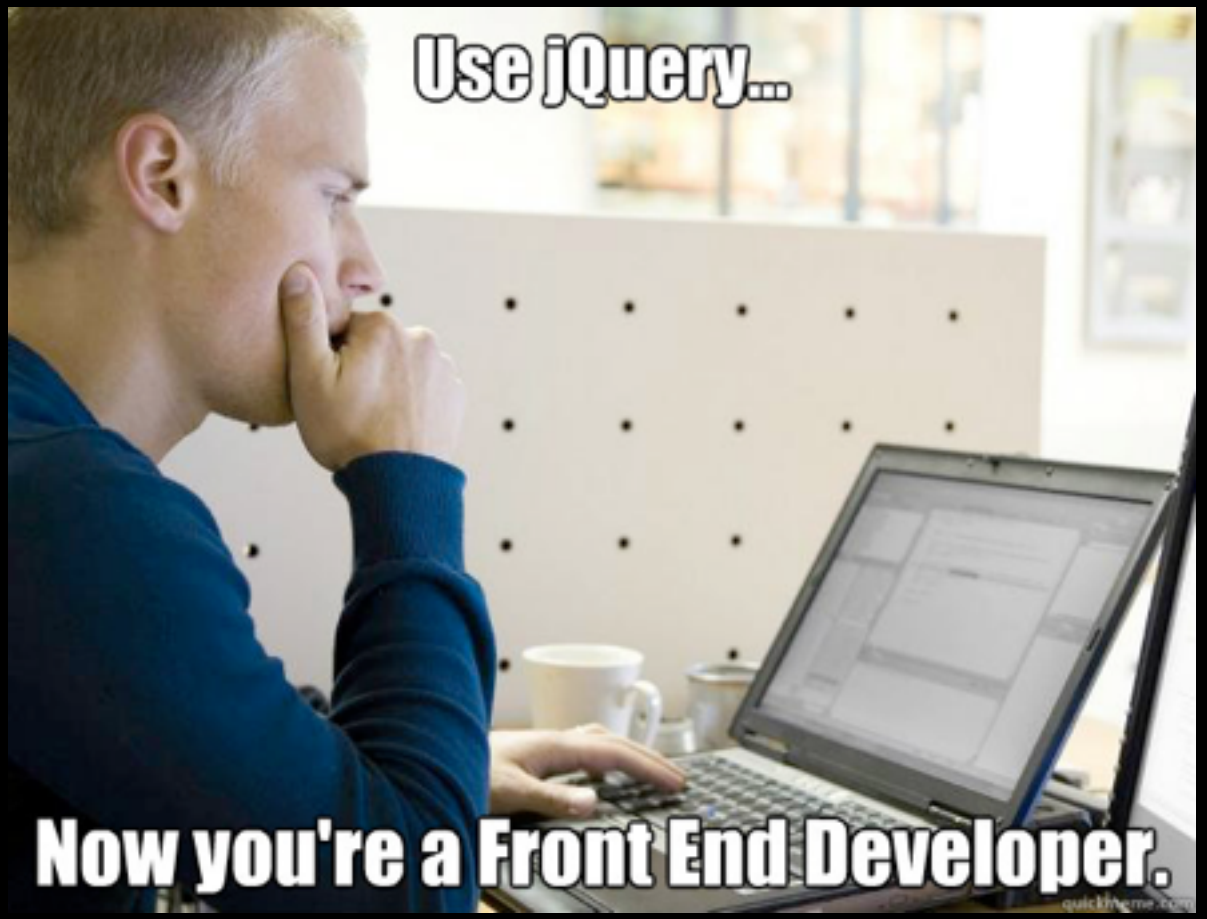
WEEK 6 - JQUERY

GENERAL ASSEMBLY

FEWD



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Serial Jingle Memorizer

AGENDA

The jQuery Library:

- DOM Manipulation
- Effects / Animation
- Document Traversal
- Events

JQUERY IS JAVASCRIPT

JQUERY IS JAVASCRIPT

Or more accurately, jQuery is a “cross-platform JavaScript library designed to simplify the client-side scripting of HTML.”

JQUERY - "WRITE LESS, DO MORE"

Different browsers handle DOM manipulation, transparency effects, and animation in different ways. jQuery abstracts these out so we only need to write the bare minimum.

It also provides simple functions for:

- HTML / CSS Manipulation
- Handling Events (Mouse, Keyboard, Form)
- Animation

jQuery allows you to write less code

JQUERY - WHY DO WE USE IT?

Here's a simple example:

http://codepen.io/ga-joe/pen/EPVwYQ
- JS
http://codepen.io/ga-joe/pen/zrvEOp
- jQuery

THE $("X") FUNCTION - GET ALL THE "X"

$("x");

- Query the document and return all the "x" elements.

- This could also be written as: jquery("x"); We use the $ as a convention to streamline.

$("li a");

- Will return all of the <a>'s that are within a

Any CSS selector can go here (as well as some jQuery-specific selectors that are built-in).

$("#TENNISBALL")

jQuery is playing fetch.

Go to the HTML and bring me back the object with the id="tennisball".

$(".STICK")

Go to the HTML and bring me back ALL the objects with the class="stick".








THE ALMIGHTY $() - SELECTING

```
$("div");

$("#myElement");

$(".myClass");

$("ul li a.navigation");
```

INCLUDE JQUERY IN YOUR PROJECTS

Add a <script> tag before your project.js pointing to a copy of jQuery.

Option 1: Download and store locally:

Go to http://jquery.com/ and click download button
Store file in js folder.
Add script tag to HTML like any other script

Option 2: Include from Google API or other CDN:
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.12.2/jquery.min.js"></script>

Which is better?
http://encosia.com/3-reasons-why-you-should-let-google-host-jquery-for-you/

CODEALONG - JAVASCRIPT TO JQUERY

Convert the given site in Javascript to jQuery.

Make the jQuery version better by adding attributes / decoupling name from color.

WHERE DO WE PUT OUR <SCRIPT>?

What happens if we put it in the <head>?

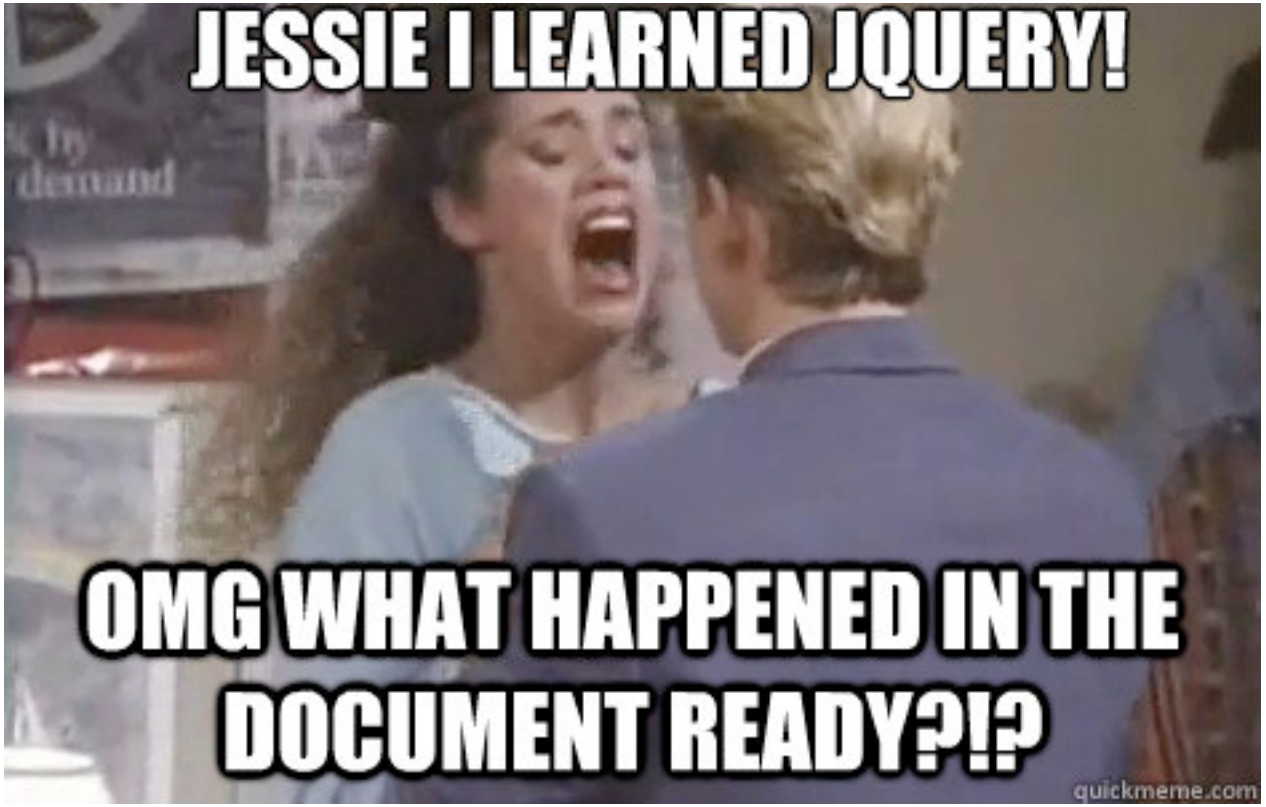
RUNNING CODE WHEN THE DOM IS READY

DOCUMENT ... READY!!

```
$(document).ready(function() {
    //Wait until everything has been loaded in the DOM
    //Then execute this code.
});
```

Using $(document).ready(), we are able to execute code only once the document is done rendering (i.e. the DOM is ready).

IT'S ALRIGHT CAUSE I'M SAVED BY THE ... $(DOCUMENT).READY()!



JQUERY

DOM Manipulation
Effects / Animation
Document Traversal
Events

DOM MANIPULATION

These are all ways we can directly change elements on our page.

http://api.jquery.com/category/manipulation/

JQUERY - MANIPULATE HTML

.html(htmlString)

- inserts (and overwrites!) the html inside the selected elements with the htmlString

.html()

- With no argument, it's returns the html inside the matched element

.append(string)

- Insert content, specified by the argument, to the end of each element in the set of matched elements.

JQUERY - MANIPULATE CSS

.css(propertyName, value);

- Changes the inline CSS values for all matched elements.

.css({prop1: val1, prop2: val2});

- Edit multiple properties at once.

.css(propertyName);

- Similar to .html(), when second arguments is not given, it returns the current value of the css property in question.

GETTING / SETTING ATTRIBUTES

.attr("attribute-name")

- Gets the value of the matched attribute "attribute-name" of the matched element fetched by jQuery

.attr("attribute-name", "new-value")

- Changes the value of the matched attribute "attribute-name" of the matched element fetched by jQuery to "new-value"

GETTING ATTRIBUTES

```
<a href="http://www.google.com">Google</a>
<img id="logo" src="smiley.jpg">
```

```
$("a").attr("href"); //Returns "http://www.google.com"
$("#logo").attr("src"); // Returns "smiley.jpg";
$("#logo").attr("id"); // Returns "logo";
```

SETTING ATTRIBUTES

<img id="puppies" src="images/puppies.png">

Calling:
$("#puppies").attr("src", "images/new-puppies.jpg");

Will change the image on the page:
<img id="puppies" src="images/new-puppies.jpg">

CODEALONG - PUPPY SWAP

http://codepen.io/ga-joe/pen/yJEZBA

EXERCISE - JQUERY CITY

User clicks on thumbnail.

- the larger image is replaced by the corresponding thumbnail image.

Hint: use .attr() ...

HTML INSERTION

.append("content")

- Insert "content" at the end of each matched element.

.prepend("content")

- Insert "content" to the beginning of each matched element

.before("content")

- Insert "content" before all matched elements

.after("content")

- Insert "content" after all matched elements

GETTING / SETTING FORM VALUES

.val()

- Gets the text in the input and returns it as a String

.val("Some string")

- Set the text in the input to "Some string"

```
<input id="age" type= "text">

$("#age").val(); // Returns the value stored in the input
$("#age").val("21"); // Sets the text in the input to "21"
```

CODEALONG - LIST MAKER

Create a Grocery List by adding additional <li> items to the <ul>. User enters item into input, clicks "Add", text is scraped from input, and added to an <li> at the end of the <ul>.

Cue cheesy stock photo ->

MANIPULATING CSS CLASS NAMES

```
$("div").addClass("special");
      //adds class="special" to all <div> elements

$("div").removeClass("special");
      // removes class="special" from all <div> elements
```

MANIPULATING CSS CLASS NAMES

```
$("div").toggleClass("special");
// toggles the class="special" on all <div> elements (a
dds it if it doesn't exist, and removes it if it does)

if ($("#myElement").hasClass("special")) {
    // do something here
}
```

WHAT DOES THIS DO?

```
<span>Click</span> <span>on</span>
<span>me</span> <span>to</span>
<span>change</span> <span>color.</span>
```

```
$("span").click(function(){
    $("span").addClass("red");
});
```

WHAT DOES $(THIS) DO?

When you are in an event (for instance a .click()), calling $(this) will return the object that initiated that event.

```
$("span").click(function(){
    $(this).addClass("red");
});
```

WHAT DOES $(THIS) DO?

Incorporate this change here:

http://codepen.io/ga-joe/pen/WrQZjo

As we click, we want each word to become red, rather than ALL the words turning red at once.

JQUERY

~~DOM Manipulation~~

Effects / Animation

Document Traversal

Events

EFFECTS

"These include simple, standard animations that are frequently used."

http://api.jquery.com/category/effects/

HIDE / SHOW / TOGGLE

.hide()

- Hide the matched elements

.show()

- Show the matched elements

toggle()

- If object is currently hidden, show()
- If object is currently shown, hide()

FADEIN / FADEOUT

.fadeIn(400);

- Fade the matched elements in over 400 ms

.fadeOut(400);

- Fade the matched elements out over 400 ms

SLIDEUP / SLIDEDOWN

.slideUp(500);

- Hide the the matched elements with a sliding-up animation over 500 ms

.slideDown(500);

- Show the the matched elements with a sliding-up animation over 500 ms

.slideToggle(500);

- If shown, slideUp(500)
- If hidden, slideDown(500)

CODEALONG - ACCORDION

We will also look at Font Awesome:

https://fortawesome.github.io/Font-Awesome/

ANIMATIONS - .ANIMATE();

```
$("#myElement").animate({
        "opacity": ".3",
        "width": "500px",
        "height": "700px"
    }, 2000);
```

The .animate() method allows us to create animation effects on (most) numeric CSS properties.

.ANIMATE() THESE THINGS:

"border-width"
"border-bottom-width"
"border-left-width"
"border-right-width"
"border-top-width"
"margin"
"margin-bottom"
"margin-left"
"margin-right"
"margin-top"
"padding"
"padding-bottom"
"padding-left"
"padding-right"
"padding-top"
"height"
"width"
"font-size"
"top"
"left"
"bottom"
“right"

CALLBACK FUNCTION

A callback function is a function that runs AFTER an effect is completed. It is super useful for timing things around animations.

For example:

```
$("p").fadeOut(2000 ,function(){
    alert("The paragraphs are now gone.");
});
// This will fadeOut all the paragraphs on the page over 2 seconds, then, once that has completed, send an alert.
```

EXERCISE - JQUERY EXERCISE

Include jQuery via Google CDN, or downloading it and linking it locally.

Create your own Javascript file.

When the user mouses over a box:
- Change the color, inner text.
- Animate some feature of the box - .animate()

When the user clicks on a box:
- Hide that box with some effect. - .hide(), .fadeOut(), .slideUp()
- After that effect has run, .remove() that box from the DOM.

CHAINING COMMANDS

Chain chain chain ... Chain of fools ...

Perform multiple effects one after the other. Only works when called on the SAME object.

```
$("#p1").fadeIn(800).slideUp(2000).slideDown(2000);
```

CHAINING COMMANDS

You can chain any jQuery functions, not just Effects. When you chain Effects, they are queued.

When you chain normal functions (i.e. not Effects), they execute immediately one after another.

.delay(ms) will delay Effects by that number of milliseconds (and have no effect on non-Effects).

JQUERY

~~DOM Manipulation~~

~~Effects / Animation~~

Document Traversal

Events

DOCUMENT TRAVERSAL

How we "get-around" within our document. How each element is related to all the other elements on the page.

http://api.jquery.com/category/traversing/

IT'S ALL IN THE FAMILY

.children()
- Get the child elements

.parent()
- Get the parent element

.siblings()
- Get the sibling elements

BROTHERS AND SISTERS

.next()

- Get the immediately following sibling element

.next("some selector")

- Get the immediately following sibling element but only if it matches "some selector”

.prev()

- Get the immediately preceding sibling element

BROTHERS AND SISTERS

.index()
Returns an item's index within its siblings.

.eq(someNumber)
Returns the item at the specified index (someNumber)

CODEALONG - CAROUSEL

We want to make this generic for ANY number of slides and any navigation? How can we do this?

Think about the DOM tree structure ...

JQUERY

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EVENTS

"These methods are used to register behaviors to take effect when the user interacts with the browser, and to further manipulate those registered behaviors."

We've already looked-at .click();

http://api.jquery.com/category/events/

MOUSE EVENTS

```
$("#somediv").mouseenter(function() {
  //fired when the mouse enters an element
});

$("#somediv").mouseleave(function() {
  //fired when the mouse leaves an element
});

$("#somediv").hover(function() {}, function() {});
// hover()is shorthand for mouseenter() and mouseleave() above
```

KEYBOARD EVENTS

```
$(“#somediv”).keypress(function() {
  //fired when the keyboard is pressed on an element
});
```

WINDOW EVENTS

```
$(window).resize(function() {
  //fired when browser is resized
});

$(window).scroll(function() {
  //fired when browser is scrolled
});
```

CODEALONG - MORE ROBUST LIST MAKER

A more robust List Maker.

- Delete an entry.
- Do some validation.
- Accept “enter” key submission.

CODEALONGS