hash:code

BOOTCAMP

Detailed Curriculum & Structure

Part One - Overview

After finishing the **Part One** a bootcamper should:

1. attain a productive comfort level with Linux/Unix command line tools.
2. understand purpose and use cases of the revision control system and use basic Git functionality with a degree of comfort.
3. understand HTML document structure and the role of CSS
4. be able to create HTML documents and add styles with a certain degree of comfort.
5. understand role of JavaScript and get comfortable with basic language constructs.
6. understand the role and use cases for JavaScript toolkits in general and jQuery in particular.
7. understand the big picture and how HTML, CSS, JavaScript, and jQuery fit together by building two mini projects of 12 – 15 hours effort during the weekends of Week I and Week II, respectively and a minor project of 40 – 50 hours during Week IV.

Calendar

<table>
<tr><td></td><td>Week I</td><td>Week II</td><td>Week III</td><td>Week IV</td></tr>
<tr><td>Monday</td><td>Linux CLI Tools
RCS with Git</td><td>HTML/CSS</td><td>JavaScript</td><td rowspan="6">Minor Project
40 – 50 hours</td></tr>
<tr><td>Tuesday</td><td>RCS with Git
HTML/CSS
Linux CLI Tools</td><td>HTML/CSS</td><td>JavaScript</td></tr>
<tr><td>Wednesday</td><td>RCS with Git
HTML/CSS
Linux CLI Tools</td><td>HTML/CSS</td><td>JavaScript
jQuery</td></tr>
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HTML/CSS
Linux CLI Tools</td><td>HTML/CSS</td><td>JavaScript
jQuery</td></tr>
<tr><td>Weekend</td><td>Mini Project</td><td>Mini Project</td><td>Study Assignment</td></tr>
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Part One - Week I

Monday

Linux Command Line Tools

- The Shell – concepts and terminology.
- Files, directories, and file system layout.
- Basic directory operations `(mkdir, cd, rmdir, ls)`
- Basic file operation `(touch, cp, rm, cat, less)`

Revision Control System with Git

- RCS – concepts, terminology, and use cases.
- Creating a project `(git init)`
- Checking status `(git status)`
- Adding new files `(git add)`
- Committing files to repository `(git commit)`
- Checking log `(git log)`

Tuesday

Linux Command Line Tools

- Streaming files.
- Pipes and redirection.
- Wildcard matching.

HTML/CSS – First Step

- Terminology – Elements, Tags, and Attributes.
- Document Structure & Syntax.
- CSS Terminology – Selectors, Properties, and Values.
- CSS Structure & Syntax
- Selector Types – Classes, IDs
- External CSS
- CSS Resets

Wednesday

Linux Command Line Tools

- Finding files `(find, dir -r)`
- Finding stuff inside files `(grep, select-string)`
- Getting help `(man, info)`
- Finding help `(apropos, HELP)`

HTML/CSS – Elements & Semantics

- Block level & inline elements, `(div, span)`
- Typographic semantics & elements `(h1 - h6, p, strong, em)`
- Basics font declarations and styles.
- Hyperlinks – within the document, external documents, files, & media.
- Relative & absolute paths.

- HTML5 structural elements `(header, footer, article, section, aside, nav)`
- Ordered, Unordered, & definition lists `(ol, ul, dd/dd/dt)`
- Images, audios, videos, etc.
- Organizing data with tables.
- Gradients & Backgrounds.
- Don't Repeat Yourself – The DRY Principle.

Thursday

Linux Command Line Tools

- Understanding the environment and environment
- Environment variables `(env, echo, Env:)`
- Changing the environment `(export, Env:)`
- Practice, Practice, Practice.

HTML/CSS – The Box Model

- Box Sizing
- Height & Width
- Margin & Padding
- Borders
- Floating Elements & Clearing floats
- Positioning & Box Offsetting

Friday

Week Recap

Weekend

Mini Project

Build a small website for your favorite artist, band, author, or any personality utilizing the knowledge gained in Week I.

Effort: 12 – 15 hours.

Part One - Week II

Monday

Instructor Led Postmortem Of Weekend Project

Instructors work with the students and weekend project is taken apart piece by piece. Instructors help and *nudge* students to identify parts that can be improved and find a better way to implement those parts – taking detailed notes along the way.

Tuesday

HTML/CSS – Detailed Positioning

- Floats techniques – containing, overflows, clearfix.
- Positioning – relative, absolute, fixed.
- z-Index

Wednesday

HTML/CSS – Complex Selectors

- Common Selectors
- Child Selectors
- Sibling Selectors
- Attribute Selectors
- Pseudo Class & Elements

Thursday

HTML/CSS – Responsive Design

- Responsive Design Overview
- Understanding Viewport
- Flexible Layouts
- Media Queries
- Mobile First Design
- Flexible Media

Friday

Week Recap

Weekend

Mini Project

Continue improving on the project built in Week – I, utilizing the knowledge gained during this week. Add a mobile site design for various viewport sizes.

Effort: 10 – 15 hours.

Part One - Week III

Monday

Instructor Led Postmortem Of Weekend Project

Instructors work with the students and weekend project is taken apart piece by piece. Instructors help and *nudge* students to identify parts that can be improved and find a better way to implement those parts – taking detailed notes along the way.

Tuesday

JavaScript – First Step

- Introduction & overview of language features.
- Understanding JavaScript viz-a-viz other programing languages.
- Values, variable, & control flow
- Functions, arguments, & scoping rules

Wednesday

JavaScript – Data Types & Structures

- Objects and Properties
- Arrays
- Arrays vs Objects
- Properties on various data types
- JavaScript - Browser Context
    - Introduction of DOM & BOM
    - Introduction to browser events
    - Manipulating elements with pure JavaScript

jQuery – The Basics

- The jQuery object & The Mighty $
- Finding elements and getting element references

- Working with an element and a collection of elements
- Working with element attributes
- Method chaining

Thursday

jQuery

- Traversing the HTML document
- Manipulating the elements and collection of elements
- Adding, removing, & copying elements
- Finding and using quality jQuery plugins.
- Listening and responding to events

Friday

Week Recap

Weekend – Study Assignment

HTML, CSS, JavaScript, jQuery

- Error Handling
- Object Oriented Programing
- Modularity
- Advance BOM, DOM
- Basic Performance optimization of HTML, CSS, JavaScript, and jQuery
- How to use various jQuery effects
- Using Ajax

Effort: 10 – 12 hours.

Part One - Week IV

Minor Project

Delete all source code files for the project built during the last three weeks and start over. Utilize all the knowledge gained during Part One.

Effort: 30 – 40 hours.