create another CSS files that *re-implements* and *extends* the style with a library/preprocessor such as Bootstrap, LESS or Sass. Demonstrate and document a number of cool features that can be implemented using the library.

Discuss your proposed enhancements with you tutor before you implement them. The number of marks you receive for an enhancement will be at the **sole** discretion of your tutor/marker. As a guide if the enhancement has only taken a couple of lines of code it is likely to be trivial.

- Be relevant to / enhance the content of the website
- Be well described (as explained above)
- Be non-trivial.
- Be significantly *different* from other features you have implemented.

Note: Do not include JavaScript in this part of the assignment.

Web Site Folder Structure and Deployment

Create a website structured as described below. You can create additional HTML files for your content (depending on what your content requires), but the following is needed:

<code>assign1/</code>	<i>You must have this folder – case sensitive!</i>
<code>index.html</code>	
<code>product.html</code>	
<code>enquire.html</code>	
<code>about.html</code>	
<code>enhancements.html</code>	
<code>...other html pages</code>	
<code>images/</code>	<i>Folder for images for your page content</i>
<code>styles/</code>	<i>Folder for style.css and other css files</i>
<code>styles/images/</code>	<i>Folder for images referred to by your css files e.g. background</i>

Notes:

- HTML files should only be in the base “assign1/” folder – not anywhere else.
- **All** images used for the **content** should be stored in the “assign1/images/” folder.
- **All** images used for the style should be stored in the “assign1/style/images/” folder.
- There should be a “style.css” file in the “assign1/styles/” folder.
- All links to your files (CSS or images) should be **relative**. **Do not use absolute links**, as these links will be broken when files are transferred for marking. No marks will be allocated if links are broken.

Project Report (Individual Task)

The project report is an individual task. Your report must be professionally written (**600-1800 words**). Table 1 presents the suggested structure for the report and some sample content for each section of the report.

Table 1. Components of Report and Requirements

Component	Content
Title	<ul style="list-style-type: none">• Report title• Your name• Student ID
Introduction	<ul style="list-style-type: none">• Website introduction• Objective of the report• Outline of the report's structure
Website Content	<ul style="list-style-type: none">• Introduce the purpose of each page and main content of each page• Some technical details on how you use HTML markups• A sitemap
Website Style	<ul style="list-style-type: none">• Introduce the presentation of your website• Some technical details on how you use CSS markups• Screenshots to show the design/user interface
Key Features	<ul style="list-style-type: none">• Highlight the key / innovative features of the website• Describe your enhancements (if you have them)
Your Contribution	<ul style="list-style-type: none">• List and discuss your main contributions
Conclusion	<ul style="list-style-type: none">• Summary of the report• Recommendations for future improvements
References	<ul style="list-style-type: none">• (Optional) List of reference materials if used
Appendix	<ul style="list-style-type: none">• (Optional) Information that supports but is not essential to the report

Short Video (Team Task)

Create a short video to introduce and demonstrate your web application.

- Upload your video to youtube
- [Create a hyper link in the index.html page of your website, link it to your youtube video](#)
- Every team member must present in the demonstration video for a similar amount of time
- The total length of the video should be between 4 to 5 minutes.

Deliverables

The marks are allocated 50% for team task and 50% for individual task in this assignment.

- The web application (team task)
- The short video (team task)
- Project report (individual task)

Assignment Submission (Canvas + Mercury)

Your website should be uploaded to Mercury on or before your deadline.

An electronic copy of your assignment should be submitted through Canvas on or before your deadline.

- Make sure all your website files are in the correct folders and compress your root folder with all your sub-folders with HTML, CSS, and images into a zip file named "assign1.zip". Submit this to Canvas. When the zip file is decompressed, the entire website should be able to be run from index.html without needing to move any files.
- You don't need to submit the demonstration Youtube video. You only need to include a hyperlink in the index.html page pointing to your Youtube video.
- Every student needs to submit their individual project report to Canvas.
- Every student needs to submit their peer evaluation form to Canvas.
- You can submit more than once through Canvas. Your last submission will be marked.
- Note that all deliverables must be submitted electronically.

Website Requirements Checklist

index.html HTML - Meta info meets requirements (all pages, titles unique) <input type="checkbox"/> - Header with appropriate content and graphic <input type="checkbox"/> - Nav that links (consistent menu on all pages) <input type="checkbox"/> CSS: Menu appropriately formatted, with background colour <input type="checkbox"/> - Background graphic on page <input type="checkbox"/> Footer text small and centred <input type="checkbox"/>	
product.html HTML: - Headings (at least contiguous 2 levels) and 2+ Sections <input type="checkbox"/> , Aside <input type="checkbox"/> - Ordered list <input type="checkbox"/> , Unordered list <input type="checkbox"/> , - Table <input type="checkbox"/> CSS: <h1> font variant, size family set <input type="checkbox"/> - Aside 25% width, floats right, margin, padding, coloured border <input type="checkbox"/> - Table different background colour for headings and data <input type="checkbox"/> - Footer full page width <input type="checkbox"/>	
enquire.html HTML: - Form control elements and HTML5 validation as required: firstname (max25 alpha), lastname (max25 alpha), email <input type="checkbox"/> , street (max40), suburb (max20) <input type="checkbox"/> , state (select) <input type="checkbox"/> , postcode (4digits) <input type="checkbox"/> , radio <input type="checkbox"/> , phone (10 digits max)+placeholder <input type="checkbox"/> , product (select) <input type="checkbox"/> , checkboxes <input type="checkbox"/> , textarea placeholder and submit <input type="checkbox"/> , - Labels linked with 'for' (test by 'clicking' on label) <input type="checkbox"/> , Fieldsets used <input type="checkbox"/> - Data for all inputs returned from server correctly <input type="checkbox"/>	
about.html HTML: - Student details: dl and timetable <input type="checkbox"/> , figure, photo and email link <input type="checkbox"/> CSS: Styled dl <input type="checkbox"/> photo double border, figure floats right <input type="checkbox"/> , - Table centred, table cell background hex <input type="checkbox"/>	
CSS (general): - Selectors: element <input type="checkbox"/> #id <input type="checkbox"/> , .class <input type="checkbox"/> , grouping and contextual <input type="checkbox"/> , - pseudo class/element <input type="checkbox"/> , - Fluid page flow when resized (uses relative dimensions) <input type="checkbox"/>	

Good Practice / In-house Standard

(It will cause deductions if these good practice / in-house standards are not followed)

Requirement	
Page design <ul style="list-style-type: none">- Poorly designed structure- Inappropriate contrast in colours- Inappropriate use of fonts- Inconsistent application of style across pages- Inappropriate application of styles (e.g. different styles for menu on each page)	
Content <ul style="list-style-type: none">- Product content of insufficient quantity (total <150 words)- Product content poor quality- Images inappropriate, or inappropriate file sizes	
HTML <ul style="list-style-type: none">- Deprecated elements/attributes have been used- Inappropriate use of HTML semantics (e.g. use of <div> when <section> <article> should be used)- HTML usability does not follow standards (e.g. alt on images, label in forms, tables)- HTML Image height, width attributes missing or incorrect- HTML has embedded Style markup. CSS is not fully separated from HTML- Code comments inadequate to inform later code understanding/maintenance	
CSS <ul style="list-style-type: none">- Redundant CSS included or unused selectors included- Inappropriate header comments - do not match in-house standard- Inappropriate use of selectors (e.g. Class versus ID)- Code comments inadequate to inform later code understanding/maintenance	
Web site <ul style="list-style-type: none">- Directory and file structure not as specified- Third party content inadequately acknowledged- Note: Failure to acknowledge the source of third party code or content is plagiarism and may result in zero marks for this assessment or other penalties in accord with Swinburne policy.	

Website Marking Rubric

Index.html (5 marks)	5 marks	4 marks	3 marks	2 marks	0 - 1 mark
	The requirements are implemented with high quality and follow the in-house standard.	Most of the requirements are implemented and follow the in-house standard.	Some requirements are not implemented correctly or not follow the in-house standard.	Limited requirements are implemented.	No or very limited requirements are implemented.
Product.html (5 marks)	5 marks	4 marks	3 marks	2 marks	0 - 1 mark
	The requirements are implemented with high quality and follow the in-house standard.	Most of the requirements are implemented and follow the in-house standard.	Some requirements are not implemented correctly or not follow the in-house standard.	Limited requirements are implemented.	No or very limited requirements are implemented.
Enquire.html (10 marks)	9 - 10 marks	7 - 8 marks	5 - 6 marks	3 - 4 marks	0 - 2 marks
	The requirements are implemented with high quality and follow the in-house standard.	Most of the requirements are implemented and follow the in-house standard.	Some requirements are not implemented correctly or not follow the in-house standard.	Limited requirements are implemented.	No or very limited requirements are implemented.
About.html (5 marks)	5 marks	4 marks	3 marks	2 marks	0 - 1 mark
	The requirements are implemented with high quality and follow the in-house standard.	Most of the requirements are implemented and follow the in-house standard.	Some requirements are not implemented correctly or not follow the in-house standard.	Limited requirements are implemented.	No or very limited requirements are implemented.
CSS (10 marks)	9 - 10 marks	7 - 8 marks	5 - 6 marks	3 - 4 marks	0 - 2 marks
	The CSS requirements are implemented with high quality and follow the in-house standard. Page presentation is creative and effective.	Most of the CSS requirements are implemented and follow the in-house standard. Page presentation is appropriate for content.	Some CSS requirements are not implemented correctly or not follow the in-house standard.	Limited CSS requirements are implemented.	No or very limited CSS requirements are implemented.
Enhancement (10 marks)	9 - 10 marks	7 - 8 marks	5 - 6 marks	3 - 4 marks	0 - 2 marks
	Excellent enhancement. It enhances the content / presentation / functionality of the website. It is technically advanced.	Very good enhancement. It enhances the content / presentation / functionality of the website.	Implemented some enhancements and/or they don't meet some of the requirements listed in the enhancement section.	Limited work and/or they don't meet some of the requirements listed in the enhancement section.	No or very limited work.
Video Demonstration (5 marks)	5 marks	4 marks	3 marks	2 marks	0 - 1 marks
	Excellent knowledge of the project is demonstrated. Presentation is highly creative and accomplished.	Very good knowledge of the project is demonstrated. Presentation is skilful and creative.	Adequate knowledge of the project is demonstrated. Presentation is clear and adequate.	Not enough information is presented. More practice is needed.	No or very limited information is presented. More practice is needed.

Individual Report Marking Rubric

	9 - 10 marks	7 - 8 marks	5 - 6 marks	3 - 4 marks	0 - 2 marks
Overall Presentation of Report (10 marks)	Quality of report is truly professional, clear and easy to follow, has good structure, cohesive and well thought with the reader(s) in mind.	Quality of report is professional, clear and easy to follow and has good structure.	Quality of report is clear and has good structure.	Quality of report is somewhat clear, but still difficult to follow and/or it contains some spelling or grammatical errors.	Quality of report is unprofessional, difficult to follow and/or it contains numerous spelling or grammatical errors.
Website Content (10 marks)	9 - 10 marks Very detailed information allows reader to understand the content and information structure of this website.	7 - 8 marks Detailed information allows reader to understand the content and information structure of this website.	5 - 6 marks Adequate information allows reader to understand the content and information structure of this website.	3 - 4 marks Limited or insufficient information on the content and information structure of this website.	0 - 2 marks Minimal information does NOT allow reader to understand the website.
Website Style (10 marks)	9 - 10 marks Very detailed information allows reader to understand the style and user interface of the website.	7 - 8 marks Detailed information allows reader to understand the style and user interface of this website.	5 - 6 marks Adequate information allows reader to understand the style and user interface of this website.	3 - 4 marks Limited or insufficient information on the style and user interface of this website.	0 - 2 marks Minimal information does NOT allow reader to understand the style and user interface of this website.
Website Features (10 marks)	9 - 10 marks Excellent summary about the website key features.	7 - 8 marks Good summary about the website key features.	5 - 6 marks Adequate information about the website key features.	3 - 4 marks Limited or insufficient information about the website key features.	0 - 2 marks No or very limited information does NOT allow reader to understand the website key features.
Your contribution (10 marks)	9 - 10 marks Your contributions are clearly listed and well discussed.	7 - 8 marks Your contributions are listed and explained.	5 - 6 marks Adequate information about your contribution to the project.	3 - 4 marks Limited or insufficient information on your contribution to the project.	0 - 2 marks Minimal information does NOT allow reader to understand your contribution to the project.