

# Refactoring

Lesson 11

Or How I left my code in  
the dryer and it shrank

# Objectives

- Apply switch blocks as a replacement for if/else if/else
- Know the different ways to debug code and how to apply the concepts to their own code
- 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

# Anonymous function callback

```
$('#itemId').click(namedFunction);
```

```
function namedFunction(){
```

```
    // do stuff
```

```
}
```

```
// VS
```

```
$('#itemId').click(function(){
```

```
    // do something cool when clicked
```

```
}
```

# When to use anonymous function

- It often makes sense to use anonymous functions calls in callbacks and event handlers



# Arrays

- They look just like a variables, except that they hold a bunch of other items instead of one.

```
var firstName = "fred";
```

```
var stuff = ["first", "second", "third"];
```

```
/* variable holding an array of strings */
```

# Arrays

- List of items
- Access a single item in the list using an index
- Index starts at 0

# Example of array





# When to use arrays

- Whenever you need to store a list of items
- Come in handy when looping over items and repeating the same operations on each item

# Switch vs if else

- A switch is another way to control program flow
- Use it in place of if-else if-else

# Example

```
switch(expression) {
```

```
    case n:
```

```
        code block
```

```
        break;
```

```
    case n:
```

```
        code block
```

```
        break;
```

```
    default:
```

```
        default code block
```

```
}
```

# Switch

- The switch expression is evaluated once.
- The value of the expression is compared with the values of each case.
- If there is a match, the associated block of code is executed.

# When to use switch

- When there are more than 3 if else blocks



# “this”

- “this” inside the context of anonymous function
- Using html5 data-attribute

# When to use “this”

- Use ‘this’ when you need to know what triggered an event
- Use data attribute only be used when no suitable HTML5 element or attribute exists

# Exercise

- 05\_color\_scheme\_switcher
- applying this

# Refactoring

- Making code more efficient or easier to read without changing functionality.

# Reduce

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



# JS Refactor

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

# Walkthrough JS

- Walkthrough JS file

# Refactoring CSS

- 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

# Walkthrough CSS

- walkthrough css

# Debugging

Why isn't this @#@!\$ working?



# Debugging

Always start by defining the problem

- “The image is not moving”
- “None of my code works”

# 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 - see the location

# Debugging - level2

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(with debugger keyword)
- 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!

- Try “Your preferred search engine” search
- Be ready to clearly articulate the problem (Write out what your problem is)
- If nothing, ask instructor

# Debugging Exercise

- “debug”

# Refactor Lab

- Refactor Last Weeks Assignment
- OR the switch\_vs\_if exercise