

COM1008: Web and Internet Technology

Assignment 1 (60% of module)

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Deadline: 3pm, Wednesday 16 November (week 8)

Handin: zip file of your website via Blackboard.

Learning Outcomes

This assignment covers the following two learning outcomes for this module:

- Design and construct a website, controlling the structure and appearance using markup and styling languages.
- Explain and give examples of legal and accessibility issues in website creation.

1. Introduction

This assignment will test your ability to create a website using Mobile-First Responsive Web Design. It will test your understanding of the stages of creating a website, as well as your skills in HTML5 and CSS.

This is an individual project. The work you submit must be your own work and not plagiarised. *See Section 5 for further details on this.*

2. The Website

You will create a Personal Portfolio website. This is all about you.

The following is a list of pages that must be included on the web site:

- A home page (named index.html) that welcomes people to the website;
- A page that focuses on your degree programme;
- A page on the Sheffield Graduate Attributes (SGA) and the University's mySkills system;
- A pictorial quiz page;
- A contact page;
- An accessibility page;
- A legal and security page;
- A design page;
- A testing page.

The main menu on each page should provide links to the following pages: home; degree programme; SGA and mySkills; quiz.

There should also be a menu in the footer that provides links to the following pages: accessibility; legal&security; design; testing, contact.

Further details about each of these pages is given in the following sections.

2.1 Home page

- A home page that welcomes people to the website.
- It should include a photograph of you and some general information about you and your website.
- Question: What will you include on every page of your Website that identifies it is about you? A company would include a logo on every page, but how will you do it? It is your choice what to put on the home page, but whatever decision you make it should be part of your planning process (documented on your design page – see below).
- This page will demonstrate your ability to create an attractive page that loads quickly.

2.2 Degree programme page

- A page that focuses on your degree programme.
- This should cover the modules you are studying in year 1, with a brief overview of each module. A paragraph and a picture for each module will suffice – try to be creative with the pictures.
- Consider what other information would be useful here, e.g. links to official information about the modules and your degree programme.
- This page will demonstrate your ability to lay out text and images together on a page in a clear and structured way. (Hint: you should be considering which of HTML5's semantic elements is/are appropriate to use.)

2.3 SGA and mySkills page

- This should give an overview of SGA and mySkills and link to the relevant University pages (e.g. <https://www.sheffield.ac.uk/skills/sga> and <https://www.sheffield.ac.uk/skills/myskills>).
- Give some examples of SGA from your modules and your University experience. (Three examples is enough.)
- This Web page will demonstrate your ability to combine summaries of official information with your personal experience.

2.4 Quiz page

- This should use three images (e.g. photographs or sketches or screenshots or anything that is graphical) related to you, your hobbies or interests, or your home town, and ask the user something about each image. Be creative.
- The questions could be single answer questions or multiple-choice questions. You decide.
- When the user 'hovers' over some element on the page the answer to a question is revealed. (Hint: Consider use of the pseudoclass :hover.)

- There is no need to record whether or not a user gets a question correct.
- This page tests your ability to use some advanced CSS to make a page attractive and fun. Think about whether or not transitions and transformations could be used as part of the fun of this page.

2.5 Contact page

- A contact page, which contains (i) your contact details (put the Department's address only and do not include a phone number), and (ii) a form.
- The form is for users to send comments to you via your e-mail address. A user should input their e-mail address in a text box in the form and input their comments in another text input field on the form. The form should also include a button, which when clicked by the user, sends the contents of the two text areas to your University e-mail address. Note: This button is for appearance only as we do not need the email to actually be sent.
- Make sure the form is stylish – you are demonstrating that you can use HTML and CSS to make a form look good.

2.6 Accessibility page

- This page covers two things: (i) it includes your accessibility statement for your website; (ii) it includes the reasoning behind your choices.
- You may have addressed accessibility in a range of ways on the website and you should include what you have done on this page. Give reasons for the accessibility approaches you have chosen. Cite references to support your reasoning.
- Make sure you also state what accessibility issues may be handled by other software, e.g. screen readers, and give links to relevant software and/or advice.
- Use page sections as appropriate.
- This page should be a maximum of 250 words.

2.7 Legal and security page

- State how you have addressed any legal issues related to your website, e.g. copyright for pictures, statement about GDPR.
- State how you have considered security in relation to your website, e.g. contact form information.
- Give references to support your reasoning.

- Use page sections as appropriate. (Hint: you should be considering which of HTML5's semantic elements is appropriate to use.)
- This page should be a maximum of 250 words.

2.8 Design page

- A description of how you designed the website using 'Mobile-First Responsive Web Design'
- Assume you are using up-to-date browsers. Do not consider old browsers.

You must include the following in separate headed sections:

- Introduction: A brief statement about the general idea that influences your design. Are you aiming for a serious site or a cheerful site?
- Site Map: draw the site map for your website and justify the structure. The structure should be quite straightforward given the pages described above. Don't overcomplicate it.
- Design mock-ups: You must use a mobile-first approach for the assignment. Create design mock-up diagrams that show, *as a minimum*, the mobile design and the desktop design. You could use wireframes for this, paint software (e.g. Photoshop) or hand-drawn sketches (that are then scanned in or photographed) to produce diagrams similar to the following examples:
 - The diagram labelled "Normal, Narrow, Mobile" in the Overview section at: <http://webdesignerwall.com/tutorials/responsive-design-with-css3-media-queries/comment-page-1>
 - The diagram labelled "*The 'extreme' versions of the new website design*" at: <https://www.smashingmagazine.com/2013/03/building-a-better-responsive-website/>;

It is ok if your diagrams are more sketch-like than these.

You must decide how many breakpoints and tweakpoints to use in your design and write a short justification of this and how each affects the design. (Note: the exact position of the breakpoints could be changed during the development stage, and you may also add more tweakpoints.)

You must justify your design decisions. (Note: You do not have to give designs for every page if some of the pages are very similar. Just say that page X is similar to page Y.)

- Menu System: A consideration of the menu system that is being used, e.g. consider <http://responsivenavigation.net/index.html> and

<http://bradfrost.com/blog/web/responsive-nav-patterns/> and <https://cmd-t.webydo.com/from-simple-to-unusual-a-look-at-navigation-in-web-design-1057d0baef7b> and give a justification for the menu system that you will use. Make sure you cite the source of the one you decide you will try and implement yourself. **Note:** see important point in Section 5.4 regarding menus.

- This page should be a maximum of 500 words, so use pictures appropriately.

2.9 Testing page

You must include the following in separate headed sections:

- Optimisation: For example, have you considered image loading times and what to do about this?
- Debugging: Did you make use of html and css validators? What were the results – include a screenshot? Can you explain them?
- Browser testing: Discuss tests on different devices and different browsers and include screenshots of this – you only need to consider up-to-date versions of web browsers in your testing. For the purposes of this assignment, it is acceptable to use emulation tools for testing (e.g. the Responsive Design Mode available in Firefox or Chrome's Device Mode).
- Accessibility: You must also consider accessibility testing and show the results of this with screenshots included as pictures on the testing page. You should make use of WAVE (<https://wave.webaim.org/>) and include a report of its output and what you did about this.
- This page should be a maximum of 500 words, so use pictures appropriately.

2.7 General requirements

You must satisfy the following when constructing your website:

- The overall website design must be consistent.
- The website must be legible, e.g. is there good contrast between text and background?
- Each html <head> element must include a meta element identifying you as the author(s). Also include comments to this effect in other file types.
- You must use the HTML5 semantic elements when structuring each webpage, e.g. header, nav, main, footer, article, section, etc. These must then be styled in the relevant stylesheet(s).

- Navigation areas must be 'responsive'. What will be the words or phrases used as the links to each page? How will you deal with both a small mobile screen and a large desktop? How will your navigation areas adapt to each display resolution? Implementing a responsive menu will get better marks than using a simple menu that looks the same on all devices.
- Appearance must be controlled by the linked stylesheet(s), *not* by inline styles.
- Use of @media queries – are these used in a structured and controlled way? (Remember, it is mobile first.)
- Economic use of properties in a stylesheet, where appropriate, e.g. margin a b c d, rather than setting the top, right, bottom and left margin separately
- All source code should be well organised and neatly laid out, e.g. using *indentation*.
- You must include appropriate comments in your source code. As an example, a comment might describe the purpose and reasons for using a particular CSS rule or use of a particular HTML element. We will look at these comments carefully since the comment text will be unique to you and reflect your understanding. However, do not comment on simple pieces of source code where the meaning is obvious – use your common sense here.

3. Handin via Blackboard

- The assignment handin process is via Blackboard, using the assignment link. The website must be put in a single zip file called **name_com1008.zip**, where name is your name, e.g. **JaneSmith_com1008.zip**.
- The home page of the website must be index.html, so that it is easy for us to identify which file to load first.
- Make sure you include every file, including all relevant images. (Remember: using relative addresses on your website for the links between pages and resource files such as images is important so that the website can be easily copied onto a different server.)
- Do not include videos, as including these will create a large zip file, which will crash Blackboard, given the number of students handing in work – there is previous experience of this and it wasn't pretty. If you want to use

videos, then put them somewhere like youtube and then put a single image on your website and a link to the youtube video.

- Remember to identify in each and every separate file that *you* wrote the code (*except for the navigation menus, where you should cite your sources – see section 5.4*).
- When you have created the zip file, you should check that it has been created correctly by unzipping it again in a different folder on your computer and checking that the pages open and work. There have been cases in previous years where the zip file was corrupt or the file structure had been flattened. So please check your zip file is correct before you hand it in. Also, please check that the correct zip file has been uploaded to Blackboard.

4. Marking

4.1 The Website (70%)

The majority of marks are for producing a website that fulfils all the requirements. Read them *carefully*.

- General (30%) – includes look & feel, RWD behaviour, content, accessibility considerations, quality;
- HTML (20%) – includes comments, layout, content of <head> element, use of semantic elements, menu, quality;
- CSS (20%) – includes comments, organisation, layout, economic use of properties, RWD, use of @media (mobile-first), quality.

4.2 Accessibility, Legal & security, Design, Testing (30%)

- The *content* of these pages will be marked separately.
- You must include each of the things asked for in the above descriptions. Take heed of the list of sections required on the design and testing pages.
- Justifications should be given where appropriate (e.g. why were particular breakpoints chosen?), but these should be brief as there is a maximum number of words for the design and testing pages. Use diagrams to help explain things (as these do not count towards the word limit). A good diagram embodies attention to detail. The accompanying description should give reasons

for choices not waste words on describing what is obvious in the diagrams.

- Justify accessibility statements and legal & security issues by citing references on the relevant pages. References do not count towards the word count.
- The design mock-ups should be neat and reasons for the breakpoint(s) (and, if used, tweakpoint(s)) given.
- Make sure to include accessibility testing pictures on the testing page, as well as pictures of your website running on different screen resolutions and browsers.

5. Practical considerations

5.1 Unfair means

The standard Department rules for use of unfair means will be applied, as described in the undergraduate student handbook:

<https://sites.google.com/sheffield.ac.uk/comughandbook/general-information> (Menu: General Information, Assessment)

We are aware that there are lots of HTML and CSS tutorial sites on the Web. Do **not** copy them since that would be plagiarism. Instead, learn from and be inspired by them.

Do NOT use Bootstrap or jQuery or any other similar frameworks/libraries for creating web sites. This will be treated as plagiarism for the purposes of this assignment.

You may use CSS reset or normalize. If you do, you need to make sure you comply with the license for each of those and make clear that they are not your work. Include any attribution in the relevant files that you use.

Note: see important point in Section 5.4 regarding menus.

5.2 Late handin

Standard Department rules will be used for late handin – see:

<https://sites.google.com/sheffield.ac.uk/comughandbook/general-information> (Menu: General Information, Assessment)

5.3 Code reuse

You may reuse HTML and CSS code that we wrote that is given in lecture notes, as long as it is not code that is from another source that is being used to

illustrate something – we may have used it to illustrate something, but you will not have permission to reuse it. If there is any doubt, assume you cannot reuse it. **Note:** see section 5.4 for an important point regarding this.

5.4 Menu

There are lots of websites that show how to develop a responsive navigation menu. It is not a straightforward task.

We have decided to allow you to make use of code from one of the example sites for responsive navigation menus listed in Section 2.8. This is the only exception to the standard rules on plagiarism as outlined in Section 5.1.

This is the only part of the assignment where we allow code that is similar to other sources (which may involve using some JavaScript which you will have to learn yourself – this tests your ability to learn new things yourself). You must cite your sources for your menu implementation in your code and on your design page.

5.5 Text editor

There are plenty of Web design tools available. The expectation for this assignment is that you will use a code editing environment to develop your website (e.g. Visual Studio Code or Notepad++ or similar). You might use more sophisticated tools to support your design process, e.g. drawing design wireframes, but not to develop your code for you. Typically, it is extremely obvious when one of these sophisticated tools has been used in code development as the files created contain lots of extraneous HTML and CSS, rather than only including what is required.

As part of the deliverables you will have noted that we expect code that contains comments. These will demonstrate whether or not you understand the more complex bits of HTML and CSS that you have produced.

5.6 Relative links

Make sure you use relative URLs in your code when referring to your own resources or to other files that you are developing – the reasons for this are explained in lectures. Links to relevant external URLs should still be given in full, e.g. <http://www.w3.org/>.

5.7 Keeping your work private

Your website should be developed on your own computer, not in a publicly-accessible folder.