jQuery Effect Library

Important Considerations

Generally, it is better to do animation in CSS, if at all possible. When animation is done in CSS, the computer's GPU can be used to help with the processing of the animation.

This will make animations smoother and more efficient. You will particularly notice this on phones, especially older phones.

However, the effects library in jQuery is really easy to use and for something minor or if you need something quick, it can be a great option.

Example 1 - HTML

```
<nav>
    <ul>
        <li><a href="#" id="hidebox">hide</a></li>
        <li><a href="#" id="showbox">show</a></li>
        <li><a href="#" id="togglebox">toggle</a></li>
    </ul>
</nav>

<div id="box"></div>
```

Example 1 has some basic HTML and some CSS to make it look good.

Example 1 - Hide Function

```
<script>
    $("#hidebox").click( function(){ $("#box").hide(); } );
</script>
```

The hide function makes the box hide. You have seen that in sidebar menu script already, but you can pass in a value to the hide function to animate it.

Example 1 - Hide Function Keyword Animation

```
<script>
    $("#hidebox").click( function(){ $("#box").hide("normal"); } );
</script>
```

There are some special keywords, such as “slow”, “normal”, and “fast” that can be passed in and will affect the animation.

Example 1 - Hide Function Millisecond Animation

```
<script>
    $("#hidebox").click( function(){ $("#box").hide(500); } );
</script>
```

Or you can pass in a number of milliseconds that will determine how quickly the animation happens.

This animation will take half a second.

Example 1 - Other Animations

```
<script>
    $("#hidebox").click( function(){ $("#box").hide(500); } );

    $("#showbox").click( function(){ $("#box").show(200); } );

    $("#togglebox").click( function(){ $("#box").toggle(2000); } );
</script>
```

Now you can make handlers for the other buttons and try out the show and toggle functions. They all work similarly.

Example 1 - Callback Function

```
$("#togglebox").click( function(){ $("#box").toggle(2000, function(){} ); } );
```

```
$("#togglebox").click( function(){ $("#box").toggle(2000, function(){ alert("done"); } ); } );
```

One of the really great features of the jQuery effects library is the ability to add a “callback function”.

We will talk more about callback functions later, but for now, know that this function runs when the animation is finished.

To add the callback function, just put a comma after the speed of the animation and then add an additional anonymous function.

Inside the curly braces for the new anonymous function, you can put code for what you want to happen when the animation finishes.

Example 1 - Callback With Formatting

```
$("#togglebox").click( function(){
    $("#box").toggle(2000, function(){
        alert("done");
    } );
 } );
```

Often, you will see these functions formatted this way, rather than all in one line.

Example 2 - HTML

```
<nav>
    <ul>
        <li><a href="#" id="slideupbox">slideup</a></li>
        <li><a href="#" id="slidedownbox">slidedown</a></li>
        <li><a href="#" id="slidetogglebox">slidetoggle</a></li>
    </ul>
</nav>

<div id="box"></div>
```

The HTML for example 2 is very similar.

Example 2 - Basic Easing

```
$("#slideupbox").click( function(){ $("#box").slideUp(1000); } );

$("#slidedownbox").click( function(){ $("#box").slideDown(200); } );

$("#slidetogglebox").click( function(){ $("#box").slideToggle( 2000, "swing"); } );
```

Thankfully, the functions for sliding up, down and the slideToggle function are all very similar to the show and hide functions.

The only new thing is the addition of the easing parameter.

Example 2 - Easing Plugin

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>
<script src ="https://cdnjs.cloudflare.com/ajax/libs/jquery-easing/1.4.1/jquery.easing.js"></script>
```

```
$("#slidetogglebox").click( function(){ $("#box").slideToggle( 2000, "easeOutBounce"); } );
```

You can see I had already added the easing plugin from the CDN. You can find out more about the plugin on the jQuery Easing Plugin website.

The easeOutBounce easing is more dramatic than the simple swing easing.

Example 2 - With Callback

```
$("#slidetogglebox").click( function(){
    $("#box").slideToggle( 2000, "easeOutBounce", function(){
        alert("finished!");
    } );
} );
```

Finally, you can add the callback after the easing parameter.

Example 3 - HTML

```
<nav>
    <ul>
        <li><a href="#" id="fadeoutbox">fade out</a></li>
        <li><a href="#" id="fadeinbox">fade in</a></li>
        <li><a href="#" id="fadeto20box">fade to 20%</a></li>
        <li><a href="#" id="fadeto100box">fade to 100%</a></li>
    </ul>
</nav>

<div id="box"></div>
```

Here is the HTML for example 3. It looks similar to the others.

jQuery has convenient built in function for fading in, fading out and fading to a specific opacity.

Example 3 - Fading Script

```
$("#fadeoutbox").click( function(){ $("#box").fadeOut(1000); } );

$("#fadeinbox").click( function(){ $("#box").fadeIn(1000); } );

$("#fadeto20box").click( function(){ $("#box").fadeTo(1000, 0.2); } );

$("#fadeto100box").click( function(){ $("#box").fadeTo(1000, 1); }
```

These scripts look similar to the others. Of note, the fadeTo method takes an extra parameter to determine the amount of opacity

This number is between 0 and 1, where zero is completely transparent and 1 is completely opaque. So 0.2 is 20% opacity.

Example 3 - With Easing and Callback

```
$("#fadeto100box").click( function(){
    $("#box").fadeTo(1000, 1, "swing", function(){
        alert("finished!");
    });
});
```

You can add the easing and the callback function parameters after the amount of opacity for the fadeTo method.

Example 4 - HTML

```
<nav>
    <ul>
        <li><a href="#" id="growbox">grow box</a></li>
        <li><a href="#" id="growtext">grow text</a></li>
        <li><a href="#" id="movebox">move box</a></li>
        <li><a href="#" id="doall">do all</a></li>
        <li><a href="#" id="sequence">sequence</a></li>
    </ul>
</nav>

<div id="box">Chickens and Llamas!</div>
```

The HTML and CSS for example 4 have changed a little.

In this example you will experiment with the custom jQuery animation function.

Example 4 - Custom Animate Method

```
$("#growbox").click( function(){ $("#box").animate(); } );
```

jQuery has a custom animate() method that allows you to animate a lot (but not all) CSS properties.

This gives you a lot of functionality in the jQuery effects library.

Example 4 - Pass in an Object

```
$("#growbox").click( function(){ $("#box").animate( { width: "710px" } ); } );
```

Pass an object into the custom animate method. You have not yet learned about objects in JavaScript in this course yet, but you will find out more about them soon.

Before we really get into objects in more detail, you will see a few examples of them pop up in our scripts.

Example 4 - Font Size

```
$("#growtext").click( function(){ $("#box").animate( { fontSize: "24px" }, 1000 ); } );
```

This is for the second button. Notice that font size, which in CSS is font-size, has been changed to the JavaScript equivalent here of fontSize

This is again because font-size would look to JavaScript like you want to subtract size from font, which is not what you mean to do at all.

Example 4 - Setting Left Property

```
$("#movebox").click( function(){ $("#box").animate( { left: "+=300px" }, 1500, "linear" ); } );
```

To animate the location of the box, you can use positioning to move it from one place to another.

Here I have added a positioning declaration to the CSS and then changed it with the animation above.

```
#box {
    width:260px;
    height:260px;
    background:#4C90D8;
    padding:20px;
    color:#fff;
    position: absolute;
    left: 50px;
}
```

Example 4 - Doing All Animations At Once

```
$("#doall").click( function(){
    $("#box").animate( { width: "710px", fontSize: "24px", left: "+=300px" }, 1500 );
} );
```

You can do all the animations at once, by putting each property and value into the object, separated by commas.

Example 4 - Doing Animations in a Sequence

```
$("#sequence").click( function(){ $("#box").animate( { width: "710px" }, 1500, function(){
    $("#box").animate( { fontSize: "24px" }, 1500, function(){
        $("#box").animate( { left: "+=300px" }, 1500, "linear" );
        } ); // end movebox
    } ); // end growtext
} ); //end growbox
```

To get each animation to run in a sequence, you just have to put each one in a callback function, in the order you want them to run.

This is the hardest one to type. Be sure to go from the outside to the inside and be careful about formatting.

Summary

You can do a LOT with the built in effects library, just keep in mind that adding and removing CSS classes with animation is generally the better way to go.

However, it is really great that jQuery has these features.