



COS10026 Computing Technology Inquiry

Project Assignment Part 1, Spring 2024

Develop a Simple Static Web Site

Due Date	11:59 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 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 also learn about accessibility guidelines for web in this assessment. 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 is to be used in this part of the assignment.

Essential Requirements

Scenario:

An IT company wants to develop a website that will enable it to advertise vacant positions. These have a 'position description' that sets out the qualifications, skills and knowledge required. Potential applicants for the position will be able to submit an online form to apply for a position.

In this assignment you will develop a prototype of this website. The website you develop will consist of the following Web pages, accessible from a common menu on each page:

- Home page with details of the company (**index.html**)
- A page of job descriptions (**jobs.html**)
- A job application page (**apply.html**)
- A page with your group details (**about.html**)
- A page which 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**).

The **essential requirements** for this assignment are listed in the marking guide. In general the web pages must:

- have relevant content
- must include the HTML markup specified in the marking guide
- must validate to HTML5 without errors
- must be styled by a validated CSS3 file
- must be linked to each other via a menu
- must 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. Home page (*index.html*)

This page should contain appropriate title, a description and graphic related to the company. It is up to you to make up the details of the company that is advertising the jobs. It should contain a menu that links to the other pages on your Web site. This same menu should be in every page of your website with an email link to your student email.

2. Position Descriptions page (*jobs.html*)

You need to write a web page with at least 2 position descriptions. ***For one of these your tutor will allocate you a job title from the IT industry.*** For the second position, the choice of IT job type is entirely up to you. Why not write a position for the ideal job you would like to do? Be as imaginative as you like.

The HTML on this page must contain:

- Hierarchically structured headings of at least 2 levels
- More than one <section>
- An <aside> with appropriate content
- At least one ordered list
- At least one unordered list
- The page should also have an appropriate footer.

Your job descriptions should be concise but as a minimum include :

- Company’s position description reference number (5 alphanumeric characters)
- Position title
- Brief description of the position
- Salary range
- The title of the position to whom the successful applicant will report
- Key responsibilities. A list of the specific tasks that are to be performed
- Required qualifications, skills, knowledge and attributes. These should be divided into “essential” and “preferable”. These requirements should include such things as programming languages required, number-of-years of experience required, etc..

The content of the job description should be appropriately structured with headings, sections, subsections, lists etc. using the appropriate HTML elements.

Sources / References:

- You can use material from other websites 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.
- If you are unsure of what is contained in a position description there are many resources on the web. Here is one: <http://recruitloop.com/blog/how-to-write-a-job-description/>

3. Job application page (*apply.html*)

This page has a form that allows a potential candidate to register their interest in the advertised position. HTML5 data validation should be used to check the user's input.

The form will allow a potential applicant to fill in the following:

Field	Format requirement
Job reference number	exactly 5 alphanumeric characters
First name	max 20 alpha characters
Last name	max 20 alpha characters
Date of birth	dd/mm/yyyy
Gender	radio inputs grouped using a fieldset and legend
Street Address	max 40 characters
Suburb/town	max 40 characters
State	drop down selection from VIC,NSW,QLD,NT,WA,SA,TAS,ACT
Postcode	exactly 4 digits
Email address	validate format
Phone number	8 to 12 digits, or spaces
Skill list - the last item in list should read "Other skills..."	checkbox inputs
Other skills	textarea

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

Data Submission to Server

The form should have a submit button labelled "Apply". When this button is clicked the name-values from the associated form should be sent to the server using the post http method. The server action address is <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 2) this will allow the form submission to be tested.

4. A page about your group (*about.html*)

This page will contain information on the following:

Information	HTML element to be used
Your group name	Definition list
Your group ID	Definition list
Your tutor's name	Definition list
Course you are doing	Definition list
Photo of your group < 100k	HTML figure element
Your timetable (assume you all have the same timetable)	HTML table
A mailto link to your group email.	

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

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

5. CSS Requirements

No style markup should be included in your HTML file.

The pages in your website must be styled with CSS and have a consistent 'look and feel', particularly common elements such as 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.

Create your own design and implement it using one **single external** stylesheet that applies to *all* your Web pages. This file should be named **style.css** and placed in a styles folder on the server. The stylesheet should style the common elements on *all* your web pages, and address the following specific style requirements.

1. **Comments:** The CSS should include comments at the beginning of the CSS file to identify author and purpose. Individual line comments should be used as necessary to explain particular styles and explain where they are applied.
2. **Selectors:** *All* the following CSS Selectors should be used *appropriately* at some point in this assignment:
 - element, #id, .class, grouping, contextual
 - pseudo class, pseudo element
3. **Menu:** The menu should have its own set of styles applied. Use a background colour.
4. **Index Page:** Demonstrated the following specific CSS rules on the **index.html** page:
 - display a background graphic.
5. **Position Descriptions Page:** Demonstrated the following specific CSS rules on the **jobs.html** page:
 - <h1> elements should have their font variant, size and family etc. set using the short-hand **font** property.
 - 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 the footer text should be in a small font and centred in the footer..

6. **About Page:** Demonstrated the following specific CSS rules on the **about.html** page:
 - Style the definition list so that each <dt> is on the left and the <dd> on the right in a single line. Set the dt to have a common width.
 - The photo should be styled with a single border using the short-hand **border-** property, and the figure should be floated to the right of the definition list
 - <table> should be centred within the section, headings in bold, table cells with a background colour specified in hexadecimal format
 - The email should be style similarly to the definition list.
7. **All pages:** should have a fluid layout (the page should “Reflow” on page resize).

Other CSS selectors and properties can be used as necessary and appropriate for the presentation

Do not include any proprietary CSS mark-up, such as –moz- or –webkit etc.

Hint: CSS validators will validate against a particular version of CSS e.g. CSS2.1 or 3. This assignment should be valid CSS2.1 or 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. (Best to pre-set the version in the Web Developer tools – see the note on Blackboard).

Enhancements

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

The technologies for developing Web applications are rapidly changing. One of the key skills you will need is finding out about these new techniques and applying them. When researching, look at the reliable websites such as the External Links provided on Blackboard. This assessment gives you an opportunity to demonstrate your ability to implement features/techniques that go beyond the specified requirements above. It also provides you with 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 required web pages (index.html, product.html, enquire.html, about.html). The extra feature needs to **enhance** your web site in a meaningful and relevant way.

List and describe each enhancement implemented on the separate **enhancements.html** page, and describe how you have significantly extended the basic HTML and CSS beyond the lecture and 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
- ☒ the references to any third party sources for the 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 during the demonstration).
- ☒ All enhancements **must** be able to run on Firefox. Make sure you check this.

A maximum of 2 enhancements will be assessed (up to 10 marks each). Examples of HTML/CSS enhancements you might make that will contribute a high distinction mark include:

- *Effective, appropriate and innovative* use of a **number** of distinct HTML elements not covered in tutorials (e.g. Image maps, Canvas, etc) 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, animation) not covered in the tutorials. For example the use of a range CSS3 pseudo-elements and classes, child or siblings combinators, attribute selectors, etc. (e.g. use the CSS3 :target selector to help us see where you have applied your enhancements.)
- *Implement Responsive Design* with additional CSS that presents your website specifically for mobile phone / tablet sized displays.

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

The directory structure of your website is 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>jobs.html</code>	
<code>apply.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 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/styles/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.

Note: DO NOT INCLUDE VIDEO OR OTHER LARGE (>5MB) MEDIA FILES IN YOUR SUBMISSION.

Make sure you thoroughly test your website deployment on the mercury server.

Report (Individual Task)

You need to provide a report on accessibility guideline and show the ways that the guideline have been implemented in your project. You need to run an accessibility checkers like WAVE which is a free browser extension to check your webpages and see if there is any issue and provide screenshot evidence. You need to also write a summary project report. **This is an individual task**. Your report must be professionally written (**within 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
Accessibility Guideline	<ul style="list-style-type: none">• Tips and roles to follow to make the web pages accessible• Example of following the guidelines• Screenshots of WAVE or other accessibility checkers
Website Content and Style	<ul style="list-style-type: none">• A site map and purpose of each page and main content of each page• 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 and reflection	<ul style="list-style-type: none">• List and discuss your main contributions• Explain your challenges and highlights
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 by your team leader.** 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 Menu that links (consistent menu on all pages) <input type="checkbox"/> Header with appropriate context including title <input type="checkbox"/> Footer <input type="checkbox"/> CSS: Background graphic <input type="checkbox"/> Menu appropriately formatted with background colour <input type="checkbox"/>	
jobs.html HTML Headings (at least contiguous 2 levels) <input type="checkbox"/> Ordered list <input type="checkbox"/> , Unordered list <input type="checkbox"/> , 2+ Sections <input type="checkbox"/> , Aside <input type="checkbox"/> CSS: Aside 25% viewport width <input type="checkbox"/> , floats right <input type="checkbox"/> , coloured border <input type="checkbox"/> <h1> font variant, size family set <input type="checkbox"/> Footer full page width <input type="checkbox"/>	
apply.html Text input with HTML format checking for: job ref no (=5 char) <input type="checkbox"/> , names (<20 char) <input type="checkbox"/> , address (<40 char) <input type="checkbox"/> , postcode (=4 digits) <input type="checkbox"/> , email <input type="checkbox"/> , phone number (8 to 12 digits) <input type="checkbox"/> <input type="checkbox"/> Appropriate input for date <input type="checkbox"/> Radio buttons for gender with fieldset <input type="checkbox"/> Dropdown box for state <input type="checkbox"/> Skills check boxes <input type="checkbox"/> Text area <input type="checkbox"/> Labels linked with 'for' (test by 'clicking' on label) <input type="checkbox"/> Data for all inputs returned from server correctly <input type="checkbox"/>	
about.html definitions lists <input type="checkbox"/> lists single line common width <input type="checkbox"/> photo in figure <input type="checkbox"/> border as specified <input type="checkbox"/> float right <input type="checkbox"/> timetable <input type="checkbox"/> timetable format as specified <input type="checkbox"/> email link works <input type="checkbox"/>	
CSS (general) Appropriate use of selectors: grouping <input type="checkbox"/> , context <input type="checkbox"/> , pseudo <input type="checkbox"/> Fluid page flow (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	
- Well designed structure	
- Appropriate contrast in colours	
- Appropriate use of fonts	
- Consistent application of style across pages	
- Appropriate application of styles	
Content	
- Job descriptions have sufficient quantity (200 words +)	
- Job descriptions is sufficient quality	
- About.html content meets spec	
- Images (including portrait) present and appropriate file size	
HTML	
- Meta-data follows in-house standard	
- HTML has no embedded Style markup CSS is fully separated from HTML	
- No deprecated elements/attributes used	
- No inappropriate use of HTML semantics (e.g. use of <div> when <section> <article> should be used)	
- HTML follow usability standards (e.g. alt on images)	
- Comments adequate	
CSS	
- No redundant CSS or unused selectors	
- Appropriate header comments (match in-house standard)	
- Appropriate use of selectors (e.g. Class versus ID)	
- Appropriate line comments	
Web site	
- Directory Structure as defined above	
- Third party content inadequately acknowledged	
- Accessibility Guideline is followed and implemented	
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	

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.
Jobs.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.
Apply.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

Overall Presentation of Report (10 marks)	9 - 10 marks	7 - 8 marks	5 - 6 marks	3 - 4 marks	0 - 2 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 and Style (10 marks)	9 - 10 marks	7 - 8 marks	5 - 6 marks	3 - 4 marks	0 - 2 marks
	Very detailed information allows reader to understand the content and information structure of this website.	Detailed information allows reader to understand the content and information structure of this website.	Adequate information allows reader to understand the content and information structure of this website.	Limited or insufficient information on the content and information structure of this website.	Minimal information does NOT allow reader to understand the website.
Accessibility (15 marks)	12 - 15 marks	9- 11 marks	6-8 marks	3- 5marks	0 - 2 marks
	Very detailed information about rules to follow and implementation of the accessibility guidelines in web pages. In addition to zero errors by accessibility checker	At least 5 tips are discussed and implemented. There are evidence of accessibility checker with a couple of errors	At least 4 tips are discussed and implemented. There is at least one evidence of accessibility check. Although there are errors.	At least 3 tips has been has been discussed and implemented. No accessibility check.	Minimal information NO accessibility check.
Website Features (5 marks)	4- 5 marks	2 -3 marks	0- 1 marks		
	Excellent summary about the website key features.	Good summary about the website key features.	Limited or insufficient information about the website key features.		
Your contribution and reflection (10 marks)	8- 10 marks	4-7 marks	0- 3 marks		
	Your contributions are clearly listed and well discussed.Good Reflection on challenges and highlights is provided	Your contributions are listed and explained. some reflection is provided.	Limited or insufficient information on your contribution to the project. No reflection.		