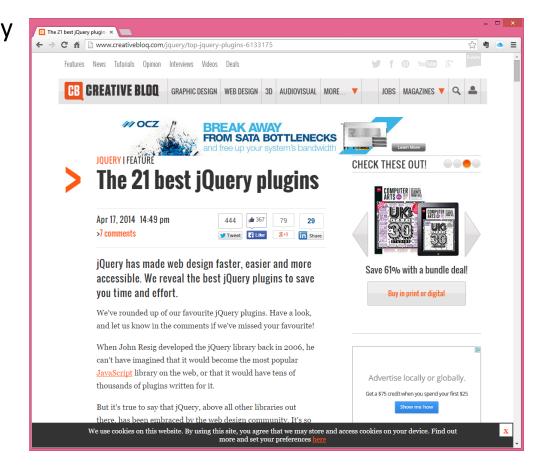# JavaScript Plugins

Featuring: jQuery UI

Finding & Evaluating Plugins

- "Plugin" = an industry term that means: a JavaScript library that depends on another JavaScript (often jQuery) to extend its functionality.
- The jQuery ecosystem
  - One of the most celebrated aspects of jQuery is its extensive plugin ecosystem.
  - From table sorting to form validation to auto-completion – if there's a need for it, chances are good that someone has written a plugin for it.
- Quality control
  - The quality of jQuery plugins varies widely. Many plugins are extensively tested and well-maintained, but others are hastily created and then ignored.
  - More than a few fail to follow best practices.

jQuery plugin Programmers

- jQuery plugins are written by programmers to use privately in their own code or be released into the wild.

- There are thousands of jQuery plugins available online.
  The barrier to creating a plugin is so low that many amateur programmers do so with no understanding (or care) to who may use it or why.

- "Buyer" beware

"jQuery UI" – a plugin

- "jQuery UI" is a widget and interaction library built on top of the jQuery JavaScript Library that you can use to build highly interactive web applications.
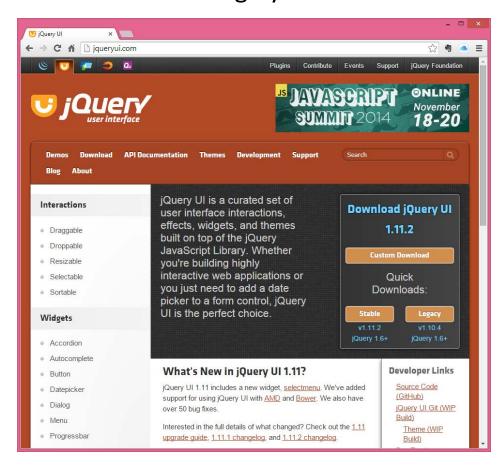
- Quality control on jQuery UI is *very* good

- Note: "jQuery UI" is *not* jQuery

- jQuery source: http://jquery.com

- jQuery UI source: http://jquery**ui**.com

Plugin parts – example using the "jQuery UI" plugin

- The specifics on how to install a particular plugin comes from the author of the plugin.

- There maybe between 3 - 5 parts involved (depending on the plugin)

- Because JavaScript is all "open source", after installing a plugin, you are free to modify it.

- jQuery UI Parts (from **www.jqueryui.com**)
  1. jQuery script (from jquery.com)
  2. jQuery UI script (from jqueryui.com)
  3. CSS file (from jqueryui.com)
  4. Initialization and options script (instructions from jqueryui.com)
  5. Content, arranged in a specific way (instructions from jqueryui.com)

1. Install jQuery

- jQuery website: **www.jquery.com**
- You can use the same jQuery library to power all jQuery behaviors
  - Important: only load this library once on the webpage, even if you are installing multiple plugins
- Download and insert:
  `<script src="`**`js/jquery.js`**`"></script>`

  or point to a CDN:
  `<script src="`**`http://code.jquery.com/jquery.js`**`"></script>`
- Insert the jQuery script near the bottom of the HTML document, above the closing </body> tag.
  - Remember: the jQuery script must be inserted above any other JavaScript that uses it

2. Install the plugin (jQuery UI)

- jQuery UI website: **www.jqueryui.com**
- You can use the same plugin to power all jQuery UI behaviors
  - Important: only load this library once on the webpage, even if you are planning to use multiple "widgets"
- Download and insert:
  ```
  <script src="js/jquery-ui.js"></script>
  ```

  or point to a CDN:
  ```
  <script src="http://code.jquery.com/ui/1.11.4/jquery-ui.js"></script>
  ```
- Insert the jQuery UI script near the bottom of the HTML document, *below* the jQuery script

3. Install the plugin's CSS (jQuery UI CSS)

- jQuery UI website: **www.jqueryui.com**
  - Find the generic CSS or a customized theme and download it
  - Note: You can use the same CSS to style all jQuery UI widgets
- Download and insert

  ```
  <link rel="stylesheet" href="css/jquery-ui.css"></script>
  ```
  …and download its associated images folder that goes in the CSS folder

  or point to a CDN:

  ```
  <link rel="stylesheet" href="http://code.jquery.com/ui/1.11.4/themes/smoothness/jquery-ui.css">
  ```

- Insert the jQuery CSS link in the <head> of your HTML document

4a. Initialize the Script

- From the jQuery UI website, look-up what you need to use to initialize the particular widget you want to use.

- Inert the initialization string(s)
  Example…

```
<script>
       $( "#accordion" ).accordion();
</script>
```

…below the jQuery and jQuery UI scripts

4b. Initialize the Script with Options

- From the jQuery UI website, look-up the customization options you want to use for each widget.

- Insert the customization options into the initialization strings, between curly braces, inside the parenthesis like this…

```
<script>
$( "#accordion" ).accordion({
    collapsible: true,
    heightStyle: "content"
});
</script>
```

- Notice that commas go after each option, but not after the last option

5. Arrange HTML Content in a Specific Way

- From the jQuery UI website, look-up the way content must be arranged in your HTML for each widget to work.

  Example (in HTML):

```
<div id="accordion">

  <h3>First header</h3>
  <div>First content panel</div>

  <h3>Second header</h3>
  <div>Second content panel</div>

</div>
```