HTML & CSS: FUNDAMENTALS OF DEVELOPMENT

Instructor: Aaron Bronow

Week 1

INTRODUCTIONS

- Who are you?
- What do you do/study/etc?
- What is your experience with web development?
  - Do you have related skills like Photoshop, Wireframing, E-mail Marketing, etc?
- What are you hoping to get out of this class?

CLASS SCHEDULE

- Five sessions over a six-week period
- Thursdays from Jan 11 to Feb 8, from 6:30-9:30 p.m.
- 10 minute break somewhere in the middle
- No grades, no tests
- Questions and feedback highly encouraged!

COURSE OVERVIEW

- Basic rules of HTML and CSS
- Using CSS to style web pages
- Website structure, navigation, and file organization
- Hosting, FTP, Github
- Overview of Javascript and jQuery
- The role of the developer

TODAY

- Overview of a website
- Code editors (and revision control)
- Basic HTML
- How to FTP (put your website online)
- What does a developer DO anyway?

ODDS & ENDS

aaronbronow.github.io/svc-class-jan-2018

Slides, sample files, “homework", and interesting links will be posted here

OVERVIEW OF A WEBSITE

CONTENT, DESIGN, & CODE

CONTENT

Most important part of any website

DESIGN

Critical to the best user experience

CODE

Brings content and design to life

CONTENT

What am I presenting?

TEXT

- Articles
- Links
- Lists

MEDIA

- Images
- Videos
- Audio

DESIGN

What is the experience?

USER EXPERIENCE

- Layout
- Navigation
- User flows
- Ease of use

GRAPHIC DESIGN

- Colors
- Fonts
- Backgrounds
- Icons

</> CODE

How does the computer understand?

HTML structures and organizes content

CSS stylizes the content and creates layout

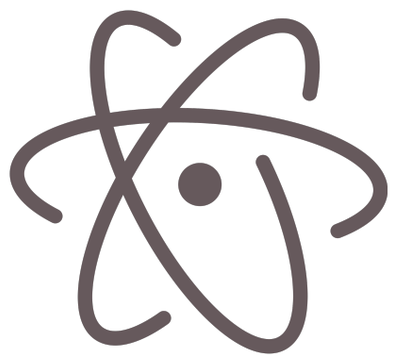
JAVASCRIPT adds interactivity

CODE EDITING TOOLS

CODE EDITORS

VS Code

Brackets



Atom

Sublime Text

Coda

HTML is just text

You can right-click and select "View Source" on any webpage to see how the developer made it

WEB BROWSERS

HTML and CSS require testing in all major modern browsers and devices

You can experiment directly in the browser before making permanent changes

DEVELOPER TOOLS

Chrome

- Right-click > Inspect
- OR hit the F12 key

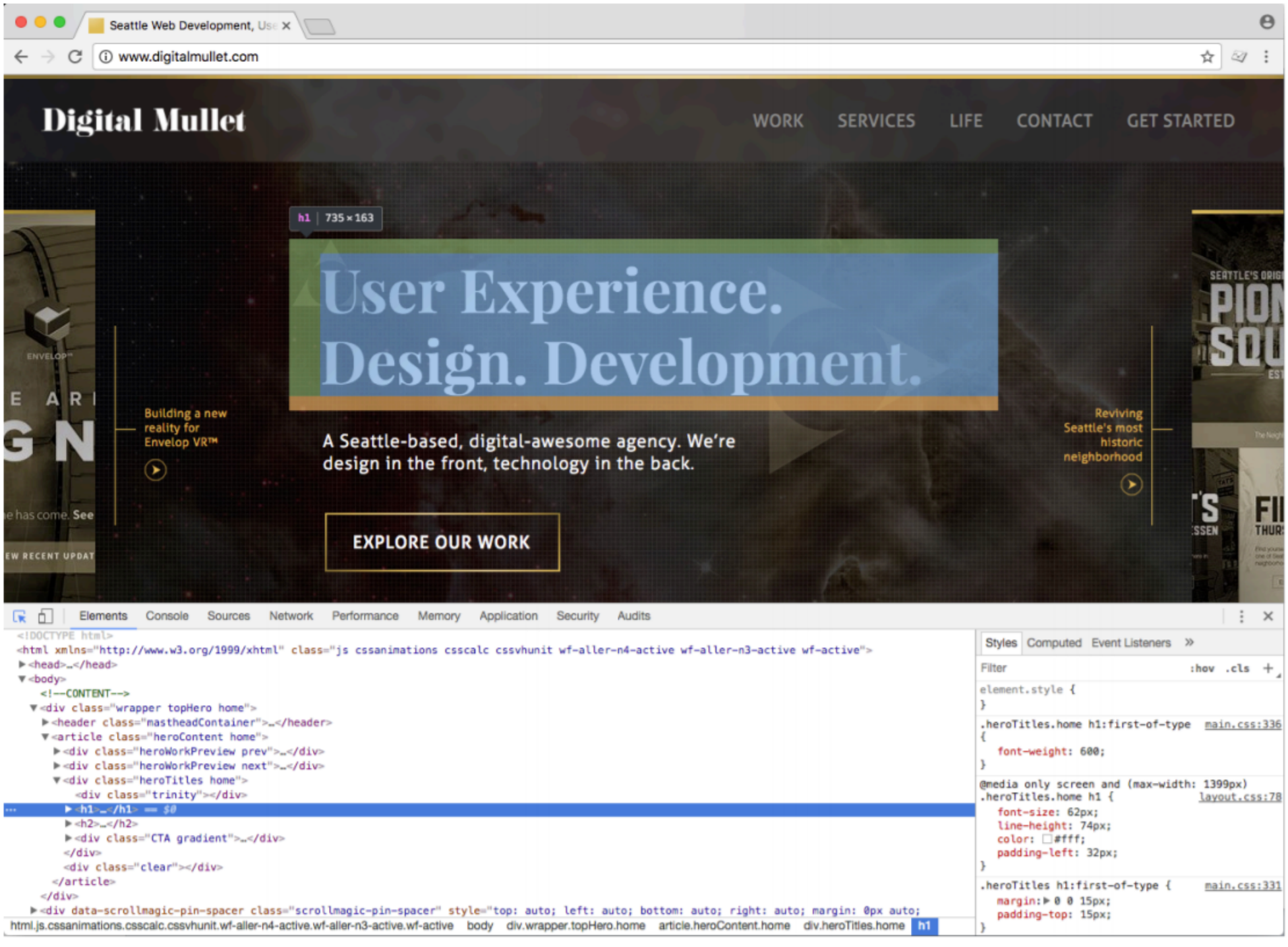
Safari

- Open Preferences > Advanced > Show Develop menu
- Right-click > Inspect Element

Internet Explorer

- F12 key

DEVELOPER TOOLS



LET'S TRY IT

<html>

HTML DOCUMENTS

HTML DOCUMENT

```
<!doctype html>
<html>
<head>
    <meta charset="UTF-8">
    <title>My First Page</title>
</head>
<body>

    <h1>The body is what the browser sees.</h1>
    <p>Several ways to format text.</p>
</body>
</html>
```

HTML ELEMENTS

- HTML elements are contained in <> brackets

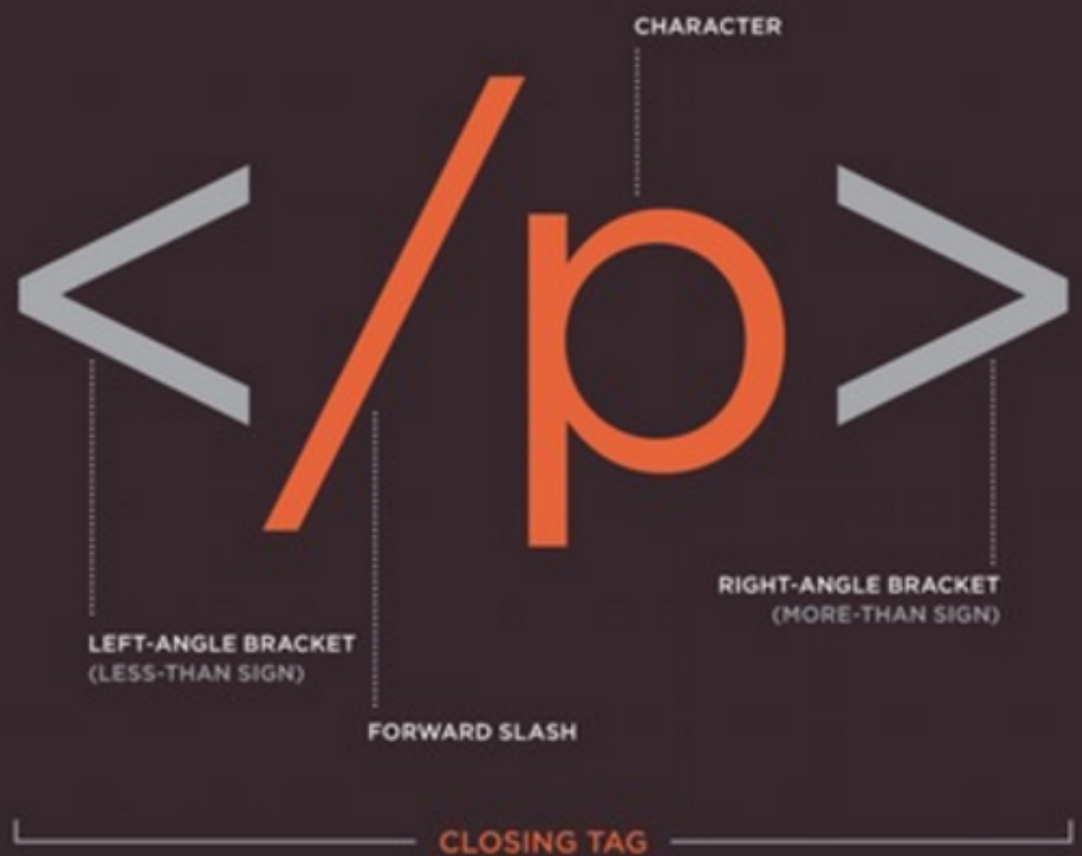
- Most HTML tags have an **opening** tag and a **closing** tag

```
<tag>Content goes in here</tag>
```

- Some types of tags are “self-closing”

```
<tag />
```

HTML ELEMENTS



HTML RULES

- Tags are written in lowercase

  `<a>` not `<A>`

- Tags **must** be closed

```
<p>Text in here.</p>

<div>Content in here.</div>

<br/> Self-closing line break
```

DOCTYPE

```
<!doctype html>
```

- The very first thing in any HTML document
- Tells the browser what version of HTML the document is written in (this one is HTML5)

DOCTYPE

These other doctypes are not commonly in use anymore:

```
<!doctype html PUBLIC "=//W3C//DTD XHTML 1.0
Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml-
strict.dtd">

<!doctype html PUBLIC "=//W3C//DTD HTML 4.01
Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/transitional.dtd">
```

HTML DECLARATION

```
<html>
```

- The top line after `<doctype>` declaration.
- Tells the browser “This is where everything starts!”

```
<html><!-- everything else --></html>
```

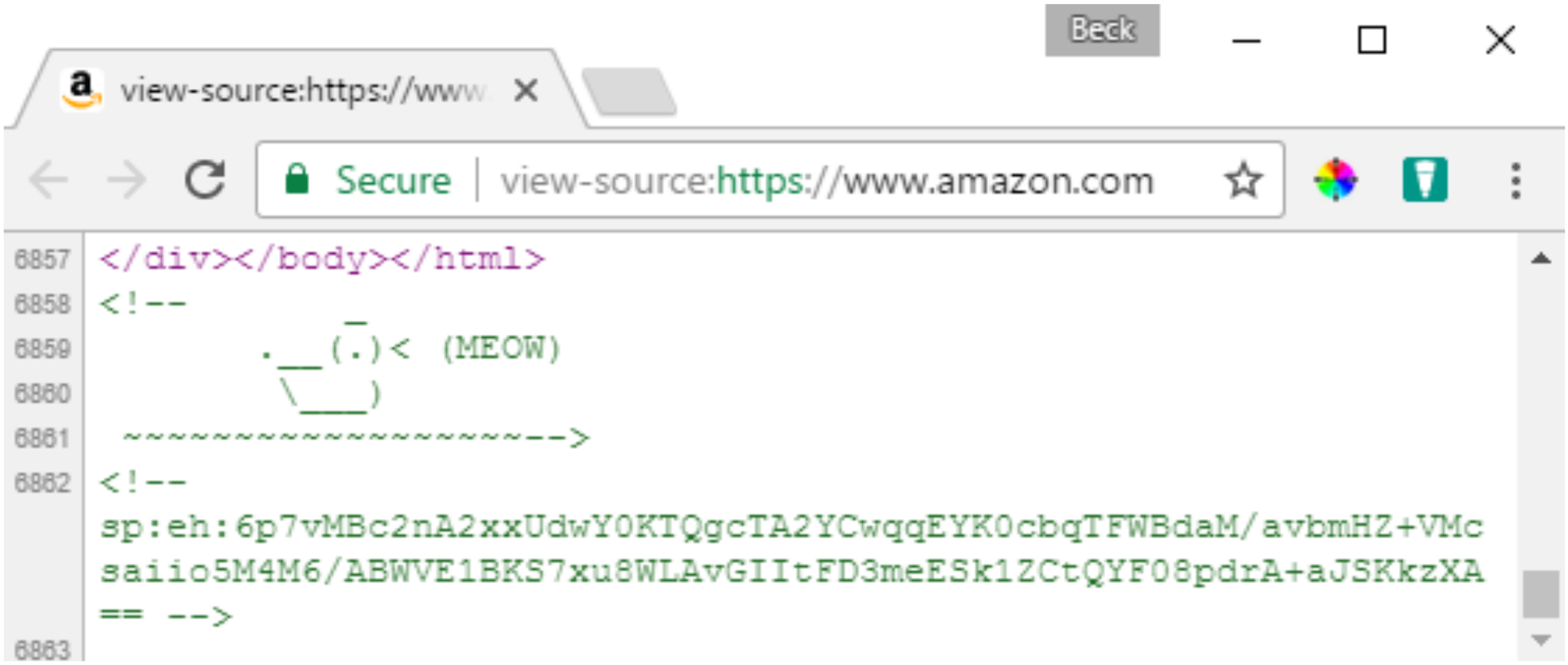
<!--HTML COMMENTS-->

```
<!-- Comments are great -->
```

- Are not visible to the user in their browser
- Great for leaving notes for yourself or other developers
- Can be seen in “view source”

<!--HTML COMMENTS-->

Sometimes they don't really have a point...



HEAD ELEMENT

<head></head>

- **Required** for a valid HTML document
- Holds information about the document that is (mostly) not visible to the user
- Can contain CSS and Javascript

```
<head>
    <!-- metadata and resources -->
</head>
```

META TAGS

```
<meta charset="UTF-8"/>
```

- Used to specify "meta" information to the browser like page description, author, search engine keywords, and character encoding
- UTF-8 represents Unicode, a system to handle text consistently in a variety of languages.

```
<head>
   <meta name="author" content="Your Name" />
    <meta name="description" content="A thrilling page"/>
</head>
```

TITLE TAG

```
<title>My First Page</title>
```

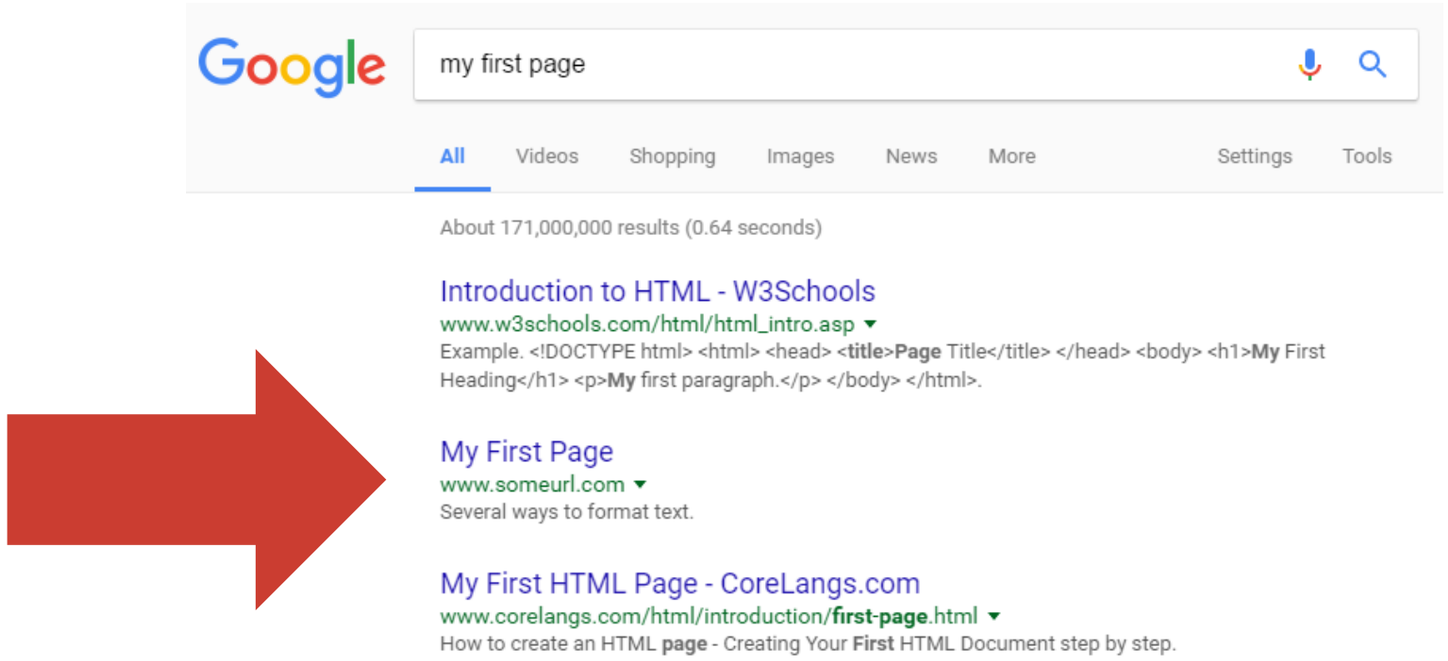
- Displays in the browser tab

- **Required** inside <head>

TITLE TAG

```
<title>My First Page</title>
```

- Name of the page when page is bookmarked
- The title for the page in search results on Google (or Bing)



BODY ELEMENT

```
<body></body>
```

The part of the HTML document that's visible to the user

- Contains all content of the document, such as tags, links, images, tables, etc.

```
<body>
    <!-- all my sweet content -->
</body>
```

MAJOR BODY ELEMENTS

- **Headings** for dividing up your page and content
- **Paragraphs** of text
- Bulleted, ordered, unordered **lists**
- **Images**
- **Links** to other pages, websites, or resources.

HEADINGS

```
<h1>My Page Header</h1>
```

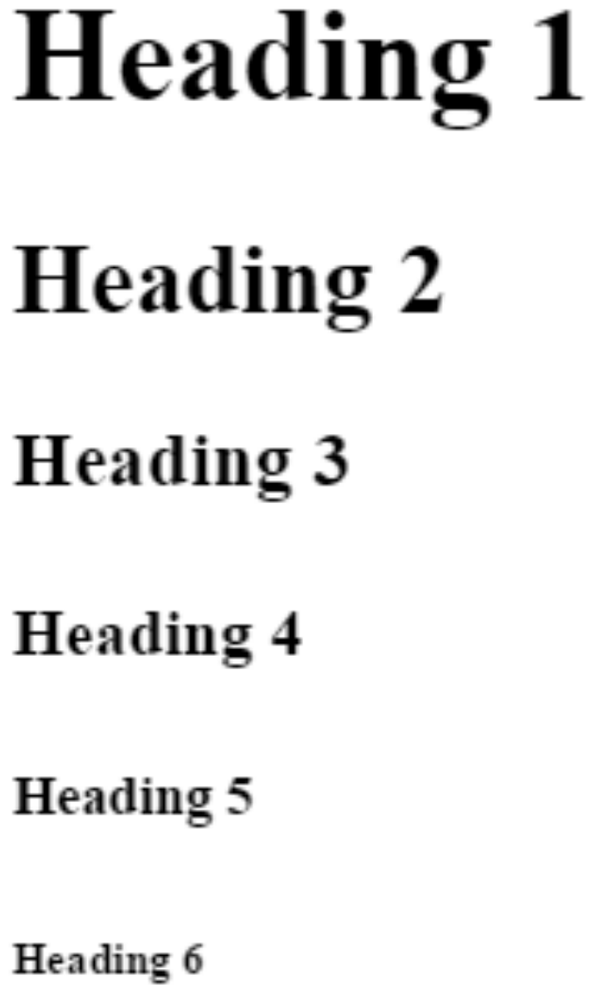
Headings range from most important to least important

<h1> to <h6>

Search engines use `<h1>` to determine important information about the page

HEADINGS

```
<h1>Heading 1</h1>
<h2>Heading 2</h2>
<h3>Heading 3</h3>
<h4>Heading 4</h4>
<h5>Heading 5</h5>
<h6>Heading 6</h6>
```



PARAGRAPHS

```
<p>Hi! I’m a paragraph!</p>
```

- Browsers automatically add space around `<p>` elements (although this can be changed with CSS)

LAYOUT

- `<header>` wraps header content
- `<footer>` wraps footer content
- `<nav>` indicates that everything inside is related to navigation
- `<section>` is used to define content sections

FORMATTING

`<em>` indicates *emphasis*

- By default, this displays as `<em>`*italic*`</em>`

`<strong>` indicates **importance**

- By default, this displays as `<strong>`**bold**`</strong>`

LIST ELEMENTS

```
<ul>
  <li>Puppies</li>
  <li>Kittens</li>
</ul>
```

Unordered lists `<ul>` appear in the browser by default with **bullets**

- Puppies
- Kittens

LIST ELEMENTS

```
<ol>
  <li>Puppies</li>
  <li>Kittens</li>
</ol>
```

Ordered lists `<ol>` appear in the browser by default with **numbers**

1. Puppies
2. Kittens

LIST ELEMENTS

```
<ul>
  <li>Puppies</li>
  <li>Kittens</li>
</ul>
```

Both unordered and ordered lists can only contain **list items** `<li>` directly

IMAGES

```
<img src="kitten.jpg" alt="Cute kitten" />
```

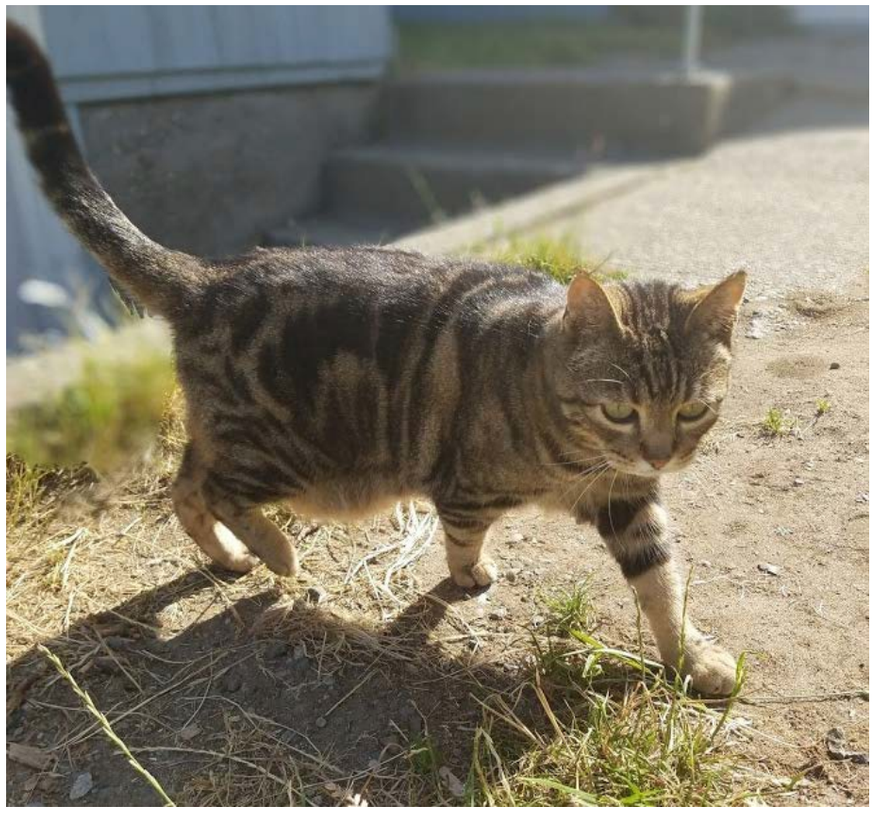
- Images do not have a closing tag
- Images have two required **attributes**:
  - **src** is where the file lives (local or external)
  - **alt** is a description of the image (used for screen readers, search engines, etc)

IMAGES

```
<img src="kitten.jpg" alt="Cute kitten"
height="200" title="Ollie" />
```

- `height` and `width` resize images and ensure the page doesn't jump

- `title` is shown as a tooltip in some browsers when you hover your mouse over the image



LINKS WITH THE ANCHOR TAG

```
<a href="http://google.com">Google</a>
```

The <a> element defines an "anchor" or link

- Anything inside <a> is clickable – can be text, an image, or any other valid HTML

SOME <A>TTRIBUTES

```
<a href="http://google.com" title="Search"
target="_blank">Google</a>
```

- `href` is the URL where the link should send the user
- `title` appears as a tooltip when you mouse over the link. It is read by screen readers
- `target="_blank"` opens link in a new tab

URL-SCUSE ME?

URL stands for “Uniform Resource Locator”

UNIFORM

because it is a global standard

RESOURCE LOCATOR

because that’s what an URL does – it locates a resource that lives on the internet

RELATIVE FILE PATHS

Relative paths are URLs that go to a resource in relation to the page you're on

- Resources "local" to you should all be relative paths

  (your images, HTML documents, fonts, CSS, and JS files)

```
<a href="other-page.html">Link to another page on my website</a>
```

```
<img src="image.gif" />                    (image is in same folder)
```

```
<img src="../images/image.gif" />  (image is in parent folder)
```

ABSOLUTE FILE PATHS

Absolute paths are URLs that start with **http**

```
<a href="http://google.com">Ubiquitous
search engine</a>
```

- These documents are not hosted by you, so if someone renames or deletes the file, your link will be broken

PRACTICE TIME!

ASSIGNMENT

Create a website that about something that interests you

- At least two pages that are linked to each other
- Include a link to an outside website. Bonus: have the link open in a new tab
- Use three heading tags and at least one paragraph
- Use at least one list
- Show at least two images – one local and one remote
- Add one HTML comment
- Validate your website

RELATIVE AND ABSOLUTE FILE PATHS

Assuming the project folder is in the root of the drive: “/” on Mac and Linux; “C:\” on Windows…

	RELATIVE	ABSOLUTE
▶ css	../../css	/svc-class-jan-2018/css
▶ demos	../../demos	/svc-class-jan-2018/demos
favicon.ico	../../favicon.ico	/svc-class-jan-2018/favicon.ico
▶ fonts	../../fonts	/svc-class-jan-2018/fonts
html-css-build-websites.gif	../../html-css-build-website.gif	/svc-class-jan-2018/html-css-build-webs…
index.html	../../index.html	/svc-class-jan-2018/index.html
README.md	../../README.md	/svc-class-jan-2018/README.md
▶ slides	../../slides	/svc-class-jan-2018/slides
▼ students	../	/svc-class-jan-2018/students
▼ example	./	/svc-class-jan-2018/students/example
basic-page.html	./basic-page.html	/svc-class-jan-2018/students/example/ba…

DOMAINS & WEB HOSTING

What is a domain name?

The Domain Name System, or **DNS**, is like a phone book for the internet

It's essentially a list that maps the location of files on a server (identified by a series of unique numbers called an IP Address) to a friendly name, like Wikipedia.org

How do I buy a domain name?

Companies called registrars manage the reservation of domain names

- GoDaddy is one of the largest registrars, but many smaller companies also provide this service
- ICANN is the agency responsible for regulating and accrediting registrars

DOMAINS & HOSTING

I bought a domain name… now what?

Registering a domain name maps that name to a location where the files will be hosted, but does NOT necessarily provide server space for your files

- GoDaddy will both register and host your website, as will many other companies

- You can buy a domain name from one company and host your files at another (or, host from a computer you own!)

DOMAINS & HOSTING

A common way to upload your website is using FTP (File Transfer Protocol).

You don’t have to understand it, just find an FTP client you like and copy your files using the program.

Filezilla

Cyberduck

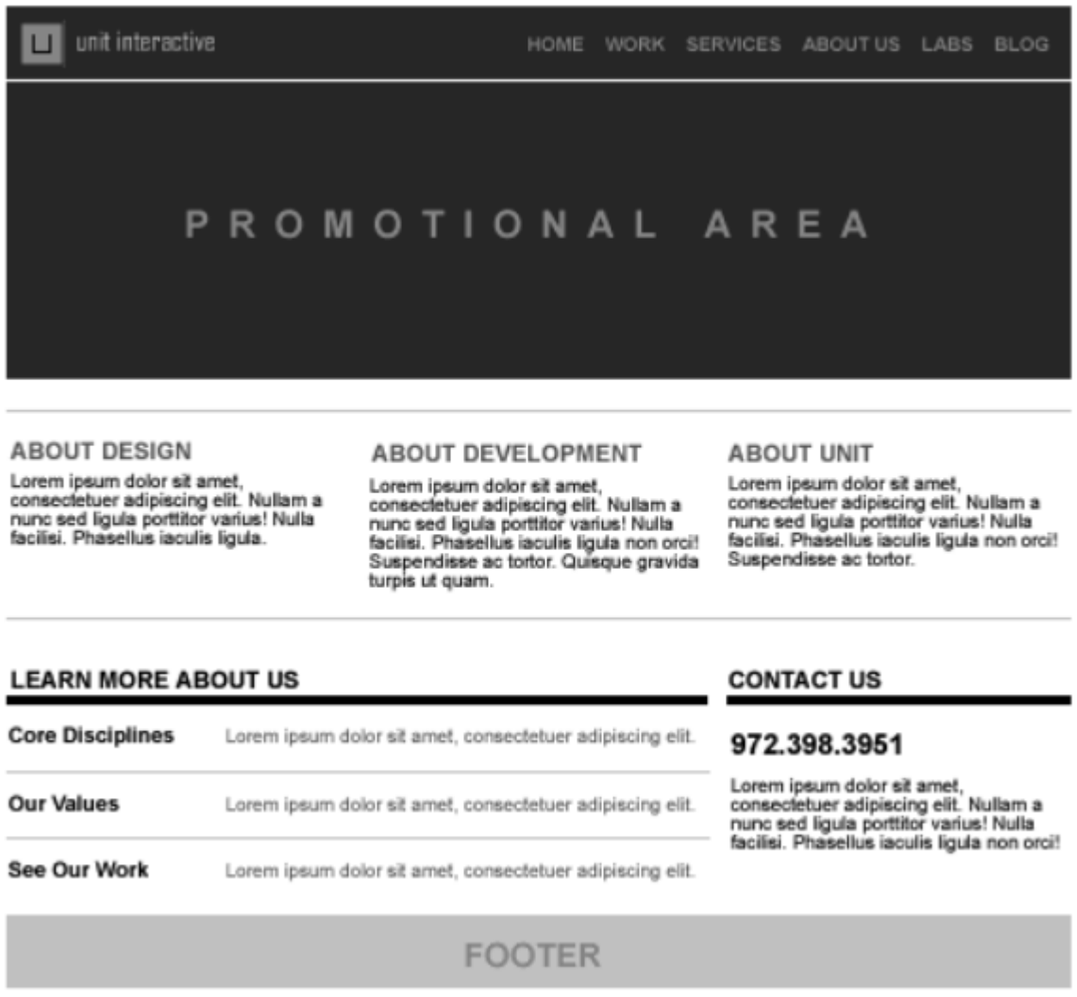
THE ROLE OF THE DEVELOPER

LIFECYCLE OF A WEBSITE

Step 1

User Interface Designers (UX) create wireframes based on research and conversations with the client

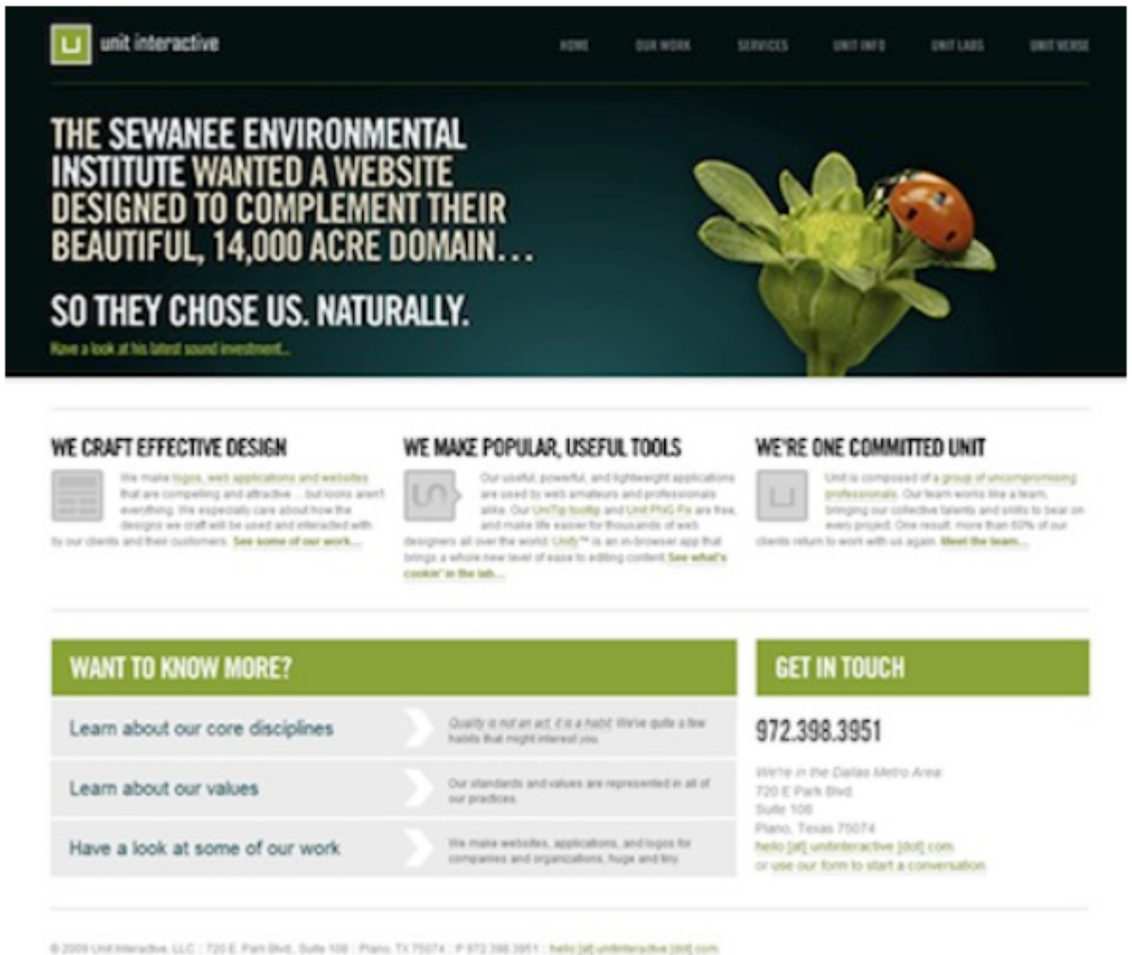
- Wireframes show layout and content



LIFECYCLE OF A WEBSITE

Step 2

Visual Designers turn wireframes into comprehensive layouts, or “comps”



LIFECYCLE OF A WEBSITE

Step 3

Developers turn comps into HTML and style with CSS

- Add interactivity with Javascript

THE ROLE OF THE DEV

What do I do besides code?

- Problem solve
- Innovate with new technologies and frameworks
- Bring designs to life with animation and motion
- Optimizing for fast loading

“HOMEWORK”

- Practice!

- Next time you see a cool website, inspect how they did it

- If you have questions during the week, feel free to email me at aaron@bronow.net

- Optional: read chapters 6-7 of *HTML and CSS: Design and Build Websites*