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jQuery Effects

Jeff Prise
jeffpro@wintellect.com

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jQuery Effects

- jQuery object methods that produce visual effects
- Built-in effects for common animations
  - Showing and hiding elements
  - Sliding elements up and down
  - Fading elements in and out
- Custom effects using .animate() method
- All effects are asynchronous and all support optional completion callbacks

http://api.jquery.com/category/effects/

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Visibility Effects

Method	Description
.hide()	Hides a DOM element
.show()	Shows a DOM element
.toggle()	Alternately shows and hides a DOM element

```
// Show the DIV whose id is "details"
$("#details").show();

// Hide the DIV whose id is "details"
$("#details").hide();

// Alternately show and hide the DIV whose id is "details"
$("#details").toggle();
```

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Fade Effects

Method	Description
.fadeIn()	Fades an element in
.fadeOut()	Fades an element out
.fadeTo()	Fades an element to a specified opacity
.fadeToggle()	Alternately fades an element in and out

```
// Show the DIV whose id is "details" by fading it in
$("#details").fadeIn();

// Hide the DIV whose id is "details" by fading it out
$("#details").fadeOut();
```

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Slide Effects

Method	Description
.slideDown()	Shows an element by sliding it down
.slideToggle()	Alternately shows and hides an element by sliding it up and down
.slideUp()	Hides an element by sliding it up

```
// Show the DIV whose id is "details" by sliding it down
$("#details").slideDown();

// Hide the DIV whose id is "details" by sliding it up
$("#details").slideUp();

// Alternately show and hide the DIV whose id is "details"
$("#details").slideToggle();
```

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Duration

- By default, animated effects have a duration (start to finish) of 400 milliseconds
- Effect methods accept duration parameter
  - String: "slow" (600 ms) or "fast" (200 ms)
    - Custom strings can be added to jQuery.fx.speeds
  - Number: Duration in milliseconds
- Applicable to all effect methods, including .show() and .hide()

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Controlling the Duration

```
// Show the DIV whose id is "details" by sliding it down quickly
$("#details").slideDown("fast"); // 200 milliseconds

// Hide the DIV whose id is "details" by sliding it up slowly
$("#details").slideUp(2000); // 2 seconds
```

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Defining Custom Durations

```
$.fx.speeds["superslow"] = 5000; // 5 seconds
$.fx.speeds["superfast"] = 50;   // 50 milliseconds

// Show the DIV whose id is "details" by sliding it down slowly
$("#details").slideDown("superslow");
```

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The .animate() Method

- Performs custom animations by animating one or more CSS properties of an element
  - Numeric properties only (e.g., width, height, and opacity)
- Adds animation request to per-element animation queue
- Supports completion callbacks, custom durations, animation easing, step functions, and other options
- The heart of jQuery's animation engine

http://api.jquery.com/animate/

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Using the .animate() Method

```
// Mimic the .slideUp() effect
$("#details").animate({ height: 0 });
```

Animate the element's CSS height property from its current value to 0

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Animating Multiple Properties

```
// Make an element disappear by simultaneously reducing its
// width, height, and opacity to 0
$("#details").animate({
    width: 0,
    height: 0,
    opacity: 0
});
```

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Animating "Dashed" Properties

```javascript
// Use the JavaScript property name
$("#details").animate({ marginLeft : 0 });

// Or specify the property name as a string
$("#details").animate({ "margin-left" : 0 });
```

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Specifying Units

```javascript
$("#details").animate({
    left : 100,      // Pixels
    top : "100px",   // Pixels
    width : "0.5in", // Inches
    height : "2.0cm" // Centimeters
});
```

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Specifying Relative Values

```javascript
// Move the "details" element right and up 100 pixels from
// its current location (assumes absolute positioning)
$("#details").animate({
    left : "+=100px",
    top : "-=100px"
});
```

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Controlling the Duration

```javascript
$("#details").animate({ height: 0 }, 1000);
```

Duration == 1000 ms
(default == 400 ms)

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Specifying an Easing Function

```javascript
$("#details").animate({ height: 0 }, 1000, "linear");
```

Perform linear animation
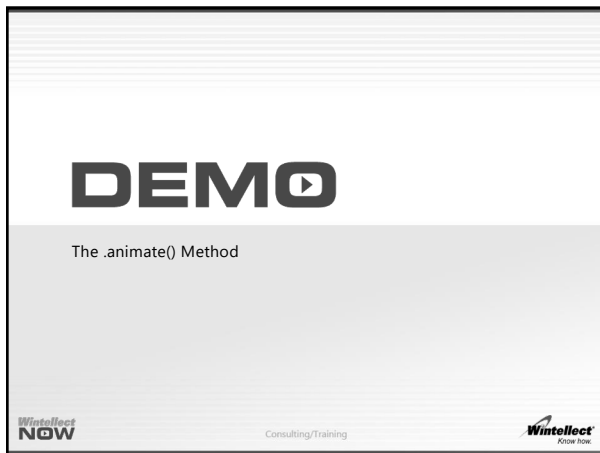*(default == "swing")*

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Specifying a Completion Callback

```javascript
$("#details").animate(
    { height: 0 },
    1000,
    "swing",
    function() {
        alert("Animation complete");
    }
);
```

Function called when animation completes

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The .animate() Method

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Animation Options

- Second form of .animate() method accepts animation-options object in second parameter
- Enhances .animate() method with additional options

Option	Description
complete	Function to be called when animation is complete
duration	Duration in milliseconds or as a speed ("slow," "fast," etc.)
easing	Name of function to be called to perform animation easing
queue	Boolean indicating whether effect should be queued (default == true)
specialEasing	Map correlating properties to easing functions (per-property easing)
step	Function to be called after each step of the animation

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Using an Animation-Options Object

```
$("#details").animate(
    { height: 0 },
    {
        duration: 1000,
        easing: "swing",
        complete: function() {
            alert("Animation complete");
        }
    }
);
```

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Running Animations in Parallel

```
// The following statement runs two animations in sequence
$("#details").fadeOut().slideUp();

// This statement runs the same two animations in sequence
$("#details").animate({ opacity: 0 }).animate({ height: 0 });

// This statement runs both animations in parallel
$("#details").animate(
    { opacity: 0 }, { queue: false }
).animate(
    { height: 0 }, { queue: false }
);
```

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Using Step Functions

```
// Make the "details" element slide up by animating its height
// to 0. At each step of the animation, set the inner text of the
// element to the current value of the property being animated.
$("#details").animate(
    { height: 0 },
    {
        duration: 5000,
        step: function(now) {
            $(this).text(now); // Show current height
        }
    }
);
```

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Animation Options

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Other Animation Methods

- Additional jQuery object methods complement .animate() and add ability to halt animations, insert delays, and more

Method	Description
.clearQueue()	Clears the effects queue of all pending animations
.delay()	Adds a timed delay to the effects queue
.dequeue()	Execute the next effect in the effects queue (deprecated)
.queue()	Adds a callback function to the effects queue, or replaces the current contents of the effects queue with an array of callback functions
.stop()	Stops the currently running animation and optionally clears the effects queue of pending animations

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Adding Delays to the Queue

```
// Slide the "details" element up, pause for 0.5 seconds, and
// then slide it back down
$("#details").slideDown().delay(5000).slideUp();
```

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Adding Stops to the Queue

```
$("img").mouseenter(function (e) {
    // Increase the size of images in response to mouseenter
    // events, and stop any currently running animations before
    // doing so
    $(this).stop().animate({ width: 200, height: 200 });
}).mouseleave(function (e) {
    // Reduce the size of images in response to mouseleave events,
    // and stop any currently running animations before doing so
    $(this).stop().animate({ width: 100, height: 100 });
});
```

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Bubbling Mouseovers

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Animation Frame Rate

- By default, animations display a new frame every 13 milliseconds (approx. 77 frames per second)
- Global jQuery.fx.interval property specifies interval between frames

```
// Change the frame rate for all animations to 20 fps
$.fx.interval = 50; // 50 milliseconds per frame == 20 fps
```

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Disabling Animations

- Animations can be globally disabled by setting jQuery.fx.off to true
- Effects still work, but with zero duration

```
// Disable all jQuery animations
$.fx.off = true;
```

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