Web Development With JavaScript

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About Me

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- Sophomore – CS Concentration

- 1st semester teaching – please bear with me through any hiccups!

Agenda

- Let's talk web dev – what is it? Who cares? How does it work?
  - Html
  - CSS
  - JavaScript
- Developing an example website (how does JavaScript fit into it?)
- Where can I learn more?
- What other cool stuff can we do with JavaScript?

Web dev — What is it?

- Can generally be divided into three parts
  - Client-side scripting – code executed by a web browser
    - Html, CSS, JavaScript
  - Server-side scripting – code executed on a web server
    - Java, PHP, python
  - Database technology – efficient storage of information
    - Oracle, SQL, apache
- Put all three together to develop and create awesome websites

Web Dev – Who cares?

◈ Imagine going on a trip and meeting the coolest person ever. You hit it off immediately and you start to suspect you might become the best of friends, but your encounter with them is suddenly cut short, and then you never see them again

◈ Running a business or selling a product depends on two things: a high-quality product and a powerful public presence

Web Dev – How does it work?

- HTML → Static, bland web pages

- CSS → styling mechanism for HTML pages

- JavaScript → Dynamic, interactive features to supplement HTML Pages

Developing an example website

◈ Head to https://github.com/coderigo17/jsmba (a GitHub repository containing the code I'm about to demo) if you would like to follow along interactively

◈ What is GitHub?

    ◈ Web-based hosting service for git – a version control system

    ◈ Cool features that simplify project management such as remote back-ups, public (or private) access to code repos, feedback tools, etc.

◈ But before we start, let's get a more technical understanding for how these languages work…

HTML

◈ HyperText Markup Language

◈ Designed for the processing, definition and presentation of text (via a web page, in this case).

◈ Uses "tags" for formatting the layout and style within a text file.

◈ <head>

◈ <body>

◈ <header>

◈ <h1>

◈ <p>

HTML

- <!DOCTYPE html>
  - This is found at the beginning of every HTML file
  - Not a tag, but rather known as a "document type declaration"
    - An instruction to the web browser about what version of HTML the page is written in (currently HTML5)

```
1   <!DOCTYPE html>
2   <html>
3       <head>
4           <title>Hello, world!</title>
5       </head>
6       <body>
7           <h1>Say hello to the world.</h1>
8       </body>
9   </html>
10
```

CSS

- ◈ Cascading Style Sheets
    - ◈ Used in conjunction to HTML to give us more control over the appearance of our websites
    - ◈ Can be included in the same file as the HTML or separated into a separate file, thereon known as a "stylesheet"

```html
<!DOCTYPE html>
<html>
    <head>
        <title>Hello, world!</title>
        <style>
            body {
                background-color: lightblue;
            }

            h1 {
                color: darkred;
                font: 40px arial, sans-serif;
            }
        </style>
    </head>
    <body>
        <h1>Say hello to the world.</h1>
    </body>
</html>
```
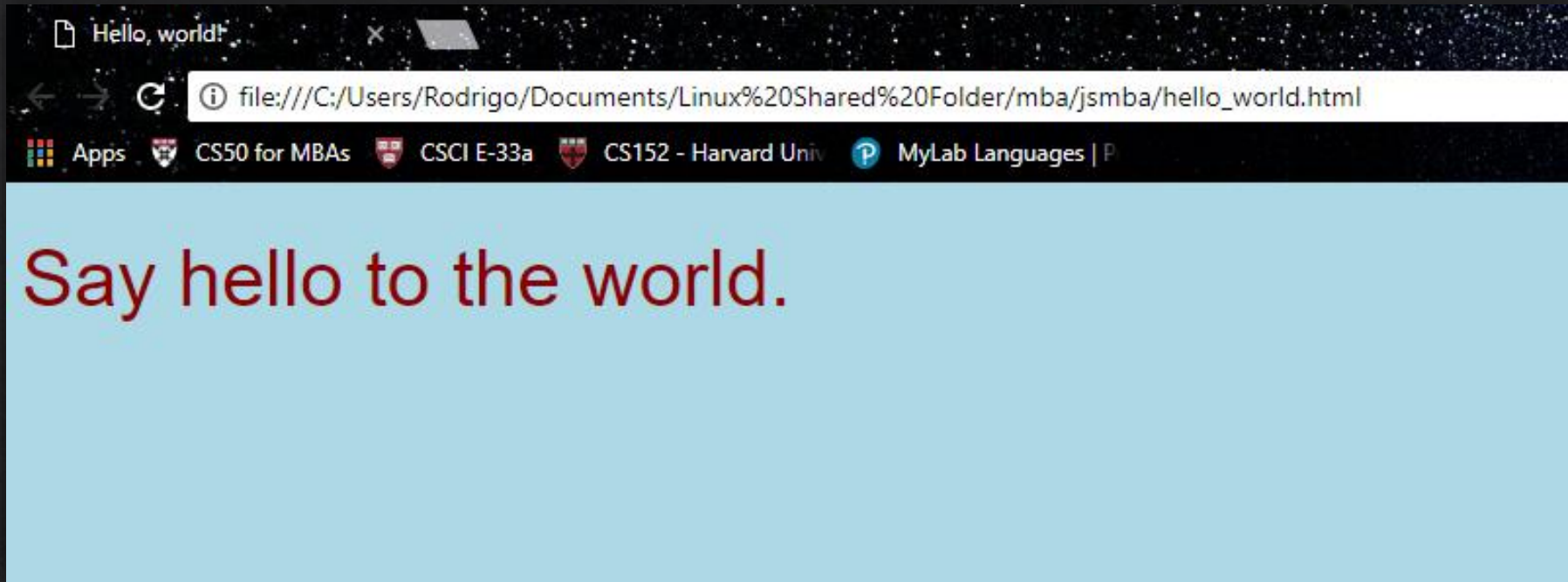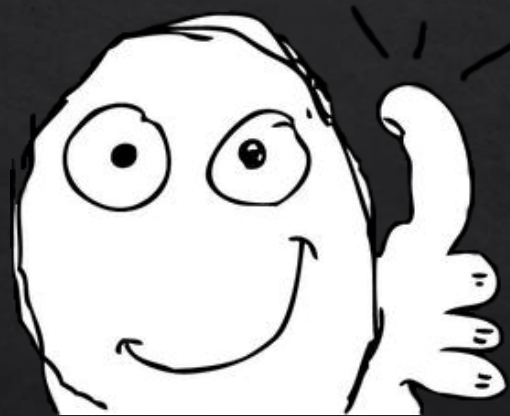
JavaScript

- ◈ Full-fledged, dynamic programming language
  - ◈ Carousels, image galleries, fluctuating layouts, responses to button clicks, etc.
- ◈ More difficult to master than HTML or CSS, but much more powerful

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- ◈ Let's visit that example website now and go over the basics… ☺

https://github.com/coderigo17/jsmba

Where can I learn more?

- https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/

- https://www.w3schools.com/jsref/

- Reading documentation exercise

  - Find a function that removes whitespace from a string

  - Find a function that rounds a number to the nearest integer

What other cool stuff can we do with JavaScript?

◈ Other basic examples

   ◈ https://www.w3schools.com/js/js_examples.asp

◈ Map capabilities

   ◈ https://developers.google.com/maps/documentation/javascript/examples/

◈ Amazing website interactivity

   ◈ http://webdesignerwall.com/trends/30-truly-interactive-websites-built-css-javascript

◈ Other fun examples

   ◈ https://dcrazed.com/creative-javascript-examples/

Thank you!