

Handling Events & Animations

Lesson 05

August 14, 2014

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Lesson Objectives

- Traditional event attachment technique drawbacks
- jQuery Event Model Benefits
- jQuery Events
- Handling Events
- Binding to Events
- Using `live()`, `die()`, `delegate()` and `undelegate()`
- Handling Hover Events
- Working with jQuery Animations



Event attachment technique

➤ Most Browsers

- `myButton.addEventListener('click',function(){ },false);`

➤ Internet Explorer

- `myButton.attachEvent('onclick',function(){ });`



Demo

▶ [Traditional-Attach-Event.html](#)



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jQuery Event Model Benefits

- Events notify a program that a user performed some type of action
- jQuery provides a cross-browser event model that works common across all browsers.
- jQuery event model is simple to use and provides a compact syntax

jQuery Events

- `click()`
- `blur()`
- `focus()`
- `dblclick()`
- `mousedown()`
- `mouseup()`
- `mouseover()`
- `keydown()`
- `keypress()`

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Handling Click Events

- `.click(handler(eventObject))` is used to listen for a click event or trigger a click event on an element
 - `$('#submitButton').click(function() { alert('Clicked') });`
- Raising a click event from within another function
 - `$('#otherID').click(function() { $('#myID').click(); });` - this would fire when the element otherID was clicked and raise the click event for myID

Demo

- `jQueryClickEvent.html`
- `changeEvent.html`
- `mouseEvents.html`



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bind() and unbind() Method

- **bind()** method is used to bind events dynamically
- **.bind(eventType,handler(eventObject))** attaches a handler to an event for the selected element(s).
 - `$('#submitButton').bind('click', function() { //handle event });`
 - `.click()` is the same as `.bind('click')`
- **.unbind(event)** is used to remove handler previously bound to an element.
 - `$('#submitButton').unbind();`
 - `$('#submitButton').unbind('click');` - unbind specific event
- **bind()** allows multiple events to be bound to one or more elements
 - `$('#targetDiv').bind('mouseenter mouseleave', function() { //handle event });`

Demo

 [bind-unbind.html](#)



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live() and delegate() functions

- **live() and delegate() allow new elements added into the DOM to automatically be attached to an event.**
- **live() method allows binding of event handlers to elements that match a selector, including future elements. Events bubble up to the document object**
- **delegate() method is a replacement for live() in jQuery 1.4. It attaches an event handler directly to the selector context**

Using live() and die()

- Event handlers can be set using live()
- The document object handles the event by default
- It works even when new objects were added in to the DOM
 - `$('.someclass').live('click',somefunction)` – Any element added with `.someclass` will have the click event
- Stop live event handling using die()
 - `$('.someclass').die('click',somefunction)`

Using `delegate()` and `undelegate()`

- Newer version of `live()` added in jQuery 1.4
- The context object handles the event by default rather than the document object.
- Works even when new objects are added into the DOM.
 - `$('#targetDiv').delegate('div','click',somefunction);`
- Stop delegate event handling using `undelegate()`

Demo

▶ [live-delegate.html](#)



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Hover Events

- **Hover events can be handled using hover()**
 - `$(selector).hover(handlerIn,handlerOut)`
 - handlerIn is equivalent to mouseenter and handlerOut is equivalent to mouseleave
- **Another option is `$(selector).hover(handlerInOut)`**
- **Fires the same handler for mousenter and mouseleave events**

Demo

 [hoverevent.html](#)



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Showing and Hiding Elements

- **To set a duration and a callback function**
 - `show(duration, callback)`
 - duration is the amount of time taken (in milliseconds), and callback is a callback function jQuery will call when the transition is complete.
- **The corresponding version of `hide()`**
 - `hide(duration, callback)`
- **To toggle an element from visible to invisible or the other way around with a specific speed and a callback function, use this form of `toggle()`**
 - `toggle(duration, callback)`

Demo

[Show-Hide-Toggle-Effects.html](#)



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jQuery Sliding Effects

- The jQuery slide methods gradually change the height for selected elements.
- jQuery has the following slide methods:
 - `$(selector).slideDown(speed,callback)`
 - `$(selector).slideUp(speed,callback)`
 - `$(selector).slideToggle(speed,callback)`
- The speed parameter can take the following values: "slow", "fast", "normal", or milliseconds.
- The callback parameter is the name of a function to be executed after the function completes.

Demo

▶ [Slidedown-Slideup-SlideToggle.html](#)



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jQuery Fading Effects

- The jQuery fade methods gradually change the opacity for selected elements.
- jQuery has the following fade methods:
 - `$(selector).fadeIn(speed,callback)`
 - `$(selector).fadeOut(speed,callback)`
 - `$(selector).fadeTo(speed,opacity,callback)`
- The speed parameter can take the following values: "slow", "fast", "normal", or milliseconds.
- The opacity parameter in the fadeTo() method allows fading to a given opacity.
- The callback parameter is the name of a function to be executed after the function completes.

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Demo

➤ [FadeIN-FadeOut-FadeTo.html](#)



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Creating Custom Animation

- Custom animation can be created in jQuery with the `animate()` function
 - `animate(params, duration, callback)`
 - `params` contains the properties of the object you're animating, such as CSS properties, `duration` is the optional time in milliseconds that the animation should take and `callback` is an optional callback function.

Demo

▶ [Animate-Effects.html](#)



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Summary

- jQuery simplifies handling cross-browser event attachments
- `bind()` and `unbind()` provide a flexible way to work with different events
- `live()` and `delegate()` both allow future child elements to be wired to event handlers
- The `hover()` function provides a simple way to handle mouseenter and mouse leave events
- Combine `hover()` with `toggleClass()` to easily swap out css classes on an element
- Animations can be easily done via jQuery Methods



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Lab

- 5.1. Adding and Removing Style at runtime using Click Event
- 5.2. Preventing Cut-Copy-Paste in textbox
- 5.3. Identifying mouse button
- 5.4. Limiting number of characters in textarea
- 5.5. Check/Uncheck all checkboxes at once
- 5.6. Event Triggering
- 5.7. Animating List as tree view



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Review Question

- What is the difference between
`$('#myDiv').bind('click',function(){// do something});`
and
`$('#myDiv').click(function(){// do something});`



- A. There is no difference. They do the same.
 - B. `bind()` binds an event listening function to the click event, whereas `click()` triggers it.
- What does this do: `$('#myDiv').trigger('click');`
- A. It simulates a click on the element and runs all the event handlers associated with it.
 - B. It sets up a trigger. When a click occurs, the trigger is going to be activated.

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