

JavaScript Libraries

Pre-written Code

Review: where to write JavaScript

EXTERNAL: link JavaScript code from another file

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

INTERNAL : write JavaScript code in the HTML file between script tags

```
<script>  
    alert("Hello World!");  
</script>
```

Programming Libraries

To create:

- Solve real problems
- Abstraction
- Documentation

To use:

- Find it: code, previously written
- Integrate it (install) / Call it (methods and functions) / Use it (write)
- Fair use - meant to be distributed

JavaScript Libraries

- Advanced JavaScript programming
 - Difficult and time-consuming
 - Difficultly dealing with web browser differences
- JavaScript (helper) libraries
 - Sometimes called "frameworks"
 - Files of JavaScript, written so you don't have to
- To Use:
 1. Copy the library file to your file system
 2. Link to the EXTERNAL file from your HTML file
 3. Learn how to use the library
 4. Write the JavaScript code in your HTML file to "turn-on" and use the library

Advantages and disadvantages of libraries

Advantages	Disadvantages
Speeds up the development process Helpful in collaborative work	Yet another learning curve
Clean and tidy code	Unused code leftover
Solutions to common problems <ul style="list-style-type: none">- Browser compatibility solutions- Typical patterns, ready to use/edit	You inherit bugs & bad practices
Learn good practices	You don't learn to do it yourself

jQuery

- The most popular JavaScript library on the Internet today
 - It's JavaScript!
 - Reuses what you know to manipulate the DOM
 - Unobtrusive by Design
 - Respects progressive enhancement - adds functionality without having to hack-up HTML documents
 - Follows the "Principle of least astonishment"
 - Built to be easy for Web Developers
- ```
$ (" .someSelector") .someAction ()
```
- Some guy from RIT: John Resig

# What is jQuery?

- JavaScript library: lightweight, "write less, do more"
- Easier to use JavaScript
- Replace: common tasks that require many lines to accomplish; wrapped in methods called with a single line of code
- Simplifies a lot of complicated DOM manipulation
- The jQuery library:
  - HTML/DOM manipulation
  - CSS (styles) manipulation
  - HTML event methods
  - Effects and animations
  - AJAX
  - Utilities
- In addition, "plugins"

# How to use jQuery

0. Have an HTML document

1. Download from [www.jquery.com](http://www.jquery.com)

- Create a file (`jquery.js`)

2. In your HTML...

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

3. Learn! (documentation: [api.jquery.com](http://api.jquery.com))

4. Write JavaScript code to use the functions and methods in the library



# jQuery In Use

The main jQuery function is the `$ ( )` function ...the jQuery function  
jQuery allows you to select elements in different ways.

## Plain JavaScript – stick some text in an HTML element

Step 1: Target the ID in the HTML (it must be an ID), get a "handle" on the element in the DOM, and assign the handle to a new variable

```
var myElement = document.getElementById("someID");
```

Step 2: Assign some HTML content to the "inside node" of the variable

```
myElement.innerHTML = "JavaScript says Hello World!";
```

## jQuery – stick some text in an HTML element

Step 1: install jQuery

Step 2: Send some HTML content to the `".html()"` method that is associated with the targeted CSS selector

```
$("#myElement").html("jQuery says Hello World!");
```