HTML/CSS 101

CSE 154 Web Programming
Today’s Project: Make a Web Page

- Today, you will learn:
  - HTML
  - CSS
  - Some basic Web Design Principles
The Ingredients for a Web Page

- HTML (Structure) + CSS (Style)
- Once you get the hang of these, you can add Javascript (Behavior)
HTML

• Hyper-Text Markup Language

• Cool, huh? Let’s start with the basics

```html
<!DOCTYPE html>
<html>
  <head>
    <title>Shawn's Profile Page</title>
    <link rel="stylesheet" type="text/css" href="fakebook.css" />
  </head>
  <body>
    <h3>fakebook</h3>
    <img src="https://scontent-sea1-1.xx.fbcdn.net/hphotos-xpti/t31.0-8/12146887_101561894397033890019775688323956_o.jpg" />
    <h1>Shawn Lee</h1>
    <h3>Student at the University of Washington</h3>
    <div>
      <h3>About Me</h3>
      <p>
        My name is Shawn. I'm a college student, and I really like working with computers. I also like to snowboard and play video games like <a href="http://www.leagueoflegends.com/">League of Legends</a> and <a href="http://www.kleientertainment.com/games/dont-starve">Don't Starve</a>.
      </p>
    </div>
    <div>
      <h3>Cool Facts</h3>
      <ul>
        <li>You can use potatoes as a battery.</li>
        <li>"Antidisestablishmentism" is longest word in the English language...th</li>
      </ul>
    </div>
  </body>
</html>
```
What are these ‘<‘ alligators?

• Tags! They label the parts of your page
  • You put associated content within your tags

• Two types:
  • Open and closing pairs
    • Ex: <body>This is some text for my body</body>
    • Most content tags will be of this type
  • Self-closing tags
    • <img />

• Every tag must open and close like this!
Structural tags

- `<!DOCTYPE HTML>` lets the browser know you’re using HTML 5
- `<html>` indicates when you are starting to write HTML

```html
<!DOCTYPE html>
<html>
  ...
</html>
```
The Header

- Sets up important information about webpage which isn’t displayed within the body of the site
- We’ll be using:

  ```html
  <!DOCTYPE html>
  <html>
    <head>
      <title>My Page</title>
      <meta charset="utf-8"/>
    </head>
    <body>
    </body>
  </html>
  ```

Hello. My name is Foo. I speak utf-8.
The Body

- Where the main content is organized and displayed
- We’ll be using:
  
  `<div>...</div>`
  `<p> ... </p>`
  `<ul><li>... </li></ul>`
  `<h1>... <h2>... <h3>... </h3></h2></h1>`
  `<img />`
  `<a />`
Lorem Ipsum, Dolor sit

Nullam vulputate felis id odio interdum nec malesuada mi pretium.

Proin tempor erat sit amet nisi porta nec vulputate arcu imperdiet. Praesent tincidunt at eros, ut iaculis convallis nunc nec lobortis. Aliquam semper in dolor et euismod. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices.

Latest Updates

Vestibulum id nulla eu sapien pellentesque
June 1, 2009
Ut velit tincidunt a orci pulvinar lectus. Mauris id nunc vulputate. Aliquam metus arcu, faucibus quis sapien pellentesque vitae, egestas metus.

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Join Our Team
The Div

• Helps ‘divide’ your content into blocks
• Can put other tags you want contained within, such as <p> and <img>
• How would you break the body of your profile page into categories?

```html
<!DOCTYPE html>
<html>
  <head>
    <title>My Page</title>
    <meta charset="utf-8"/>
  </head>
  <body>
    <div id="about"></div>
    <div id="contact"></div>
  </body>
</html>
```
Divs in Practice
• Heading tags
• h1 is the primary header, and is great for displaying your page’s name
• h2 and h3 are sub-headers (not always necessary)
The paragraph tag
Where you write most of the body content
Same idea as an ‘essay’ paragraph
<ul><li>List elements!</li></ul>

- Help you make lists of text with bullet points like this one
- <ul> starts your list, </ul> ends your list
- <li> item <li> is used for each list item
Back to our dude... The Footer

• The footer is optional, but you can put contact info and copyright date here:

```html
...<ul>
  <li>I love programming</li>
  <li>Favorite food is black coffee</li>
  <li>Favorite animal is Pikachu</li>
</ul>
</div>
<div id="contact">Email: helloworld@uw.edu</div>
</body>
<footer>
  <p>&copy; 2015 Melissa Medsker-Galloway</p>
</footer>
</html>
```
Our Model is Complete. Now You’ve Got Everything you Need...

Or Do You?
CSS

- Cascading Style Sheets
- Adds ‘style’ to your HTML page
- Can switch out different CSS sheets for the same page
Purpose of CSS

- CSS describes the layout of the page, whereas HTML describes the content

```html
<head>
  <title>Blog post</title>
  <link rel="stylesheet" type="text/css" href="example.css" />
</head>
```
CSS basic syntax

• Files consist of one or more rules
• In a rule, select HTML elements you want to style and then set the style properties within the rule
• Syntax is important

```css
selector {
  property: value;
  property: value;
  ...
  property: value;
}
```
Essential CSS Tool Kit

- Text
- Border
- Background
An example

```css
body {
  background-color: #A2B964;
  font-family: Arial, Helvetica, sans-serif;
}

img {
  height: 100px;
  width: 100px;
  border: 2px solid black;
  border-radius: 100%;
}
```
More on color

- You can select more basic colors like blue, green, and red by typing their name, but you can also select hexadecimal values for more complex colors.

- Visit [http://www.w3schools.com/tags/ref_colorpicker.asp](http://www.w3schools.com/tags/ref_colorpicker.asp) to easily find the hexadecimal value that matches the color you want (or google “html css color picker”).

### HEX Color Codes

<table>
<thead>
<tr>
<th>Hexadecimal Numbers</th>
<th>Examples</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Value:</td>
<td>FF0000</td>
<td>Pure Red</td>
</tr>
<tr>
<td>Green Value:</td>
<td>#6600FF</td>
<td>Purple</td>
</tr>
<tr>
<td>Blue Value:</td>
<td>#888888</td>
<td>Light Gray</td>
</tr>
<tr>
<td>Range:</td>
<td>#4878BD</td>
<td>Medium Blue</td>
</tr>
<tr>
<td>Higher Values:</td>
<td>#00CC1D</td>
<td>Light Green</td>
</tr>
<tr>
<td>Lower Values:</td>
<td>#FF5500</td>
<td>Orange</td>
</tr>
<tr>
<td></td>
<td>#FFCC00</td>
<td>Yellow</td>
</tr>
</tbody>
</table>
background-color

• Change the color of the background of the specified element

body {
  background-color: #A2B964;
}

---

The code above sets the background color of the body element to #A2B964, which is a light green color.
font-family

• Change the font of the text in the element selected
• If the browser can’t display the first font described, it will move on to the next one
• Extra fonts on Google fonts!

body {
    font-family: Arial, Helvetica, sans-serif;
}

height and width

- Resize the selected element

```css
img {
    height: 100px;
    width: 100px;
}
```
border

- Change the border of the selected element
- Takes a border size (1px, 5px, etc.), border style (solid, dotted, etc.), and border color (black, #ABC123, etc.)

```css
img {
    border: 2px solid black;
}
```
border

- Many related properties, like border radius
- This makes the border a more circular shape

```css
img {
  border: 2px solid black;
  border-radius: 100%;
}
```
Many more properties

- Many kinds of styles
- Most are found by googling around
- We’ll stick to the basics for today
Some Web Inspirations

- Mario-style resume
- Agar.io
- LOLMyThesis
- Solve the Riddle
- Madeon Adventure Machine (music maker)
- Adobe Color Picker (great for CSS reference!)
- Interactive Music Video
- Smarty Pins Google Map Trivia
Additional Resources

- Codecademy
- Codepen
- Dabblet
- Google Fonts
- Code.org
- CSS Color-Picker
- W3School
- Text Editor: Notepad++ (for making HTML & CSS documents)
Now It’s Your Turn!,

• You get to make your own profile!

• Steps:

1. Start with an HTML page
   i. Make sure to test your page as you add elements – this is great debugging practice!
   ii. Start with <head></head>, then <body></body> and finally <footer></footer> sections
   iii. It’s ok if it looks a little meshed at first. That’s what CSS is for!

2. Now make a CSS file. Use your cheat sheet and the online resources for inspiration!