CODEFIRST:Girls

Web Fundamentals – Session 4

Chapter 1 – jQuery

Javascript is the third main client side technology (along with HTML and CSS). Unlike HTML and CSS, which are markup languages, Javascript is a programming language – you can use it to do calculations (and pretty much anything you want!). This means that you could also use it as a server-side language, e.g. NodeJS.

What is jQuery

JavaScript can be quite complicated to learn, and tedious for basic functionalities. jQuery is a **JavaScript library** that is useful for building interactive webpages.

Recap: A **library** is an implementation of an API; it is a set of functions that a developer can call, usually organised into classes. It contains the compiled code that implements the functions and protocols (maintains usage state).

jQuery is so common in webpages that, for beginners, 'learning JavaScript' has in many cases become 'learning jQuery'. This is the approach that we're going to take in this course.

Getting jQuery

jQuery is just a JavaScript file that can be **downloaded** from the jQuery downloads page. There are a couple of different versions – I'd go for the latest.

For each version you can either get the *normal* code, which is useful for your own development, or the *minified* (jquery.min.js) code, which has had all the space (and other stuff) taken out to make it as small as possible, so it downloads quicker.

Once you've downloaded the file and **saved it in your site folder**, you need to **link** to it in your page.

For the time being we'll do this in the head (you can improve page-load times by moving your javascript to the bottom of the page, but we won't bother with this at the moment).

```
<!DOCTYPE html>

<head>

  <script src="jquery.js"></script>

  <!-- any other stuff e.g. stylesheet links -->
```

Using jQuery

You can do a lot of stuff with jQuery. Here we'll just look at the basics: selecting elements on the page and doing stuff with them.

Read the API documentation here, and give it a shot

You can **experiment** with jQuery using the Console section of the **Chrome developer tools**. You will need to be on a page where jQuery is loaded (e.g. these course notes or the demo page you will download in the exercise).

One of the nice things about jQuery is its ability to select elements via their CSS selectors. To select elements jQuery uses the $(‘ ’) function. For example:

```
$('li')                // selects all the li elements on the page
$('li .important')      // selects all the li with class="important"
$('#main-title')       // selects the element with id="main-title"
```

jQuery then has several ways of manipulating those elements.

In Class Demo:

1. Use this demo to see how an element can be manipulated by un-commenting the lines of jQuery in the JS section
2. Can you make the list items go green?

Chapter 2 – jQuery resources

Obviously, we've only just scratched the surface of what's possible with jQuery. Things get a lot more interesting when you can create bits of JavaScript to be run in response to a user action.

This allows you to build up interactions like "when the user clicks the submit button, check that their email is a valid email, if it isn't make the field go red and add the words 'email is invalid' at the bottom of the form".

Learning more jQuery

We won't be spending any more time on jQuery this course, and will be moving onto backend stuff next term. If you want to learn more about jQuery you might want to try some of the following resources:

- The Codecademy jQuery Course
- The jQuery Learning Center
- The CodeSchool jQuery Course
- W3 Schools Tutorial

CodePen/jsFiddle

CodePen and jsFiddle are sites which allows you to try out small bits of HTML, CSS and Javascript. It's a really useful tool for getting good help with JavaScript (and HTML/CSS) online: If you're having a problem:

1. Create a jsFiddle or CodePen showing what you've tried.
2. Post on StackOverflow describing the problem, with a link to the jsFiddle/CodePen.

People will be able to help you better if they can see the code themselves. Often they will respond with a working jsFiddle. (as in this example)

CodePen is used by many front-end devs to showcase their portfolios – it even has a "hire me" button.

Chapter 3 – Google Analytics

Google Analytics is an analytics service provided for free by Google. It allows you get an overview of how many people are visiting your site, where they come from, what they do on your site, and much more.

How it works

To use Google Analytics you need to place JS Plug-In, a snippet of JavaScript, (that they provide) on each of the HTML pages on your site. When a user visits the page, the javascript sends a message to the Google Analytics site logging the visit.

Task:

1. Set up a Google Analytics account – You want to choose the default 'Universal Analytics' option.
2. Go to the **Admin** section, create a new account for your personal site.
3. Click on the **Tracking Info** under the **Property** section, click on "**Tracking Code**" and install the analytics code on all the pages of your site.

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Homework

Finishing off

Task:

Add JS to your website. Continue to work on your first_site until it's something you can be proud of!

Preparation

Find out about the command line:

- What is the Command Line?
- How does it allow me to interact with my computer?
- Read this.
- **(Optional)** Try it on Codeacademy

Group Project

Task:

Meet outside of class to work on your project!

Further Resources

Bootstrap provides some JS functionalities as well, built on jQuery too.

What’s the difference between a Framework and a Library?

Ben Howdle talks about different JS Frameworks

The Mozilla Web Developer Guide