Introduction to Webpage Design

Workshop TIM THE BEAVER

Outline

- Website Architecture Overview
  - Front end design language
  - Back end design language
  - Database support
- Webpage layout
  - HTML code
  - CSS style management
- Dynamic webpage behavior
  - Javascript
  - jQuery library
- 3rd Party Website Services
  - Wix, Weebly, SquareSpace, pythonanywhere (back end enabled) etc.
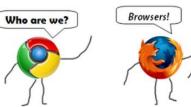 - Domain management: GoDaddy

Website Architecture

- Front End Webpage Design
  - HTML: web page content description
  - CSS: web page style management
- Dynamic Webpage Behavior
  - Javascript: client side interpreted language for dynamic effects
  - jQuery: useful package for ease of document element control
  - AJAX: Technique for retrieving data from server without reload page
  - JSON, XML: data encoding
- Back end Server Side Design (not covered in this class)
  - Framework: (PHP) Drupal, Laravel, etc. (Python) Django, Flask, etc.
  - Various languages: ASP.Net framework, PHP, Python, etc.
  - Local webserver: Apache, Windows ISP, etc.
- Editor: Dreamweaver, Sublime Text + Browser, etc.

Hypertext Markup Language (HTML)

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Hypertext Markup Language (HTML)

- Structured tag encloed blocks similar to LaTeX
- Numerous tutorial on W3School

Opening Tag	Closing Tag	Structure Specified
<p>	</p>	Paragraph Text
<h1>	</h1>	Main heading
<h2>	</h2>	Sub heading
		Hyperlink
		List item
		Bulleted (unordered) list
		Numbered (ordered) list
	None	Image

Cascading Style Sheets (CSS)

- Useful for reuse to simplify HTML code
- Allow overall style control over multiple webpages

- Property definition for tags
- Class is generic, object unique
- Can define class with .myClass
- Can define ID selector with # myObjectID
- Object overrides class
- Inner tag class property override outer tag

```
h1 { color: white;
  background: orange;
  border: 1px solid bla
  padding: 0 0 0 0;
  font-weight: bold;
}
/* begin: seaside-theme */

body {
  background-color:white;
  color:black;
  font-family:Arial,sans-serif;
  margin: 0 4px 0 0;
  border: 12px solid;
}
```

CSS

JavaScript and jQuery

- JavaScript
    - High level, dynamic, weakly typed language
    - Allow pre-processing of user input data
    - Local dynamic behavior of webpage without server interaction
    - Can also do server side programming such as Node.js
    - Framework for website is also available: AngularJS
- jQuery
    - Cross-platform JavaScript library
    - Designed to simplify client-side scripting
    - Can be directly imported using external link
- Demo of Flashing Avatar Project
- Work Through of a Simple Timer Design

3rd Party Webpage Services

- University host for personal webpage
  - Static package host usually available
  - In case of MIT: www.mit.edu/~username/
  - Good place to showcase your project and web coding skill
  - Git hub used more often for coder
  - Can be time consuming to setup and require skills
- Weebly: drag and drop layout
- Wix: free to use with Wix logo (good for starter)
- SquareSpace: good quality mobile-ready templates
- Pythonanywhere:
  - Python server side hosting (e.g. Django)

Thank You!