Web Overview and Intro to Tools

Introduction

This class is designed to introduce you to the concepts needed to build a interactive, dynamic website that can persist data from one visit to the next. You have probably visited thousands of web sites but may not have considered how they are working. What pieces of the website are changed or influenced by your computer? What changes the the server make to the page before it was sent to you? If someone else visits the same web address are they going to see the same content?

Before we go answering questions like that we need to get some basic concepts and terminology down. Who or what is a client? What is a server? Is a database part of a server? And generally how is data requested and responded to when visiting a web site? What programming languages are used for all this stuff? (Hint: there are quite a few)

This module is designed to give you this basic terminology and also get the set of tools you will need in your web-dev adventures installed and configured so you can be ready to go when we get to more technical, language specific parts of the class.

Key Questions

- What is a client? What is a server?
- Generally speaking, what is the life-cycle of a page? When can the client modify it? When can the server modify it?
- Why do we need to have code both on the client *and* server?
- How are structure, layout and logic separated? Why would we want to do this?
- What is HTTP? What are the core pieces of an HTTP transaction?
- How do you use GitHub to help with software organization?

The Task

This week you should be doing two things. The first is to be actively thinking about what web pages might be doing when you visit them in your day to day activity. Did a breaking news story get added to a page while you were viewing it? How did that happen?

The next thing you should be doing is getting all your tools set up. Make sure that you have Node.js running somewhere and that you can access it via a browser running somewhere else. Also get Git installed and make sure you can clone and push to a repository.

Explore the Topics

- Websites, Clients and Servers (web-overview.html)
- An Alphabet Soup of Languages (web-languages.html)
- HTTP, an Overview (http-intro.html)
- Git is Great! (git-intro.html)
- Get you a Node.js (Using-Node-on-the-Engineering-Servers.html)

Additional Resources

- Eloquent JavaScript Chapter 12 (http://eloquentjavascript.net/12_browser.html)
  This reading will be relevant for both this week and the next. It has additional information about the basic workings of the web. (Required)
- Putty (http://www.chiark.greenend.org.uk/~sgtatham/putty/)
  The official home page of putty. If you are using windows and want to use Putty for SSH this is the tool that is officially supported. (Recommended)