# CS234 Mini-project: Eating Habits Web Page

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#### Introduction

The central learning goal of this class is t*o master the skills and knowledge that will allow you to work iteratively at the different levels of the data science cycle.* The last step in the data science cycle is "Communicate and Visualize the Results", a step that deals with questions such as: what did we learn, do the results make sense, can we tell a story?

For the first two weeks of the semester, you have been taking photos of your eating habits. In addition to class discussion, we have read two articles and one paper:

Dear Data: A week of food preferences. <u>Read article.</u> You can't trust what you read about nutrition. <u>Read article</u>. Tidy Data. <u>Read paper</u>.

which gave us different perspectives on thinking about the problem of measuring and communicating eating habits. In a separate mini-project, you will be generating a dataset with formal variables that we will use for quantitative analysis. As you go through your photos and do the labeling, you should start thinking about qualitative themes that you are seeing: what surprises you, what is common across all your photos, what did you learn about your eating habits, what is that you can change?

Then, for this mini-project, you'll create a web page to write a summary of this introspective process that is backed by your data collection. The page will combine text and photos in an aesthetically pleasing way to enhance its communication value.

However, since we want to be able to find this page, you'll create two additional pages to go with it:

a) your own personal page, that will be shown when someone points to your web location: cs.wellesley.edu/~USERNAME/

b) a portfolio page for the course, where you'll be showcasing the different projects of this class. Task 1 below explains these two pages, and Task 2 describes the real work of this mini-project.

## Task 1: Web Presence [Two weeks to complete]

According to my perusal of your personal accounts on the CS server, only two students from CS 234 have a complete HTML+CSS web presence in their folder. These two students

have taken my CS 315 course last Spring and it was an assignment in the class to create their own web page. See their pages below:

#### <u>Vicki Ngan</u> Sanika Bapat

The purpose of this task would be for everyone's account to show a meaningful page instead of a directory listing. I expect you to do the following on this task:

- 1. Create a personal web presence (who you are, what do you do at Wellesley, and everything else you want to share with the world: projects, passions, etc.)
- 2. Create a dedicated page for CS 234 that will serve as a portfolio for this class' work (you will link various class assignment like the diary habits summary). Put a link to your cs234 portfolio on the main web page.

You are free to design these two pages the way you want: use HTML + CSS + Javascript from scratch, or get an existing template from the Web and modify it for your needs.

Below are examples from students who took CS 249 in Spring 16:

<u>Megan O'Keefe</u> <u>Kate Kenneally</u> <u>Meredith McCormak-Mager</u>

Web hosting through the CS server is free, and it's good to be able to point to a project you have done when you apply for internships and jobs. **During this class you should host your work on the CS server, because it makes it possible for us to check it with our scripts.** Once the course has completed, you can host the content in another web server.

Because you might need time to brush up your HTML/CSS skills, the recommended time for the completion of this task (Task 1) is two weeks. Work over multiple sessions, it's not fun to try to do everything in one single sitting.

### **Important Notes**

- When one points to http://cs.wellesley.edu/~YOURUSERNAME they should be able to see your webpage and not a listing of folders and files (which is what one sees now for most of you). This is achieved by creating a file titled index.html which you will upload to the folder public\_html in your CS server account.
- If your web presence requires more than the index.html page (maybe you want to have a dedicated page for your hobbies), you can create a folder to store the rest

of the code (e.g., mysite or personal), so that your <code>public\_html</code> folder remains organized.

- You will create a subfolder cs234 within public\_html, so that when one visits http://cs.wellesley.edu/~USERNAME/cs234/, they will see a page that indicates your work related to CS 234. Here are examples (no need to follow closely these examples): <u>http://cs.wellesley.edu/~mokeefe2/cs249/</u>, <u>http://cs.wellesley.edu/~plee3/cs249/</u>. You can notice that this subfolder contains an index.html page as well, because you land on the content, not a folder with files.
- Your CS 234 portfolio should also be linked from your personal web page.
- You can use tools like CyberDuck, Fetch, or WinSCP to upload files from your laptop to your CS account.
- It's important that you name the file all lowercase index.html, otherwise our webserver will not recognize it.
- You can use the website W3Schools to get started with HTML, CSS, Bootstrap, etc. It's a great resource. Of course, there are other resources too: CodeAcademy, YouTube, etc. Feel free to share on the Google Group useful resources that helped you learn.

### **Collaboration and Help**

You can discuss any aspect of this task with other peers in the class, especially mechanics of how to move pages, where to put them, how to name them, how to link HTML and CSS, etc. But, each of you should design and develop their own web page, and display their own creativity in putting it together. It is allowable to look at pages on the Web from websites that you like and inspect their CSS code to create a certain design or effect.

If you don't know how or where to start:

- 1. Come to Eni's office hours during the week.
- 2. Go to help room with Clara and Anne on Sunday and Monday evening, 7-9pm.

[Task 2 starts on the next page]

### Task 2: Eating Habits: A summary [Notice two separate deadlines]

In this task you'll communicate the results of your data collection of taking photos of your food. For that purpose you'll create an HTML page that contains text and photos of your project.

#### Part 1: Content [To be completed within a week]

Use different headings (h1, h2, etc.) to organize your content. A combination of the following components should be present in the document:

- 1. A descriptive title for the document.
- 2. A summary paragraph of what the page is about. Think of it as **tl;dr** (too long; didn't read) for your page.
- 3. An introduction section that explains the setting of this experiment and any expectations you had about the project, what difficulties did you encounter, etc.
- 4. A data collection section that explains how you collected the data (took photos, wrote notes, a combination, etc.) and how many meals in total you collected, based on all the raw data you have.
- 5. A finding section that presents **three different qualitative findings** from your data inspection. Examples of findings could be: a consistent habit you have; a surprising habit that you hadn't noticed before; something that is missing from your diet; something that might be in excess in your diet; the amount and / or frequency of eating; and so on.
- 6. A conclusion / discussion section in which you discuss what you learned from the project about yourself; whether there are things you want to change in your eating habits; and in what ways you could improve the overall process of collecting data about your habits.

The different sections of writing should contain selected photos from your data gathering to illustrate the points you're making. Use figure caption to caption the photos. There is a <figcaption> tag in HTML5.

#### Part 2: Presentation [To complete within two weeks]

Content and presentation can be decoupled, because HTML and CSS are different languages.

- 1. At the end of the first week, you should have an HTML page that contains all the content discussed in the previous section.
- 2. At the end of the second week, you should have CSS that makes your page looks visually compelling and aesthetically pleasing.

Students who are striving for excellence in this class should try to complete both parts. However, it is acceptable to only submit the content and not continue the second week with the presentation part.

#### **Technical requirements**

- 1. Inside your cs234 folder in "public\_html", create a subfolder "eating" which will contain all the files for this task.
- Since your work will be inside "eating", you should name the HTML file you'll create "index.html". This way, if one points to http://cs.wellesley.edu/~USERNAME/cs234/eating/, they will read your report.
- 3. The HTML page you're creating should be linked from the Portfolio page that you are creating in Task 1. Here is how the folder structure might look like:

public_html	
index.html	(your personal webpage)
pagestyle.css	(CSS to style your webpage)
cs234	(a folder for this course)
index.html	(the portfolio page for the course)
eating	(a folder for this project)
index.html (the report for Task 2)	
styling.css (CSS to style the report)	
img	(a folder to save your photos)
photo1.jpg	
photo2.jpg	

A structure like this requires that you learn how to use relative links. These are links that refer to pages within your folders, as opposed to websites on the web. For example, to link to your portfolio page from your webpage, you'll write:

<a href="cs234/index.html">CS 234 Portfolio</a>

4. Photos for your website need to be resized to a few KB, as opposed to the several MBs that they usually are when downloaded from your phone. This is because your page will load very slowly if you use original photos. You can even think of creating thumbnails. They are used when one wants to show multiple photos. That is, the thumbnails are in the web page (lots of small images), but if one clicks on them, a bigger image appears (this is also known as the "Lightbox" effect). You have already installed Python's Image library to extract the photo EXIF info. The same library can be use to automatically resize photos to the desired pixel size. Here is code snippets that does that:

http://pillow.readthedocs.io/en/latest/handbook/tutorial.html#create-jpeg-thumb nails. You'll need to modify it to deal with a folder of images, as well to name the files with the ending JPG, instead of thumbnail. It's acceptable that someone in the class writes this code and shares it with everyone else on the Google Group.