JQuery

COMP3001
Scripting Languages
JavaScript
JQuery

• Powerful JavaScript library
  – Simplify common JavaScript tasks
  – Access parts of a page
    • using CSS or XPath-like expressions
  – Modify the appearance of a page
  – Alter the content of a page
  – Change the user’s interaction with a page
  – Add animation to a page
  – Provide AJAX support
  – Abstract away browser quirks
Introductory Sample

<html>
<body>
<h1>Cities of the World</h1>
<dl>
  <dt>Paris</dt>
  <dd>Chic, fashionable, expensive rude</dd>
  <dt>Sydney</dt>
  <dd>Opera house but no culture, Mardi Gras, fireworks</dd>
</dl>
</body>
</html>
Basic JQuery

- Selecting part of document is fundamental operation
- A JQuery object is a wrapper for a selected group of DOM nodes
- $() function is a factory method that creates JQuery objects
- $(“dt”) is a JQuery object containing all the “dt” elements in the document
Basic JQuery

• `.addClass()` method changes the DOM nodes by adding a ‘class’ attribute
  – The ‘class’ attribute is a special CSS construct that provides a visual architecture independent of the element structures
• `$('dt').addClass("emphasize")` will change all occurrences of `<dt>` to `<dt class="emphasize">`
• See also `.removeClass()`
Basic Jquery

- To make this change, put it in a function and call it when the document has been loaded and the DOM is created
  ```javascript
  function doEmph(){
    $('dt').addClass('emphasize')
  }
  <body onLoad="doEmph()">
  ```
- We had to alter the HTML (bad)
- Structure and appearance should be separated!
- Also, onLoad waits until all images etc are loaded. Tedious.
Basic JQuery

• JQuery provides an independent scheduling point after DOM is created and before images are loaded
  – $(document).ready(doEmph);
• No HTML mods required. All done in script.
• Better solution:
  – $(document).ready(function()
    $(“dt”).addClass(“emphasize”)
  });

<html><head>
<script src="jquery.js" type="text/javascript"></script>
<script src="test.js" type="text/javascript"></script>
…
JQuery Selectors

- CSS
  
  - `p` element name
  - `#id` identifier
  - `.class` classname
  - `p.class` element with class
  - `p a` anchor as any descendant of `p`
  - `p > a` anchor direct child of `p`
JQuery Selectors

• XPath

/html/body//div paths

a[@href] anchor with an href attr

div[ol] div with an ol inside

//a[@ref='nofollow'] any anchor with a specific value for the ref attribute
<table>
<thead>
<tr>
<th>jQuery Filters</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>p:first</td>
<td>first paragraph</td>
</tr>
<tr>
<td>li:last</td>
<td>last list item</td>
</tr>
<tr>
<td>a:nth(3)</td>
<td>fourth link</td>
</tr>
<tr>
<td>a:eq(3)</td>
<td>fourth link</td>
</tr>
<tr>
<td>p:even or p:odd</td>
<td>every other paragraph</td>
</tr>
<tr>
<td>a:gt(3) or a:lt(4)</td>
<td>every link after the 4th or up to the fourth</td>
</tr>
<tr>
<td>a:contains('click')</td>
<td>links that contain the word <strong>click</strong></td>
</tr>
</tbody>
</table>
Example

- JQuery uses chaining as follows:
  \$('a:contains("ECS")').parent().addClass("emphasize")
JQuery Events

- bind(eventname, function) method
  - ‘click’
  - ‘change’
  - ‘resize’

- `$('a[@href]') .bind('click', function(){
   $(this).addClass('red');});`
Other JQuery Effects

• `.css('property', 'value')`
• `.css({'prop1':'value1', 'prop2':value2'...})`
• E.g. `.css('color', 'red')`

• `.hide(speed)` or `.show(speed)`
  – Where speed is ‘slow’, ‘normal’ or ‘fast’
More JQuery Changes DOM

- `.attr({'name', 'value'})`
  - sets a new attribute (or many)

- `$('<i>hello</i>')`
  - Creates a new element

- `$('<i>hello</i>').insertAfter('div.chapter p');`
  - Creates element and inserts it into the document

- `.html()` or `.text()` or `.empty()` will replace matched elements with newly created elements