FEWD

GENERAL ASSEMBLY

LESSON 12 - REVIEW AND REFACTOR

AGENDA

- Learning Objectives
- Refactor
- This Keyword
- Debugging Techniques

LEARNING OBJECTIVES:

AFTER TODAY, YOU SHOULD BE ABLE TO...

- Define refactoring and describe why it is important.
- Learn the basics of CSS/JS refactoring and be able to apply these concepts to their own code
- Describe the concept of "this" as it applies within jQuery anonymous functions
- Know the different ways to debug code and how to apply the concepts to their own code

REFACTOR

We can make him BETTER!
STRONGER!
FASTER!
THE
SIX MILLION
DOLLAR MAN

WHAT IS REFACTORING?

It is the process of making code more efficient without changing functionality.

WHAT IT ISN'T

An exact science...

WHY REFACTOR?

- To reduce or eliminate redundancy
- Make code easier to read
- Make code more maintainable

CSS REFACTOR

- Remove inline styling
- Replace repeated styles with classes
- Rename classes/ids for readability
- Organize CSS
- Group by section
- Order by precedence (tag selectors at top, id selectors at bottom)
- Create classes for large CSS changes in JS
- Remove unnecessary CSS

JS REFACTOR

- Use functions
- Use variables
- Use arrays
- Combine jQuery selectors
- Combine jQuery property changes into objects
  - .css, .attr, etc
- Chain jQuery function calls

REFACTOR - REFACTOR CODEPEN

KEYWORD: "THIS"

In jQuery, the `this` keyword refers to the selected object.

Let's examine the following:

```
$("p").on("click",function(e){

$(this).fadeOut(500);
});
```

Bearing this in mind, the `this` keyword can be an extremely powerful tool when it comes to refactoring your code

REFACTOR - JQUERY 'THIS'

5 MINUTE BREAK

WHAT IS DEBUGGING?

DEBUGGING

Always start by defining the problem...

- "The image is not moving"
- "None of my code works"
- etc.

DEBUGGING

This will tell you where to start your hunt

- Image not moving
  - find the code that makes the image move
- None of my code works
  - Syntax error, check console

DEBUGGING: LEVEL 1

Check for errors (red text, aligned right) in console

To access debugging console

```
PC: CTRL+SHIFT+J
Mac: COMMAND+OPTION+J
```

Click the error

The location may not be correct but is a good place to start Ex: Unbalanced brackets or parentheses

DEBUGGING: LEVEL 2

So no red errors but not getting the right answer? Try console.log

Ex:

```
var stringOfNames="";
["Bob","Joe"].forEach(function(element){
    stringOfNames -= element + ",";
    console.log(stringOfNames);
});
```

DEBUGGING: LEVEL 3

- Use the debugger in Chrome
- Set a breakpoint
- Run the code
- Step through the code until you get to the error
- Variable values display on the right
- You can switch to the console to run code or check value of variable

DEBUGGING: LEVEL 4

Get help!

1. Try "Your preferred search engine" search
2. Be ready to clearly articulate the problem (Write out what your problem is)
3. If nothing, ask instructor

DEBUG CODE ALONG

COLOR SWITCHER THIS + ROCK, PAPER, SCISSORS REFACTOR

EXIT TICKETS

Let's spend 5-10 minutes to fill out today's Exit Survey

LEARNING OBJECTIVES REVIEW

- We Defined refactoring and describe why it is important.
- We Learned the basics of CSS/JS refactoring and be able to apply these concepts to our own code
- We Described the concept of "this" as it applies within jQuery anonymous functions
- We Discussed the different ways to debug code and how to apply the concepts to our own code

FINAL PROJECTS

Milestone 3: First draft of JS due on Friday 2/2