Extracted from:

HTML5 and CSS3, Second Edition

Level Up with Today's Web Technologies

The Pragmatic Bookshelf

Dallas, Texas • Raleigh, North Carolina

The Pragmatic Programmers

HTML5 and CSS3

Second Edition

Level Up with Today's Web Technologies

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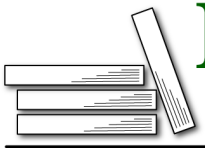

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Printed in the United States of America.
ISBN-13: 978-1-937785-59-8
Encoded using the finest acid-free high-entropy binary digits.
Book version: P1.0—October 2013

Tip 3

Creating Pop-Up Windows with Custom Data Attributes

If you've built any web applications that use JavaScript to grab information out of a document, you know that it can sometimes involve a bit of hackery and parsing to make things work. You'll end up inserting extra information into event handlers or abusing the rel or class attributes to inject behavior. Those days are now over thanks to the introduction of custom data attributes.

Custom data attributes all start with the prefix data- and are ignored by the validator for HTML5 documents. You can attach a custom data attribute to any element you'd like, whether it be metadata about a photograph, latitude and longitude coordinates, or, as you'll see in this tip, dimensions for a pop-up window. Best of all, you can use custom data attributes right now in nearly every web browser, since they can be easily grabbed with JavaScript.

Separating Behavior from Content, or Why onclick() Is Bad

Over the years, pop-up windows have gotten a bad reputation, and rightly so. They're often used to get you to look at an ad, to convince unsuspecting web surfers to install spyware or viruses, or, worse, to give away personal information that is then resold. It's no wonder most browsers have some type of pop-up blocker available.

Pop-ups aren't all bad, though. Web-application developers often rely on pop-up windows to display online help, additional options, or other important user-interface features. To make pop-ups less annoying, we need to implement them in an unobtrusive manner. When you look at AwesomeCo's human-resources page, you see several links that display policies in pop-up windows. Most of them look like this:

html5_popups_with_custom_data/original_example_1.html

```
<a href='#'
  onclick="window.open('help/holiday_pay.html',WinName,'width=300,height=300');">
  Holiday pay
</a>
```

This is a pretty common way to build links that spawn pop-ups. In fact, this is the way JavaScript newbies often learn to make pop-up windows. We should address a couple of problems with this approach before moving on, though.

Improve Accessibility

The very first problem you might notice is that the link's destination isn't set! If JavaScript is disabled, the link won't take the user to the page. That's a huge problem we need to address immediately. Don't *ever* omit the href attribute or give it a value like this under *any* circumstances. Give it the address of the resource that would normally pop up.

html5_popups_with_custom_data/original_example_2.html

```
<a href='help/holiday_pay.html'
  onclick="window.open(this.href,WinName,'width=300,height=300');">
  Holiday pay
</a>
```

The JavaScript code can then read the attached element's href attribute for the link's location.

The first step toward building accessible pages is to ensure that all the functionality works *without* JavaScript. Writing the interactive JavaScript on top of this foundation can be much easier.

Abolish the onclick()

Keep the behavior separate from the content, just like you keep the presentation information separate by using linked style sheets. Using onclick() is easy at first, but imagine a page with fifty links, and you'll see how the onclick() method gets out of hand. First, you're repeating that JavaScript over and over again.

And if you generate this code from some server-side code, you're making the resulting HTML much bigger than it needs to be.

Instead, we can give each of the anchors on the page a class that identifies it as a link.

html5_popups_with_custom_data/original_example_3.html

```
<a href="help/holiday_pay.html" class="popup">Holiday Pay</a>
```

To make handling events work smoothly across browsers, we'll use jQuery. At the bottom of the page, right above the closing <body> tag, bring in the jQuery library.

html5_popups_with_custom_data/original_example_3.html

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

Then right below that, add a new <script> tag that contains this code:

html5_popups_with_custom_data/original_example_3.html
```
$("a.popup").click(function(event){
  event.preventDefault();
  window.open(this.getAttribute('href'));
});
```

We use a jQuery selector to grab all elements with the class of popup, and then add an observer to each element's click event.

The function we pass to the click() method will be executed when someone clicks the link. The preventDefault method prevents the default click-event behavior. In this case, it prevents the browser from following the link and displaying a new page.

However, we've lost the information on how to size and position the window. We want a page designer who isn't very familiar with JavaScript to still be able to set the dimensions of a window on a per-link basis.

Custom Data Attributes to the Rescue!

Situations like this are common when building any JavaScript-enabled application. As we've seen, storing the window's desired height and width with the code is desirable, but the onclick() approach has lots of drawbacks. Instead we can embed these attributes on the element. All we have to do is construct the link like this:

html5_popups_with_custom_data/popup.html
```
<a href="help/holiday_pay.html"
   data-width="600"
   data-height="400"
   title="Holiday Pay"
   class="popup">Holiday pay</a>
```

Now we modify the click() event we wrote to grab the options from the link's custom data attributes and pass them to the window.open() method.

html5_popups_with_custom_data/popup.html
```
$("a.popup").click(function(event){
  event.preventDefault();
  var link = this;
  var href = link.getAttribute("href");
  var height = link.getAttribute("data-height");
  var width = link.getAttribute("data-width");

  window.open (href,"popup",
    "height=" + height +",width=" + width + "");
});
```

We use jQuery strictly to handle the click() event. The element we clicked on is represented by the keyword this within the click-handler function. Using getAttribute(), we retrieve the attributes we need from the elements to construct our pop-up window.

That's all there is to it! The link now opens in a new window.

Falling Back

These attributes work in older browsers right now as long as they support JavaScript. The custom data attributes won't trip up the browser, and your document will be valid. Since you're using the HTML5 doctype, the attributes that start with data- will all be ignored.

We can access custom data attributes another way, using dataset. This converts the custom data attributes into properties, which we access like this:

html5_popups_with_custom_data/popup_dataset.html

```
var height = link.dataset.height;
var width = link.dataset.width;
```

This is convenient, but you should be aware of a couple of issues. First and foremost, it doesn't work in Internet Explorer 10 or previous, so it's not a great fit for general-purpose solutions yet. Second, if you had a custom data attribute like data-mobile-image-size, we'd have to access it as dataset.mobileImageSize. The properties on dataset are converted to camel case.

A Word of Caution

In this example, we used custom data attributes to provide additional information to a client-side script. It's a clever approach to a specific problem and illustrates one way to use these attributes. It does tend to mix presentation information with markup, but it's a simple way to see how easy it is to use JavaScript to read values you embed in your page.