

jQuery

Lecture 32

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- jQuery is a Javascript library containing functions that make navigating a web page in Javascript much easier.
- The jQuery code is in a Javascript file (`.js`) which may be linked to the web page, much like we did with CSS files.

Linking to Javascript

Linking to Javascript

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

- In the `script` element we may name a Javascript file to be loaded by using the `src` attribute.
- The file can be on the local server or on a remote server.

Linking to jQuery

Linking to Javascript

```
<script src="//ajax.googleapis.com/ajax/libs/jquery/1.9.1/jquery.min.js">
```

- We can download jQuery and then access it locally.
- Or we can access it remotely from any of several websites.

jQuery Statements

jQuery Statements

```
$(selector).event(event-handler)
```

```
$(selector).action(parameters)
```

- jQuery statements are of the above form.
- The *selector* selects a type of element from the web page.
- The *event-handler* is invoked when the *event* occurs on the selected elements.
- The *action()* performs an action on the selected elements.

The ready() Function

The ready() Function

```
$(document).ready()
```

- Before executing any jQuery function, we need to be sure that the document has been loaded.
- The `ready()` function, applied to the `document`, will do that.

Example

Example

```
$(document).ready
(
    function()
    {
        $("button").click      // Event
        (
            function()          // Event handler
            {
                $("p").hide();   // Action
            }
        );
    }
);
```

- When the document is ready, it defines the function that invokes the `click()` function on buttons.
- The `click()` function invokes a function that invokes the `hide()` function on paragraphs.

Example

Example

```
$(document).ready(function() {  
    $("button").click(function() {  
        $("p").hide();  
    });  
});
```

- This is normally written in a more compact form.

Example

- Run the example `hide_paragraph.html`.
- Change "p" to "h3" and run it again.
- (Then change them back again.)
- In the jQuery function, reverse the roles of "button" and "p".
- (Then change them back again.)

Selecting by `id`

- Suppose we want to have two buttons, with different actions.
- How do we differentiate between them?

Selecting by `id`

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- Give each an `id` attribute (which must be unique).
- Reference the element by `id` rather than element type.

Selecting by `id`

- Suppose we want to have two buttons, with different actions.
- How do we differentiate between them?
- Give each an `id` attribute (which must be unique).
- Reference the element by `id` rather than element type.
- Add a second button to the example which will *show* the paragraph.
- Give each button an `id` attribute and provide the necessary jQuery functions.

Example

Example

```
$(document).ready(function() {  
    $("#hide").click(function() {  
        $("p").hide();  
    });  
});
```

```
$(document).ready(function() {  
    $("#show").click(function() {  
        $("p").show();  
    });  
});
```

Selectors

Selector	Meaning
<code>\$ ("*")</code>	All elements
<code>\$ ("p")</code>	All paragraph elements
<code>\$ ("#abc")</code>	The element with <code>id="abc"</code>
<code>\$ (this)</code>	The current element
<code>\$ ("p:first")</code>	The first paragraph element
<code>\$ ("p:last")</code>	The last paragraph element
<code>\$ (" [name] ")</code>	All elements with a <code>name</code> attribute
<code>\$ (" [name]:first")</code>	First element with a <code>name</code> attribute

- A few jQuery selectors.

- What can jQuery do besides hide and show elements?

jQuery Effects

jQuery Effects

Function	Effect on Selected Elements
<code>toggle()</code>	Toggles between show and hide
<code>fadeIn()</code>	Gradually appears
<code>fadeOut()</code>	Gradually disappears
<code>slideDown()</code>	Slides down (shows) element
<code>slideUp()</code>	Slides up (hides) element

- For more jQuery effects, see

http://www.w3schools.com/jquery/jquery_ref_effects.asp.

jQuery Effects

- In the previous examples, replace `hide()` with `fadeOut()` and `show()` with `fadeIn()`.
- Replace `fadeOut()` with `slideDown()` and `fadeIn()` with `slideUp()`.
- What can jQuery do besides effects?

jQuery Actions

jQuery Actions

Function	Action on Selected Elements
<code>before()</code>	Inserts content before element
<code>after()</code>	Inserts content after element
<code>prepend()</code>	Inserts content at beginning of element
<code>append()</code>	Inserts content at end of element
<code>html()</code>	Returns content of element
<code>remove()</code>	Removes element

- For more jQuery actions, see

http://www.w3schools.com/jquery/jquery_ref_html.asp.

jQuery Actions

- In the previous example, replace `prepend()` with `before()` and replace `append()` with `after()`.
- What events besides mouse clicks can jQuery respond to?

jQuery Events

jQuery Events

Function	Action on Selected Elements
<code>click()</code>	Click the mouse on the element
<code>dblclick()</code>	Double-click the mouse
<code>change()</code>	Change the value of the element
<code>mouseenter()</code>	Move mouse over the element
<code>mouseleave()</code>	Move mouse away from element
<code>focus()</code>	Select the element
<code>blur()</code>	Unselect the element

- For more jQuery events, see

http://www.w3schools.com/jquery/jquery_ref_events.asp.

Example

- The HTML file `decorate_table.html` will display a table of books and their authors.
- There are two “Decorate” buttons.
 - The first will color the background.
 - The second will color the borders.
- A third button will “undecorate” the table.

jQuery Events

- In the table example, rewrite the jQuery code so that the table is decorated when the mouse moves over it.

Assignment

Assignment

- Visit the W3Schools website
 - `http://www.w3schools.com/jquery/`
- Visit the pages in the categories
 - jQuery Tutorial
 - jQuery Effects
 - jQuery HTML