A BRIEF INTRODUCTION TO JAYJAY (JAVASCRIPT AND JQUERY)

A bit about JavaScript

- JavaScript is a non-strict type OOP language that runs on the client side (in the browser)

- In JavaScript essentially everything is an object

- JavaScript can be run in the HTML document placed within the <script tag>, or it can be loaded from an external file

Internal/embedded script
```
...
<script type="text/javascript">
  var say_hello = function () {
    alert("Hello");
  };
  say_hello();
</script>
...
```

External Script
```
<script type="text/javascript" src="javascripts/say_hello.js"></script>
```

Variables

- Variables have to be declared using the **var** keyword

Numbers -> var my_num = 4;
Strings -> var my_string = "Hello world";
Objects -> var my_obj = {my_num: 4, my_string: "Hello world"};
Arrays -> var my_arr = [4, "Hello world"];

- Variables can be declared using a 'chain declaration':
var my_num = 4,
    my_string = "Hello world";

Functions

```
my_function function () {
  console.log("You just called my_function!");
};
my_function();

...

my_function_with_param function (message) {
  console.log("You just sent me a message: " + message);
};
my_function_with_param("Say something!");

...

my_function_with_return_value function (message) {
  return "You just sent me a message: " + message;
};
var my_message = my_function_with_return_value("Hello world");
my_message   ->  "You just sent me a message: Hello world"
```

What is jQuery?

- jQuery is a very powerful and easy to pick up JavaScript library

- It simplifies:

   - DOM manipulation;
   - Event handling;
   - Animations;
   - AJAX calls;
   - JSON parsing;
   - Writing quick and effective (but not pretty) JS code that works

- The library is hugely popular, and very well documented
- It is very easy to find tutorials and examples online, just as well as quick solutions to your problems

- Project home: http://jquery.com/
- Documentation: http://docs.jquery.com/Main_Page
- Stack Overflow: http://stackoverflow.com/questions/tagged/jquery?sort=newest&pagesize=15

Get jQuery

- Download the latest stable (minified) version (http://jquery.com/download/) from the project home page and stick it in your javascript folder

- Load it in your HTML document in the <head>, or preferably right before the </body> tag:

<script type="text/javascript" src="javascripts/jquery-1.7.2.min.js"></script>

$

Selectors

- jQuery has a very powerful selector interface, that gives us access to any DOM element

- We can access elements using HTML elements, CSS classes, CSS IDs and even the (nested) combination of any of these

$(document) -> The HTML document
$(window) -> The window Object
$(ul) -> All the unordered list found in the document (Array)
$('#custom_list li') -> All the li elements of the #custom_list ul element

ready?

- jQuery initialises itself when the document triggers the **ready** event:

```
$(document).ready(function(){
  console.log("The DOM is now ready, let's rock!");
});
```

- All code that using interaction should be placed within this event handler

- jQuery has tons of event handlers including click, load, hover and many more (http://api.jquery.com/category/events/)

Let's look at some examples!

Practical

Create a new HTML document, and add a styled box (border, background colour...). When the user clicks the box it should change background colour.
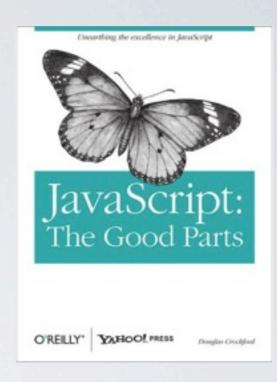
Try to use predefines CSS selectors for styling and of course jQuery for the event handling and CSS manipulation.

If you can create the box dynamically, even better :)

References

JavaScript - The Good Parts
http://shop.oreilly.com/product/9780596517748.do

jQuery
http://jquery.com/

MDN
https://developer.mozilla.org/en-US/

JavaScript Weekly (newsletter)
http://javascriptweekly.com/

Codacademy
http://www.codecademy.com/