Intro to jQuery

Lesson 8

Learning Objectives

- Differentiate between jQuery and JavaScript, and describe the benefits of using each.
- Recognize jQuery syntax.
- Use jQuery selectors and functions to effectively manipulate the DOM.

Agenda

- Review Intro to Programming
- Intro to jQuery
- Getting Started with jQuery
  - Updated File Structure
  - jQuery Syntax
- Adding Interactivity Lab

Mid-Course Surveys

- **Time: ~10 minutes**
- Should have received email with link to NPS Survey
- We need **100% completion** before today's class can begin
- When done, post "thumbs up" emoji in Slack channel

Intro to Programming Review

Open: Traffic Light Codepen (Spicy)

Directions:

1. Open the **Traffic Light Codepen (Spicy)**
2. Review the JavaScript and write out the pseudocode that describes this program

Timing:

- **10 minutes** - review the JS code, and write out the pseudocode for it

Introduction to jQuery

What is jQuery?

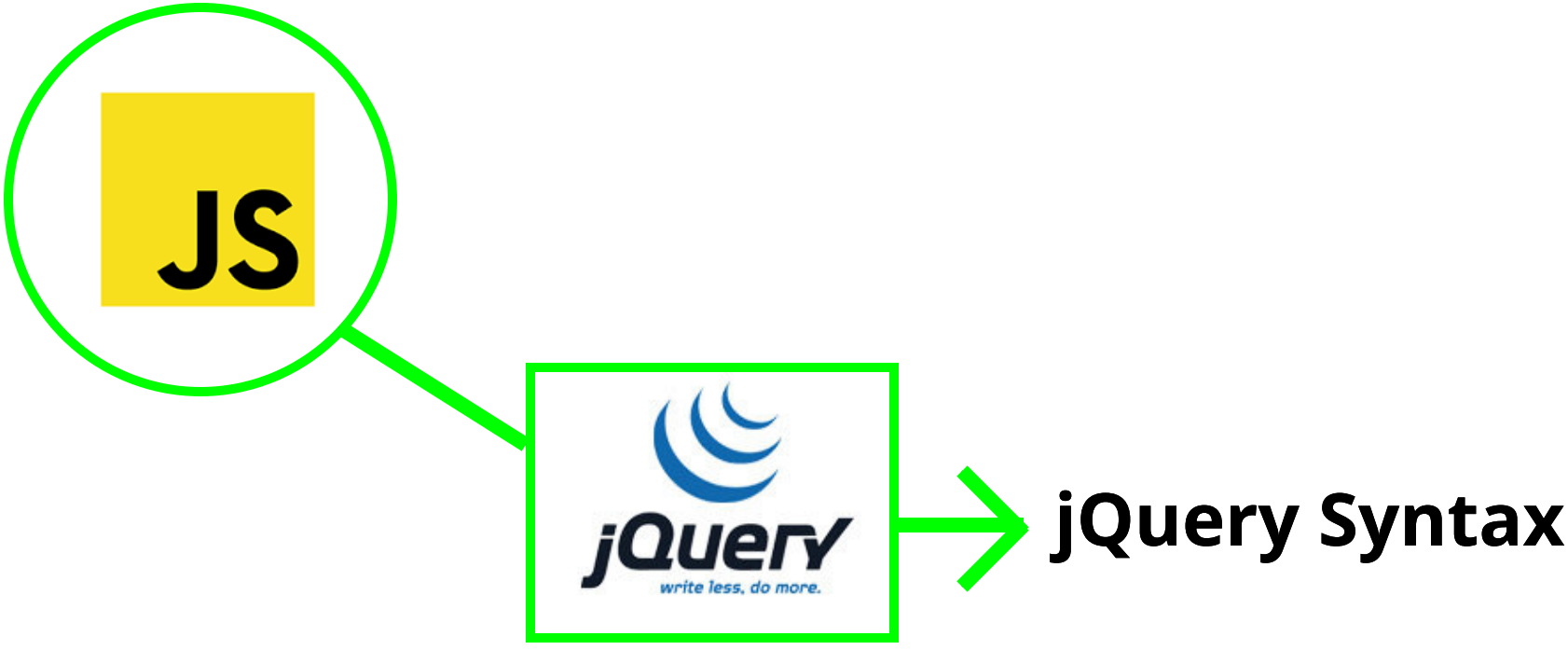
jQuery == JavaScript

jQuery **is** JavaScript.

jQuery Library

More to the point... **jQuery** is an open source, cross-browser JavaScript library designed to simplify the client-side scripting of HTML.

How does it Work?



Why jQuery?

- Designed to make JS DOM manipulation simpler
- Works the same in **all browsers**
- Used by ~73% of all websites (source)
- Easier to learn

What can jQuery do?

- Document traversal
- CSS Manipulation
- Event Handling
- Animation
- and more...

Code Along

Open: **JS vs jQuery Codepen**

Key Objective:

Let's compare what a simple task looks like in JS and then what that simple task looks like in jQuery.

Timing:

- **5 minutes** - as class, review the JavaScript in the JS Codepen
- **5 minutes** - then, review the jQuery Codepen

Getting Started w/ jQuery

What is the Script tag?

HTML Script Tag

The HTML **script** element is used to embed or reference JavaScript code in your HTML document.

```
<script src="js/myscript.js"></script>
```

Where does it go?

Generally, you want to place your **script** tag immediately **BEFORE** the closing *</body>* tag:

```
<html>
    <head> ... </head>
    <body>
        <!-- Your content -->

        <script src="js/myscript.js"></script>
    </body>
</html>
```

Example

Top vs Bottom Script tag loading example

Code Along

Open: **starter_code/color_switcher_js**

Key Objective:

The website doesn't work. We want to make sure our website is interactive. Let's link an external JavaScript file to our website to make it interactive.

Timing:

- **3 minutes** - Open files and ensure the script tag is properly included

Tips:

- Remember to use the script tag in HTML to link to your external JS file
- Remember to put it **BEFORE** the closing *</body>* tag

Adding jQuery

Using jQuery

In order to **use jQuery** on your web page, you first need to link to the library file in your HTML.

Linking to jQuery File

Link to the file locally:

```
<script src="js/jquery.min.js"></script>
<script src="js/myscript.js"></script>
```

Link to the file via CDN (**recommended**):

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.2.1/jquery.min.js"></script>
<script src="js/myscript.js"></script>
```

jQuery FIRST!

Always link to the jQuery file **BEFORE** linking to your custom scripts.

```
<script src="js/jquery.min.js"></script>
<script src="js/myscript.js"></script>
```

Code Along

Open: **starter_code/color_switcher_jquery**

Key Objective:

Again, our website is not working... Let's link our jQuery file and our external JavaScript file to our website to make it interactive.

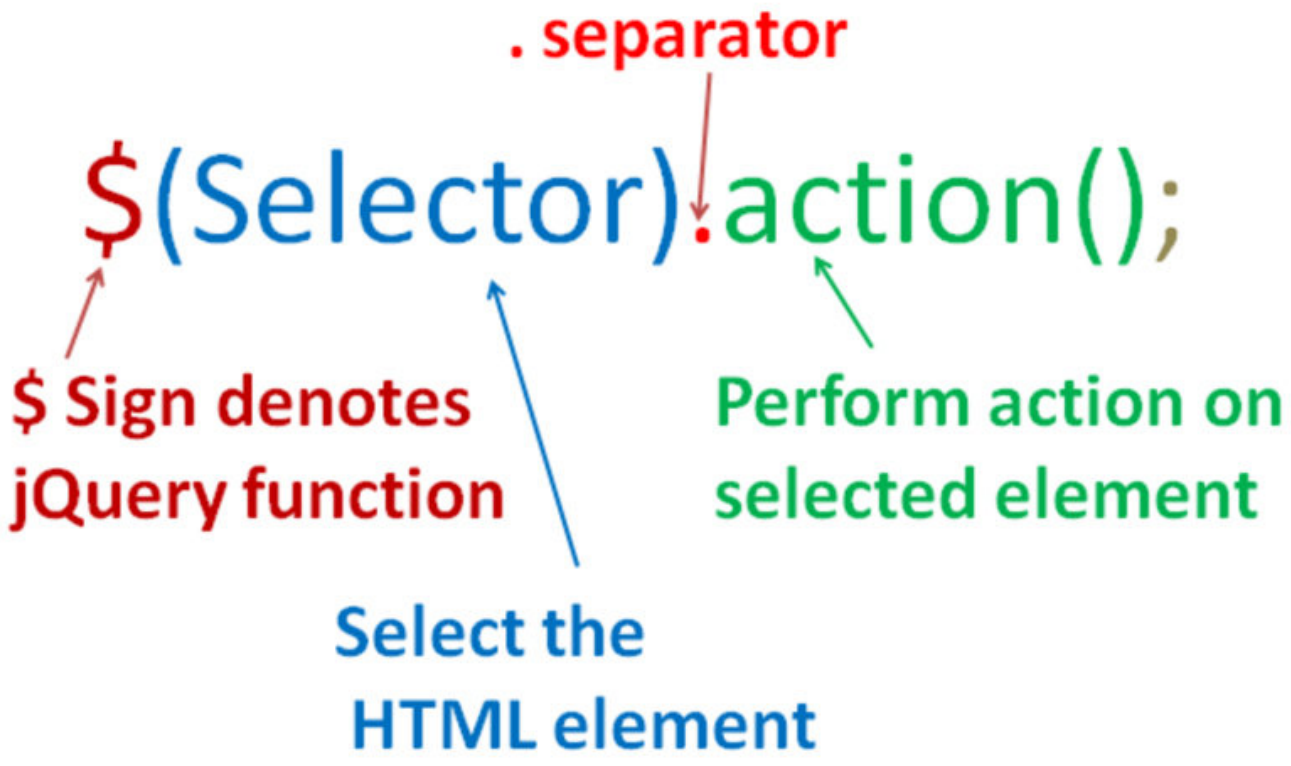
Timing:

- **3 minutes** - Open files and ensure the script tags are properly included

Tips:

- Your jQuery file should **ALWAYS** be linked above your custom script file

jQuery Syntax


. separator
$(Selector).action();
$ Sign denotes
jQuery function
Select the
HTML element
Perform action on
selected element

$

jQuery uses the **dollar sign ($)** to tell the browser that what follows is to be interpreted as jQuery.

jQuery CSS Selector

The beauty of jQuery is it uses something we're already familiar with to find an HTML DOM element -- **CSS Selectors**

jQuery CSS Selector (cont'd)

jQuery uses the same selectors we learned in CSS (even nested selectors), like so:

```
$('h2')   // select all <h2>'s
$('div.container')   // select all <div>'s with the class="container"
$('#sidebar a')   // select all <a>'s inside of the id="sidebar" element
$('p, a')   // select all <p>'s and <a>'s
```

Key Objective:

Let's practice selecting some elements in HTML using our jQuery selector...

Timing:

- **5 minutes -** in Slack, answer the following questions

jQuery Selector Slack Check 1

Select all h2s inside of the section with an id of "secondary-section"

```
<section id="main-section">
    <h2>Hello World</h2>
</section>

<section id="secondary-section">
    <h2>Let's dance</h2>
</section>
```

jQuery Selector Slack Check 2

Select all **a** elements inside of the footer navigation

```
<header>
    <nav>
        <a href="#">Link</a>
        <a href="#">Link</a>
    </nav>
</header>

<footer>
    <nav>
        <a href="#">Link</a>
        <a href="#">Link</a>
    </nav>
</footer>
```

jQuery Selector Slack Check 3

Select all **li** elements with the class of active

```
<ul>
    <li>List item 1</li>
    <li class="active">List item 2</li>
    <li>List item 3</li>
    <li class="active">List item 4</li>
    <li class="active">List item 5</li>
</ul>
```

jQuery in 2 Steps

1) The first part uses jQuery's powerful CSS selector to select an HTML DOM element:

```
$('#stopLight')
```

2) And the second part calls a jQuery method to do something to the selected element:

```
$('#stopLight').css('background-color', 'red');
```

jQuery Methods

This is where the magic happens!

You can do any number of things to the element you selected depending on the **jQuery method** you choose.

For example...

jQuery Method Examples

.hide()

```
// this will hide the element
$('#id').hide();
```

.show()

```
// this will show the element
$('#id').show();
```

jQuery Method Examples

.slideUp()

```
// this will hide the element by sliding up
$('#id').slideUp();
```

.slideDown()

```
// this will show the element by sliding down
$('#id').slideDown();
```

More jQuery Method Examples

Method	Description
.css()	returns/sets specific CSS property
.slideToggle()	toggles between .slideUp() and .slideDown() methods
.toggleClass()	toggles between adding/removing one or more class names
.children()	returns all direct children of the selected element
.parent()	returns the direct parent of the selected element

jQuery Documentation

Do NOT try to remember all of the methods!!

Instead, get comfortable reading the **jQuery Docs** for explanations & examples.

Code Along

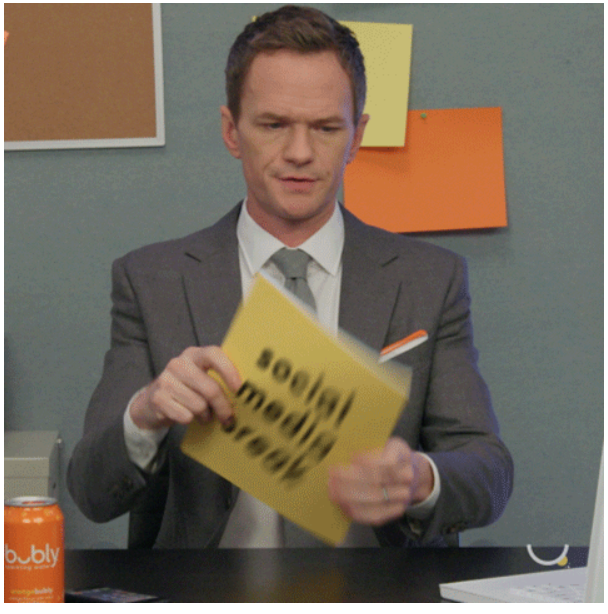
Open: **jQuery Methods Codepen**

Key Objective:

Open the jQuery Methods Codepen and follow the instructions outlined in the JS comments.

Timing:

- **5 minutes** - Open link and follow instructions



Break time!

Let's take 5-10 minutes to decompress...

jQuery Click & Ready Methods

.click()

In HTML, a click event occurs whenever an element is clicked.

In jQuery, the **.click() method** triggers the click event, or attaches a function to run when a click event occurs.

```
$('button').click(functionName);
```

.ready()

In jQuery, the **.ready() event** fires once the document is loaded.

You will almost always use it like so:

```
$(document).ready(function(){

    // Your Javascript/jQuery code goes here

});
```

.ready() Example

```
$(document).ready(function() {
    $('button').click(someFunction);

    function someFunction() {
        alert('Button clicked!');
    }
});
```

Code Along

Open: **starter_code/traffic_light**

Key Objective:

Open the starter_code/traffic_light folder in this week's lesson. Let's build this out using jQuery this time.

Timing:

- **15 minutes** - Open the file and write jQuery as a class to get the traffic light to work.

Tips:

- Remember how to link your script files to your HTML document!

Lab Time

Open: **starter_code/jquery_dom_selector**

Directions:

1. Open the **jquery_dom_selector** folder
2. Work through the first 3 questions together as a class
3. Allow students to work on the remaining questions by themselves

Timing:

- **45 minutes** - Work through the questions in the exercise.js file.

Tips:

- If you encounter a jQuery method you are unfamiliar with, Google it!
- Try to use the jQuery Documentation whenever possible.

Exit Tickets

Take 5-10 minutes to give us some

(Link is in Slack Room)

Learning Objectives Review

- We differentiated between jQuery and JavaScript, and described the benefits of using each.
- We recognized jQuery syntax.
- We used jQuery selectors and functions to effectively manipulate the DOM.

Week 4 Homework

- Assignment Description
- Due: Monday**, May 20th at 11:59pm ET**
- Remember to commit/push your changes to your fork when you are done.
- Grading rubric can be found in the **Assignment** folder
- **FOLLOW THE RUBRIC!**

Final Projects

- **Milestone 1 (due Monday):** final project proposal & wireframes

Next Class...

Lesson 9 - Variables & Conditionals