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# jQuery

*Write Less, Do More*

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# jQuery Basics

*Where do we begin?*

- jQuery is a JavaScript Library
  - Collection of JavaScript functions
  - Select DOM elements & manipulate them
  - Works in all modern browsers
  - There are a ton of plugins for it

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# Animation: CSS3 vs. jQuery

*Either or, or both?*

- Syntax and approach differs, results can be similar
  - CSS uses keyframes
  - jQuery does not (but there are plugins)
- CSS is generally smoother, but its not as compatible
- jQuery can respond to events, CSS cannot!
  - You can trigger CSS animation from jQuery
- jQuery can be extended easily by plugins
- We will be looking at CSS later in this course



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*How do we get it to work?*

- .click
  - Happens when something is clicked
- .hover
  - Triggered when something is moused over



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Core Transitions

- Show & Hide
  - By themselves not really animation
  - Left blank, happens instantly
  - Add a duration and BAM!
  - Uses milliseconds or strings
    - 2000ms = 2 seconds
    - 500ms = .5 second
    - 'fast', 'slow', 'normal'
- Toggle() will switch between the two



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## Show & Hide

FUNCTION	PURPOSE
<code>show()</code>	Displays each of the set of matched elements, if they are hidden
<code>show(speed, callback)</code>	Shows all matched elements using a graceful animation. Fires an optional callback after completion
<code>hide()</code>	Hides each of the set of matched elements if they are shown
<code>hide(speed, callback)</code>	Hides all matched elements using graceful animation. Fires an optional callback after completion
<code>toggle()</code>	Toggles displaying each of the set of matched elements
<code>toggle(switch)</code>	Toggles displaying each of the set of matched elements based upon the switch (true shows all elements, false hides all elements)
<code>toggle(speed, callback)</code>	Toggles displaying each of the set of matched elements using a graceful animation and firing an optional callback after completion



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# Show...

*...the example*

Code Time

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*Fades*

- fadeIn or fadeOut
  - Animates a fade in or fade out of an object
  - Uses milliseconds or strings
- fadeTo
  - Can set desired opacity level, 0.0 -> 1.0





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# Fades

*Functions*

FUNCTION	PURPOSE
<code>fadeIn(speed, callback)</code>	Fades in all matched elements by adjusting their opacity and firing an optional callback after completion
<code>fadeOut(speed, callback)</code>	Fades out all matched elements by adjusting their opacity to 0 and then setting display to "none" and firing an optional callback after completion
<code>fadeTo(speed, opacity, callback)</code>	Fades the opacity of all matched elements to a specified opacity and fires an optional callback after completion

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*Fades*

## ● Example Time

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## Slides

- slideUp or slideDown
  - Animates a sliding transition, not used for moving around the screen
  - Uses milliseconds or strings
  - slideUp - makes something disappear
- slideToggle
  - Toggles between the two



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# Slides

*Functions*

FUNCTION	PURPOSE
<code>slideDown(speed, callback)</code>	Reveals all matched elements by adjusting their height and firing an optional callback after completion
<code>slideUp(speed, callback)</code>	Hides all matched elements by adjusting their height and firing an optional callback after completion
<code>SlideToggle(speed, callback)</code>	Toggles the visibility of all matched elements by adjusting their height and firing an optional callback after completion

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# Slides

*Examples*

## ○ Examples

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*Animate*

- .animate()
  - Can animate any CSS property
  - Takes an object as the argument
  - Default time of 400ms
  - Can not animate color



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# Animate

Function

FUNCTION	PURPOSE
<code>animate(params, duration, easing, callback)</code>	Creates a custom animation <b>params:</b> The properties on the elements to animate <b>duration:</b> The number of milliseconds the animation should take <b>easing:</b> The type of easing function to use (linear or swing) <b>callback:</b> The function to call when the animation is complete
<code>animate(params, options)</code>	Creates a custom animation <b>params:</b> The properties to animate <b>options:</b> Set of options for the animation to take
<code>stop()</code>	Stops all the currently running animations on all the specified elements



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# Animate

*Example*

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# Easing

- Easing is a mathematical function that determines how the animation progresses from beginning to end.
  - Controls how fast it is at certain parts and how slow it is at other parts. The way we work with these is calling them by name, by a string. 2 built in.
- 'swing' default value
  - Your animation starts and it kind of speeds up and then slows down toward the end.
- 'linear'
  - The animation the speed does not change. It just proceeds without changing the whole way over.



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# Easing

- There are a ton of other easing, but you need a plugin
- jQuery Easing - tiny
  - <http://gsgd.co.uk/sandbox/jquery/easing/>
- jQuery UI - bigger, but does more!
  - <http://api.jqueryui.com/easings/>
- Easings.net - good visuals - Good for CSS
  - <http://easings.net/#>
- Watch out for extremes!



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# Easing

*Example*

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## Remove the animation when done?

```
$img.animate({  
    'width' : '30px' (could also use %)  
    'margin-left': +=50px  
}. 2000, 'swing', function() {  
$(this).remove();  
});
```



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# Remove, but fade out

*Add the opacity*

```
$img.animate({  
    'width' : '30px' (could also use %)  
    'margin-left': +=50px,  
    opacity: 0  
}). 2000, 'swing', function() {  
$(this).remove();  
});
```



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# Removing Animation

Code

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