



# 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>
```

```
h1 {font-size: 2.5em;
    margin-bottom: 0;}

.emphasize {font-style:
    italic; color:red;}
```

```
Cities of the World

Paris
    Chic, fashionable, expensive rude
Sydney
    Opera house but no culture, Mardi Gras, fireworks
```

# 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

```
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

# JQuery Filters

p:first	first paragraph
li:last	last list item
a:nth(3)	fourth link
a:eq(3)	fourth link
p:even <i>or</i> p:odd	every other paragraph
a:gt(3) <i>or</i> a:lt(4)	every link after the 4th <i>or</i> up to the fourth
a:contains('click')	links that contain the word <i>click</i>

# 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