

ASSIGNMENT OVERVIEW

Use the Design Thinking process to create a small, responsive, static website of multiple (3-4) pages, with multiple links (internal & external), content, images, etc.)

In this assignment we'll be learning how to code a simple webpage using HyperText Markup Language (HTML), writing a Cascading Style Sheet (CSS) that will format that page for easy viewing on a phone, and then modifying that CSS file so that the same webpage can be viewed equally well in a browser.

You'll be writing the HTML and CSS *code* that presents the site, as well as managing *copy*—the informational text that occupies your pages—and working with *assets*, the other documents (images, etc.) that your site needs to function.

You'll be taking on two roles in this project. You'll be acting as a *developer*, creating a website for a *client*, someone else who has a specific need for a website. You'll be using the principles of *Design Thinking* to guide your work with that client.

You'll also be acting as a *client* for a website for yourself, and working with a *developer* who will interview you about your ideas and your content. That developer will be creating a website for you.

The website each developer builds for their client will have consistent headers and footers across all pages, include a copyright notice, and include a link that allows the viewer to email the client. The site will be *responsive* in that it will have two different appearances depending on whether it is viewed on a mobile device (mobile phone, tablet) vs. a desktop.

This assignment is worth 100 points and is due on the *crashwhite.polytechnic.org* server at 23:59:59 on the date given in class.

BACKGROUND

The World Wide Web, *WWW*, or simply “the Web,” is so widely known and used that some people mistakenly refer to it as “the Internet.” Webpages are an enormously useful means of communication, and even more so now that many people visit websites using their cellphones.

This introduces an interesting problem, however: the website that looks good on a desktop browser may be completely unreadable on a cellphone, and vice versa.

PROGRAM SPECIFICATION

The website you create will:

- consist of multiple **.html** files (one for each page of the website)
- use a single **.css** file to consistently style the site
- include a copyright notice in the footer of each page (**©** is the HTML code for a copyright symbol)
- include a link that can be used to email the author of the page
(Example: **Email me!**)
- include *responsive design* so that menu links on the website are styled differently for the mobile version and desktop version of the website
- use the CSS **hover** tag to make the links change color and background

- use a consistent logical structures across the entire site:


```
<div id = "header">
<div id = "menu">
<div id = "contentwrapper">
<div id = "content1">
<div id = "content2">
<div id = "footer">
<div class = "container">
```
- have all files contained in a local (on your computer) folder called **project**
- have a copy of all files contained on the server in a directory at **crashwhite.polytechnic.org:~/public_html/project**

Additionally, you'll use SFTP or SCP, either as a Terminal command or via a high-level text editor, to upload your files to the *crashwhite.polytechnic.org* server.

DELIVERABLES

crashwhite.polytechnic.org/~username/public_html/project/index.html , and additional pages as specified above.

1. Please be sure to use the specified file name, i.e. **index.html**
2. Save a copy of your files on your hard drive, flash drive, etc..
3. Your site will be graded based on the files you upload to the server.

ASSIGNMENT NOTES

- Before building a website, you need some content to put on the website. Identify for yourself what the purpose of your website will be. You need to have a pretty specific idea of what you want your website to be focused on. Give it some thought. Some possibilities:

1. A site aligned with the UN's Sustainable Development Goals. Look at the goals listed on their website (<https://www.un.org/sustainabledevelopment/>) and identify a cause or theme that is of interest to you and aligns with one of those goals.
2. A site that promotes your personal business or personal interest: DJing, photography, travel, cooking, music,

Examples. For me I might consider:

- * providing resources to encourage women in technology
- * best places to visit in Paris
- * easy, healthy meals

3. As you consider what your website is going to be focused on, don't worry at this point about what it's going to look like. You may have some ideas--anybody who has surfed websites on the Internet is naturally going to have some pre-conceived notion about what the site might look like. Don't worry about that at this point. Think about the site, maybe some photos or visuals that you might like to include, but most importantly, think about the content.

- Once you've got some ideas about the subject of your website, meet with a partner who can help

you further clarify your ideas by applying *design thinking*.

- *Design thinking* has a number of definitions, but a simple one is "a human-centric creative process to build meaningful and effective solutions." More generally, design thinking is a strategy, a process, a philosophy, or approach that one applies to solving problems. In applying this strategy to solving problems, one focuses on "the people in the problem" with a goal of producing a more innovative and/or effective solution.
- Applying Design Thinking principles to a problem usually involves the application of a series of actions. Here's one common system as defined by Stanford's Design School:
 1. **Empathize**
Conduct interviews and research to develop an understanding of your user(s) and their needs.
 2. **Define the Problem**
Based on your research, identify where users' problems are.
 3. **Ideate (Brainstorm)**
Generate a wide range of ideas and strategies that might solve the problems.
 4. **Prototype**
Build real representations for some of those strategies to see how they might work.
 5. **Test**
Meet with users to get feedback on prototypes.
- You'll be giving the responsibility for creating your website over to someone else. You'll need to provide them with the *copy* and the *assets* that they can use to create your site. At the same time, you'll be responsible for building someone else's website.
- There is a zipped folder of files that accompanies this assignment. Examine Examples 1, 2, and 3 to understand a little more about how HTML, CSS, and responsive design can be implemented.
- When you're ready to begin coding, open your *source file* in a text editor on the left side of your screen, and open the same file in a web browser on the right side of the screen. Identify what components of the **.html** file are responsible for which parts of the page displayed in the browser window.
- You can alter the text in the file and then Refresh/Reload the webpage in the browser to see what effect your edits have. This is a great way of poking at the code to see how things work, and how you can improve or break them.
- As you work your way through the files, develop an idea of what kind of website you'd like to write. Avoid the tendency to jump straight through to the last file, however. As with any computer program, attempts to shortcut the development process just end up wasting time. Begin at the beginning, and develop as you go.
- HTML and CSS contribute to the webpage in contrasting ways. HTML is concerned with "logical" organizations of your content—this line is header, this text is a paragraph, this text is for the footer, and so on—without any regard for how that information is going to be displayed on the screen. That's the whole point of HTML: to allow a person's browser on their computer to determine how the information will be displayed. This is especially important as we consider questions of *accessibility*, the opportunity for people with so-called "disabilities" to be able to use your webpage.

- CSS, on the other hand, is concerned with the *style* in which your webpage is presented. A well-designed webpage can have a big impact on how the information on it is received, and a poorly-designed webpage can turn readers away, regardless of the value of the content on it.

GETTING STARTED

1. Come up with an idea for your website using the description from the Assignment Notes above.
2. Have someone interview you so that they can better understand what you have in mind for your website. Also, interview someone else so that you can identify what you'll be creating for their website.
3. Learn a little about HTML and CSS by going through the files in the Website directory as described in the **Assignment Notes** above.
4. Create a folder called **project** that will be used to store all files related to the website you're developing.
5. Create the *copy* (text for your own website) to present to you developer, and collect the *assets* (photos, etc.) to deliver to them. They'll need those materials so they can create your site. In the meantime, you'll want to acquire those materials from your own client.
6. Use a text editor to create your **index.html** file.
7. Test the files by using a browser (Firefox and Chrome are both good) to **File > Open File...** and go to your **index.html** file.
8. Once you've got one basic page going, create additional pages that are linked to by your menus.
9. After confirming that your basic site works, implement the **@media** CSS necessary to make your site “responsive” to both mobile and desktop browsers.
10. Once the site is working well on your local machine, use the Terminal to Secure CoPy (scp) to your **public_html** directory on the server. You'll need to use the **-r** flag to recursively copy that folder and all the files in it. After you have used a **cd** command to get to the folder containing your **project** folder:

```
$ scp -r project/ studentID@crashwhite.polytechnic.org:~/public_html
```
11. Test that your site is “live” by typing the URL into your browser:

```
http://crashwhite.polytechnic.org/~studentID/project
```
12. Your uploaded files will be what will be used to evaluate your work.

QUESTIONS FOR YOU TO CONSIDER (NOT HAND IN)

1. What distinguishes a good website from a mediocre one?
2. How can you examine the code from other websites to get ideas on how to improve your own?
3. What does HTML stand for? What does HTTP stand for? What does SCP stand for? What does SFTP stand for?
4. What is a *responsive* website?
5. Why is *accessibility* so important? See the page at <https://www.w3.org/WAI/intro/accessibility.php> for

information on website accessibility.

6. What do you think of the Design Thinking process? Did the steps you followed in this assignment allow you to come to a better solution than you otherwise might have?

SAMPLE WEBSITES

Non-Responsive Template

- [Home](#)
- [Our Story](#)
- [About](#)
- [Contact](#)

Content 1

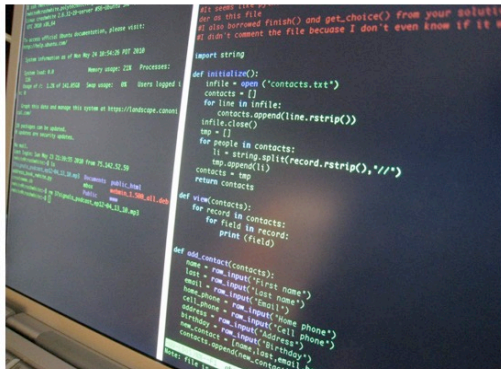
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

1. Ultricies mi quis hendrerit dolor magna. Viverra maecenas accumsan lacus vel facilisis volutpat est.
2. Sed risus pretium quam vulputate dignissim. Phasellus faucibus scelerisque eleifend donec pretium vulputate sapien nec. U
3. Itrices gravida dictum fusce ut placerat orci nulla. Arcu odio ut sem nulla pharetra.

Commodo nulla facilisi nullam vehicula ipsum a arcu cursus vitae. Dui accumsan sit amet nulla facilisi morbi tempus.

Tincidunt ornare massa eget egestas purus viverra accumsan. Ac orci phasellus egestas tellus rutrum tellus pellentesque eu. Vulputate odio ut enim blandit volutpat. Vestibulum sed arcu non odio. Iaculis eu non diam phasellus.

This is Content 2



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Illustration 1: A Basic webpage with no styling

Responsive Template

Menu ☰

Content 1

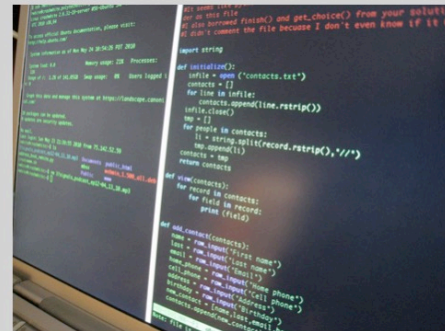
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

1. Ultricies mi quis hendrerit dolor magna. Viverra maecenas accumsan lacus vel facilisis volutpat est.
2. Sed risus pretium quam vulputate dignissim. Phasellus faucibus scelerisque eleifend donec pretium vulputate sapien nec. U
3. Itrices gravida dictum fusce ut placerat orci nulla. Arcu odio ut sem nulla pharetra.

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Tincidunt ornare massa eget egestas purus viverra accumsan. Ac orci phasellus egestas tellus rutrum tellus pellentesque eu. Vulputate odio ut enim blandit volutpat. Vestibulum sed arcu non odio. Iaculis eu non diam phasellus.

This is Content 2



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Illustration 2: Styled webpage in mobile (portrait) mode. Note the menu icon near the header.

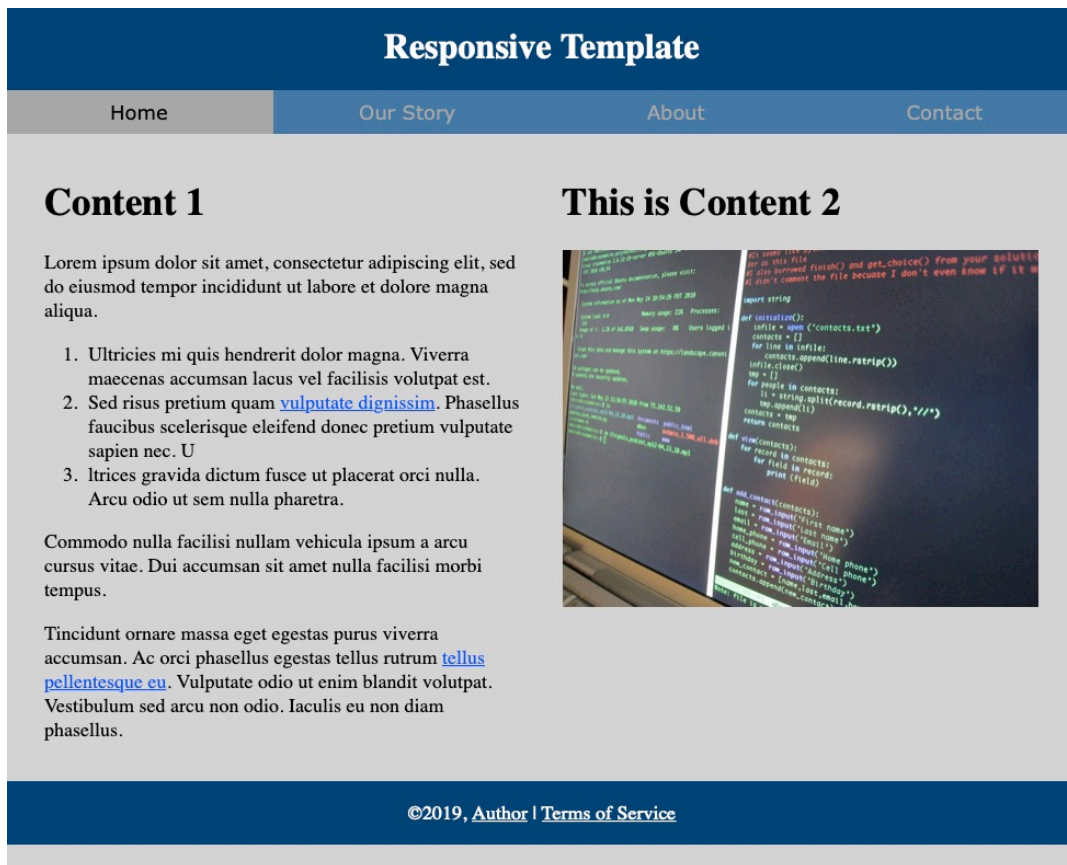


Illustration 3: Styled webpage in desktop (landscape) mode. Note that menu "burger" is now presented as a menu bar, and content areas have changed their orientation.