CSS

Drop-Shadow: The Underrated CSS Filter

Tue Aug 04 2020

This article was updated on 13 August 2020 to include additional reference material.

If you're familiar with CSS, you probably know all about the `box-shadow` property. But did you know there is a CSS filter, `drop-shadow`, that does something similar? Like `box-shadow`, we can pass in values for x-offset, y-offset, blur radius and colour:

```
.my-element {
  filter: drop-shadow(0 0.2rem 0.25rem rgba(0, 0, 0, 0.2));
}
```

Unlike `box-shadow`, it doesn't take a `spread` parameter (more on that later).

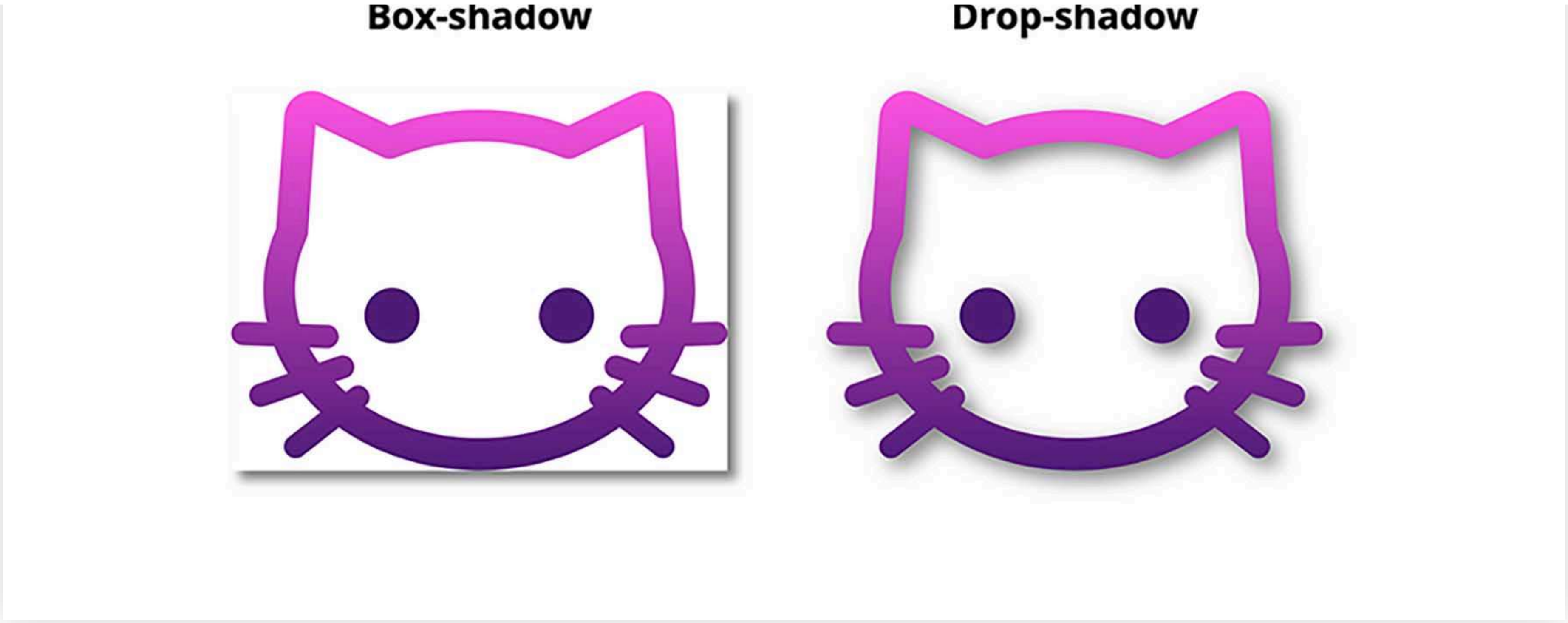
If we have `box-shadow`, why do we need `drop-shadow` at all?

Non-rectangular shapes

Using `drop-shadow` allows us to add a shadow to an element that doesn't correspond to its bounding box, but instead uses the element's alpha mask. We could add a drop shadow to a transparent PNG or SVG logo, for instance.

```css
img {
  filter: drop-shadow(0.35rem 0.35rem 0.4rem rgba(0, 0, 0, 0.5));
}
```

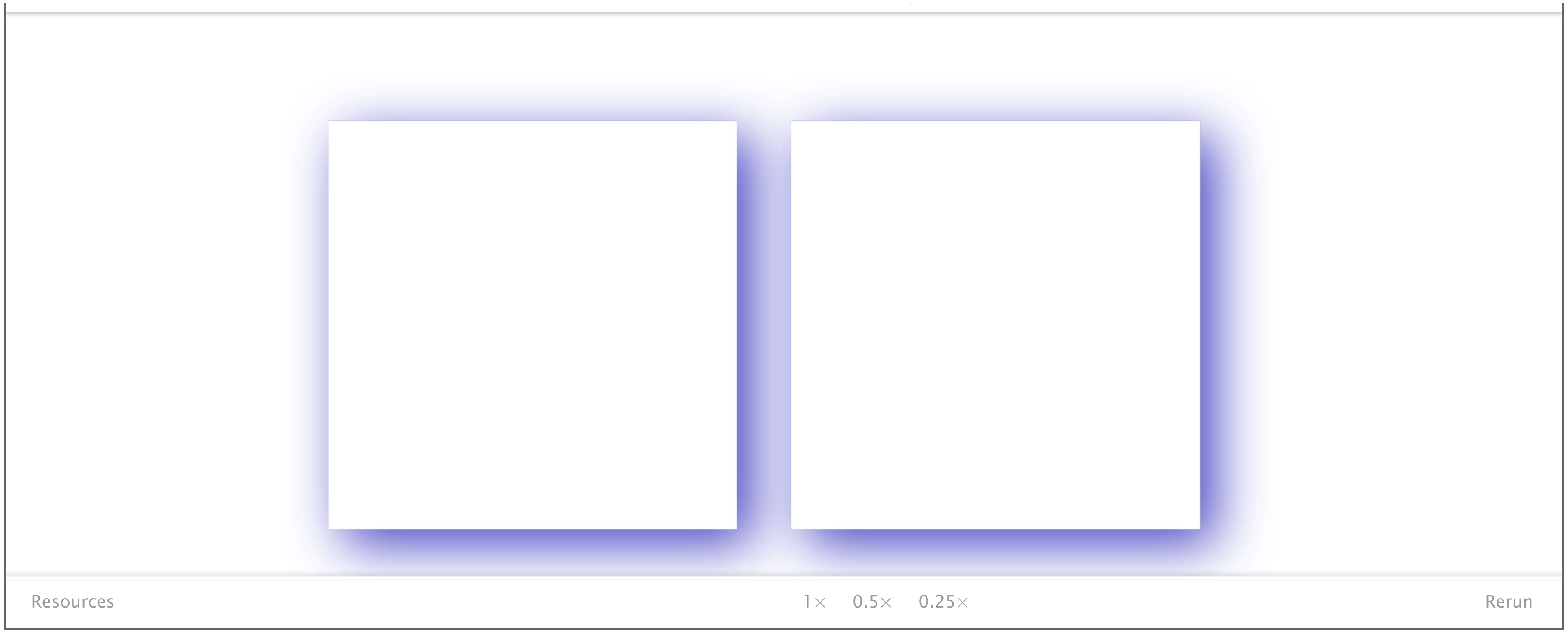
We can compare the effect of `box-shadow` versus `drop-shadow`:



Using `box-shadow` gives us a rectangular shadow, even though the element has no background, while `drop-shadow` creates a shadow of the non-transparent parts of the image.

Demo

This will work whether the image is inline in the HTML (either as an inline SVG, or in `<img>` tag), or a CSS background image. That means we could also add a shadow to a gradient background. These shapes are created with background gradients, with the `drop-shadow` filter applied:



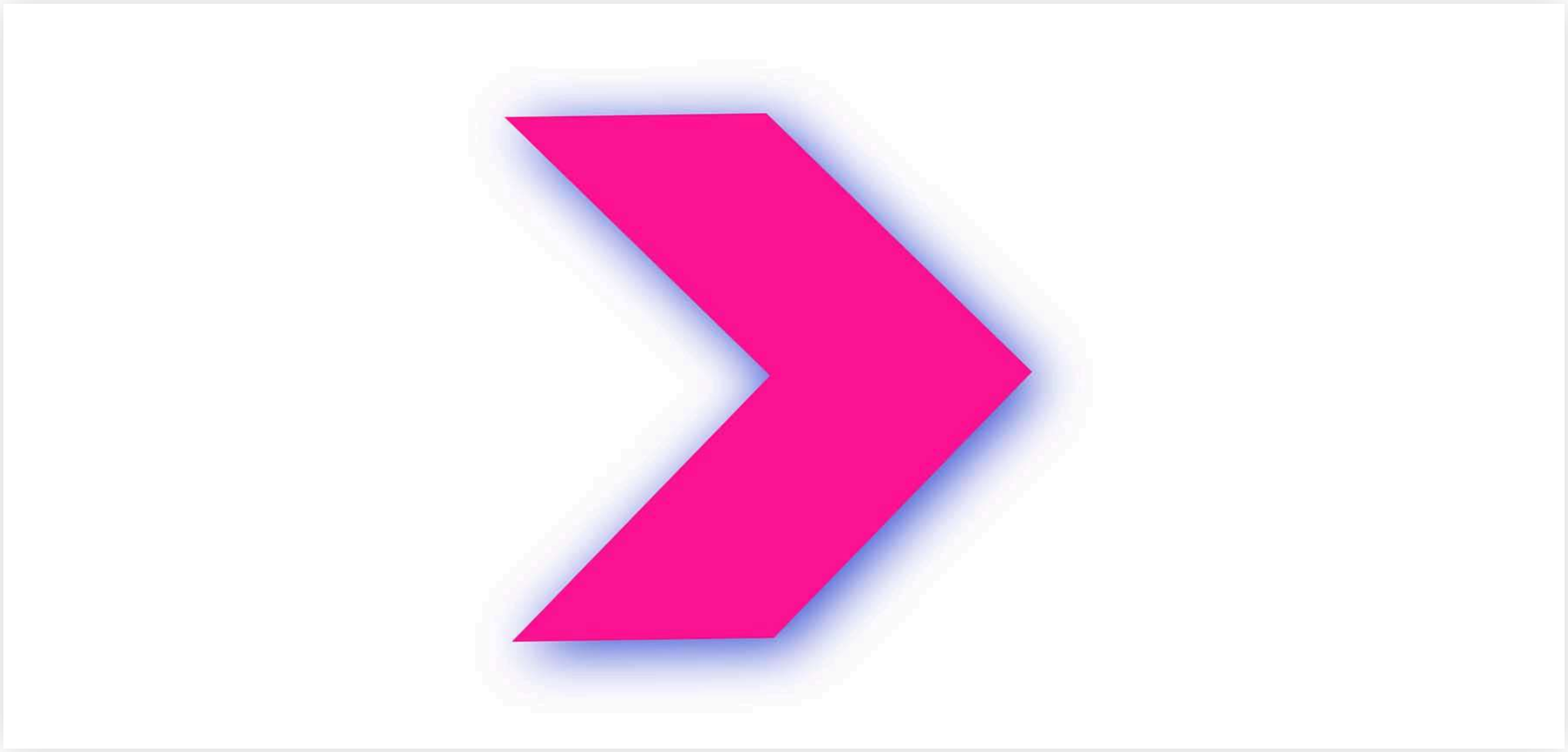
Clipped elements

If we clip or mask an element using `clip-path` or `mask-image`, any `box-shadow` we add will be clipped too - so it will be invisible if it's outside of the clipped area.

But we can create a drop shadow on the clipped element by applying the `drop-shadow` filter on the element's parent. Pretty cool!

```
}

.clipped-element {
    clip-path: polygon(0 0, 50% 0, 100% 50%, 50% 100%, 0 100%, , 50% 50%))
}
```

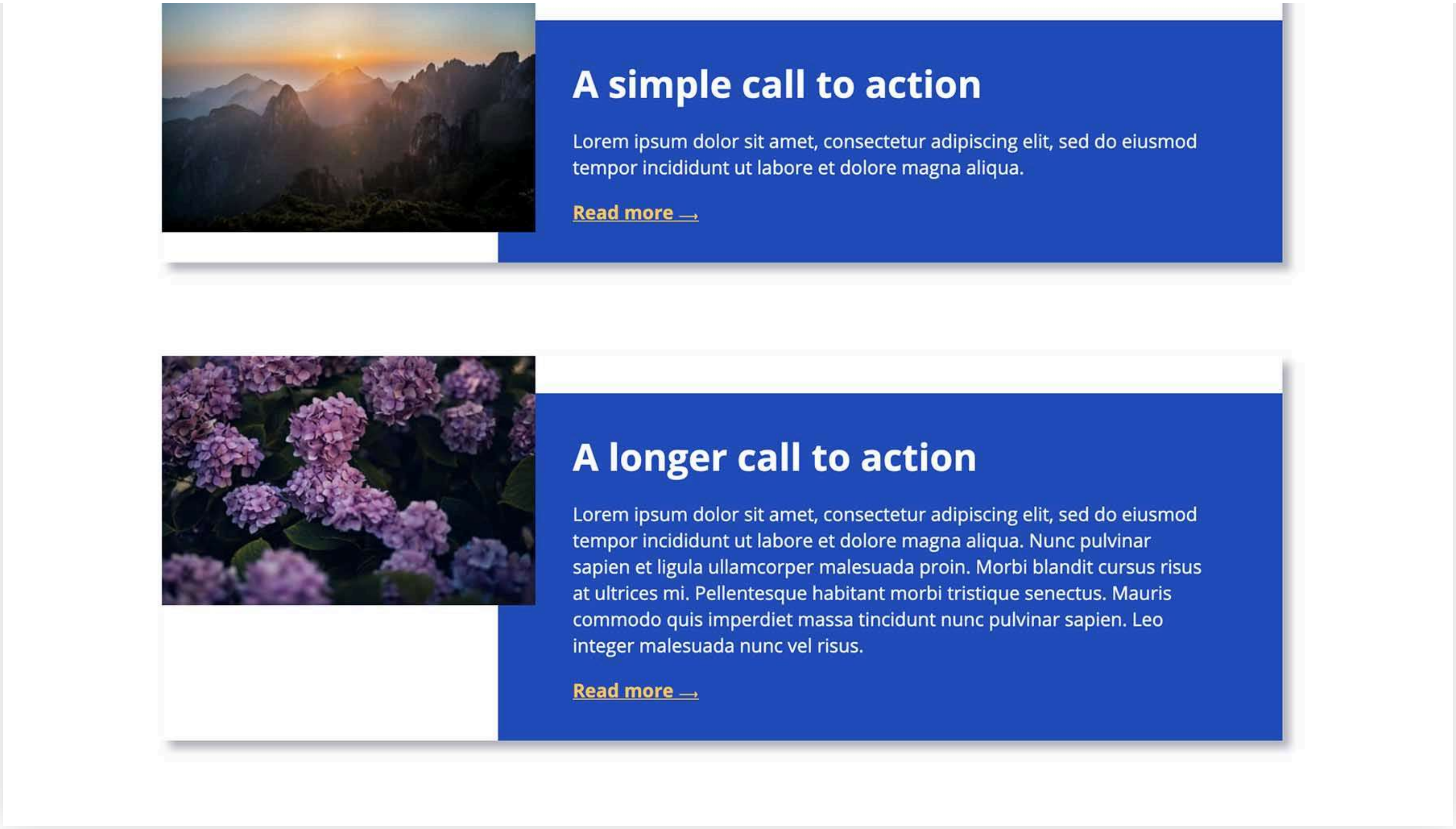


The drop-shadow filter is applied on the parent element of the clipped shape.

Grouped elements

On occasion I’ve needed to build components made up of overlapping elements, which itself needs to cast a shadow.

If we add a `box-shadow` to the whole component, we’ll be left with strange empty spaces:



A simple call to action

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Read more ⟶

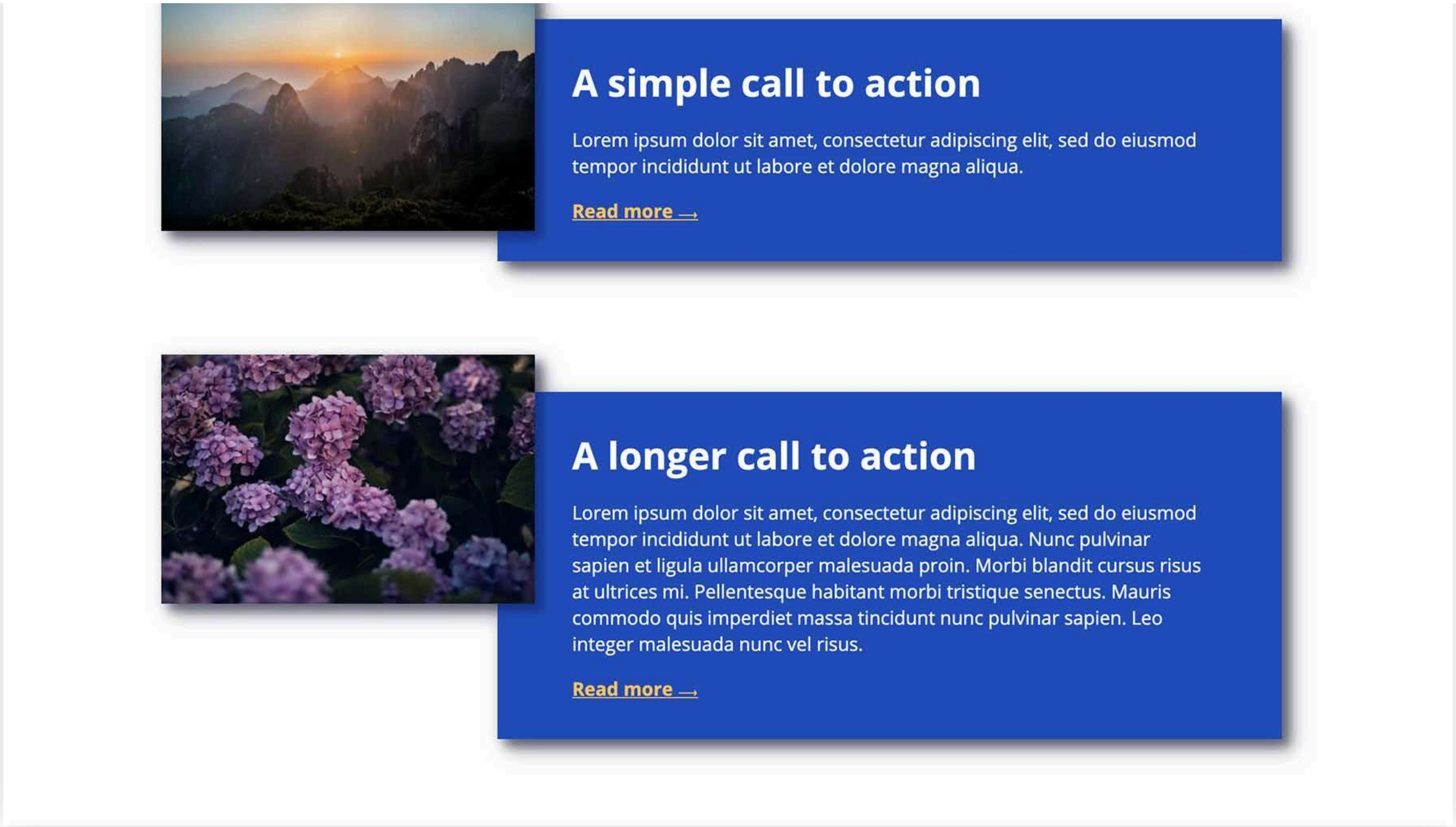
A longer call to action

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Nunc pulvinar sapien et ligula ullamcorper malesuada proin. Morbi blandit cursus risus at ultrices mi. Pellentesque habitant morbi tristique senectus. Mauris commodo quis imperdiet massa tincidunt nunc pulvinar sapien. Leo integer malesuada nunc vel risus.

Read more ⟶

Box-shadow applied to component

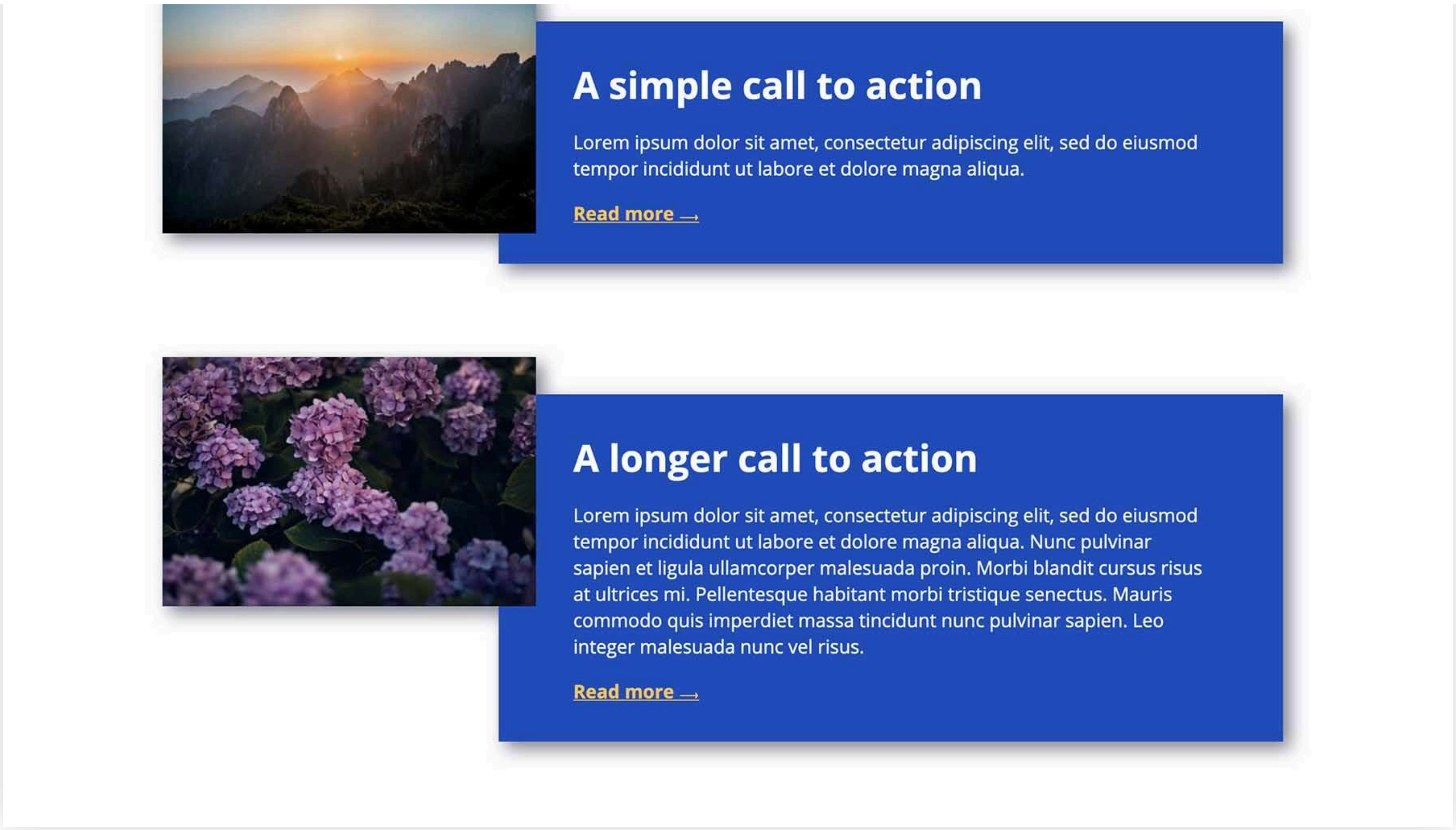
If we add a `box-shadow` to each element individually, then each one will cast its own shadow, which might not be the desired effect. We'd need to employ some clever CSS to hide those shadows where elements overlap.



A simple call to action
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
Read more →
A longer call to action
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Nunc pulvinar sapien et ligula ullamcorper malesuada proin. Morbi blandit cursus risus at ultrices mi. Pellentesque habitant morbi tristique senectus. Mauris commodo quis imperdiet massa tincidunt nunc pulvinar sapien. Leo integer malesuada nunc vel risus.
Read more →

Box-shadow applied to columns

But by using `drop-shadow` on the whole component, we get the shadow exactly where we want it, without resorting to hacks:



A simple call to action

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Read more ⟶

A longer call to action

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Nunc pulvinar sapien et ligula ullamcorper malesuada proin. Morbi blandit cursus risus at ultrices mi. Pellentesque habitant morbi tristique senectus. Mauris commodo quis imperdiet massa tincidunt nunc pulvinar sapien. Leo integer malesuada nunc vel risus.

Read more ⟶

Drop-shadow applied to component

See the demo

Here’s a fun thing: You can use multiple drop shadows for some pretty cool effects! Check out the following demo.

Limitations

As mentioned above, `drop-shadow` doesn’t include the `spread` parameter. This means we can’t currently use it to create an outline effect, which I think would be really useful. For example, if it was supported, we could use `drop-shadow` to create an outline on a gradient background, in the way we can with `box-shadow` on other elements.

Gotchas

`drop-shadow` doesn’t render the exact same shadow effect as `box-shadow`, even when given the same parameters. `box-shadow` tends to give a darker, heavier shadow than `drop-shadow` when the same values are used. I suspect this is something to do with CSS filters being based on SVG filter primitives. Whatever the case, you’ll likely need to compensate for the difference by adjusting your `drop-shadow` values somewhat.

<aside>

If you're interested in further reading, Ana Tudor pointed me to this article on how blur radius is calculated.

CSS filters (including `drop-shadow`) are supported in all modern browsers. I tend to use it as progressive enhancement, without the need for a workaround for older browsers, as it isn't normally something that would affect the user experience in any significant way. But if you do need to provide alternative styling for older browsers, you could do so using a feature query, with a `box-shadow` fallback:

```css
.my-element > * {
  box-shadow: 0 0.2rem 0.25rem rgba(0, 0, 0, 0.2);
}

@supports (filter: drop-shadow(0 0.2rem 0.25rem rgba(0, 0, 0, 0.2))) {
  .my-element {
    filter: drop-shadow(0 0.2rem 0.25rem rgba(0, 0, 0, 0.2));
  }

  .my-element > * {
    box-shadow: none;
  }
}
```

Conclusion

Webmentions for this page

About webmentions

Likes: 0 Reposts: 0 Mentions: 7

← Previous:

From Gatsby to Eleventy: Choosing a Static Site Generator for a Personal Site

Next: →

Accessibly Hiding Focus Outlines