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HTML & CSS(<https://www.sitepoint.com/html-css/>) - June 02, 2016 - By [Nitish Kumar](https://www.sitepoint.com/author/9itish/) (<https://www.sitepoint.com/author/9itish/>)

Introducing the CSS clip-path Property

The web is predominantly rectangular. On the other hand, print media tends to be more varied in shape. Among the many reasons for this difference is a lack of appropriate tools to achieve what we have in print media.

This tutorial will introduce you to **clip-path** (<https://www.w3.org/TR/css-masking-1/#the-clip-path>), a property which allows you to prevent a portion of an element from being displayed. The region that is visible is governed by the values you provide. We will begin with the basics, then cover the syntax and later on move to more advanced concepts.

The Basics

Clipping is when we trim a piece from something. In our case, it is an operation which allows us to completely or partially hide elements on a web page. Two other concepts that relate to clipping which we will use in this article are *clipping path* and *clipping region*.

Clipping path is the path we use to clip an element, it marks out our clipping region. It can be a basic shape or a complex polygonal path. The clipping region then includes all the area enclosed within the clipping path.

Anything outside the clipping region is clipped by the browsers. This not only includes backgrounds and other such content but also borders, text-shadows and so on. Moreover, browsers won't capture any events like **hover** or **click** outside an element's clipping region.

Even though our specific element is now non-rectangular, the content around the elements flows exactly the way it would have if the element had its original shape. To make the surrounding elements flow according to the shape of the clipped element, you will have to use the **shape-outside** property. This has been covered in detail in [this SitePoint tutorial](http://www.sitepoint.com/css-shapes-breaking-rectangular-design/) (<http://www.sitepoint.com/css-shapes-breaking-rectangular-design/>).

Also, keep in mind that you do not want to confuse this property with the deprecated **clip property** (<https://www.w3.org/TR/css-masking-1/#clip-property>) which was very restrictive and only supported rectangular clipping.

Syntax and Usage

The correct syntax for using this property is:

```
clip-path: <clip-source> | [ <basic-shape> || <geometry-box> ] | none
```

The syntax values above include:

clip-source will be a URL referencing an internal or external SVG **<clipPath>** element.

basic-shape accepts the basic shape function defined in the [CSS Shapes specification](https://www.w3.org/TR/css-shapes-1/#typedef-basic-shape) (<https://www.w3.org/TR/css-shapes-1/#typedef-basic-shape>).

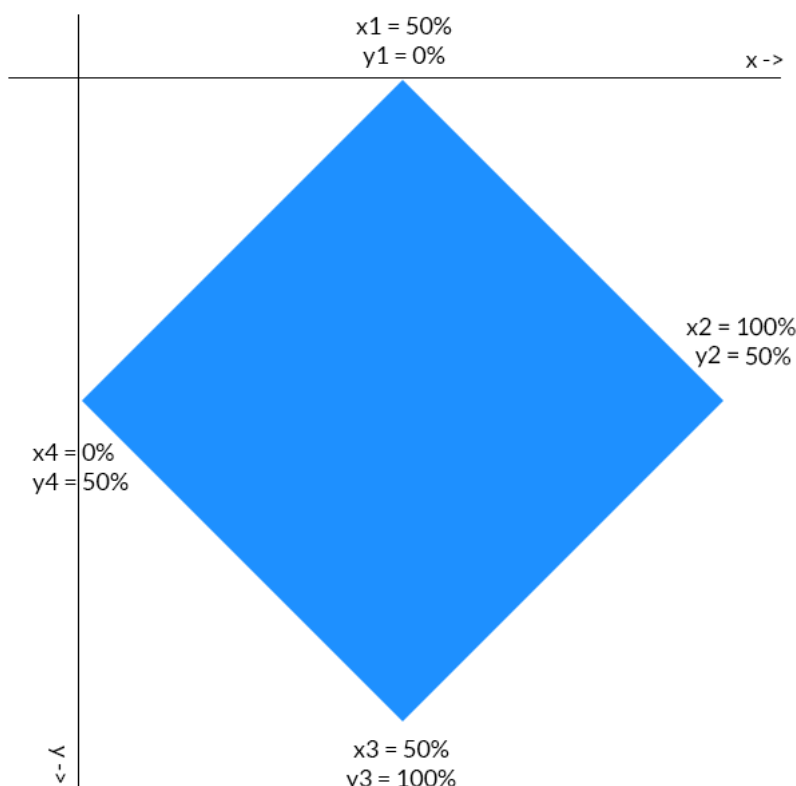
geometry-box is optional. When you provide it along with the **basic-shape** function, it acts like a reference box for the clipping done by **basic-shape**. If **geometry-box** is specified by itself, then it uses the shape of specified box, including any corner shaping (provided by the **border-radius** property) as the clipping path. We will explore this further soon.

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Now, consider the following CSS code (https://mapt.us/sitepoint-offer/utm_source=Sitepoint&utm_medium=Sp-Nb&utm_campaign=NOVMSP)

```
img {  
  clip-path: polygon(50% 0%, 100% 50%, 50% 100%, 0% 50%);  
}
```

It will clip all the images in the shape of a rhombus. But why are the images being clipped in shape of a rhombus and not a trapezium or parallelogram? It all depends on the value of your vertices. The following diagram illustrates the conventions to be used when you are creating your own polygon shapes for clipping:



The first coordinate of each point determines its location on the x-axis. Similarly, the second point specifies its location on the y-axis. The points are all plotted in a clockwise direction. Consider the rightmost point of our rhombus. It is located half way down the y-axis, so its y coordinate is 50%. It is also located at the extreme right position on the x-axis, so its x coordinate is 100%. Values of all other points can be deduced similarly.

Clipping Elements With geometry-box Values

When you are clipping a HTML element the **geometry-box** (or reference box) can be any one of the following — **margin-box**, **border-box**, **padding-box** or **content-box**. The **geometry-box** value should be used in following manner:

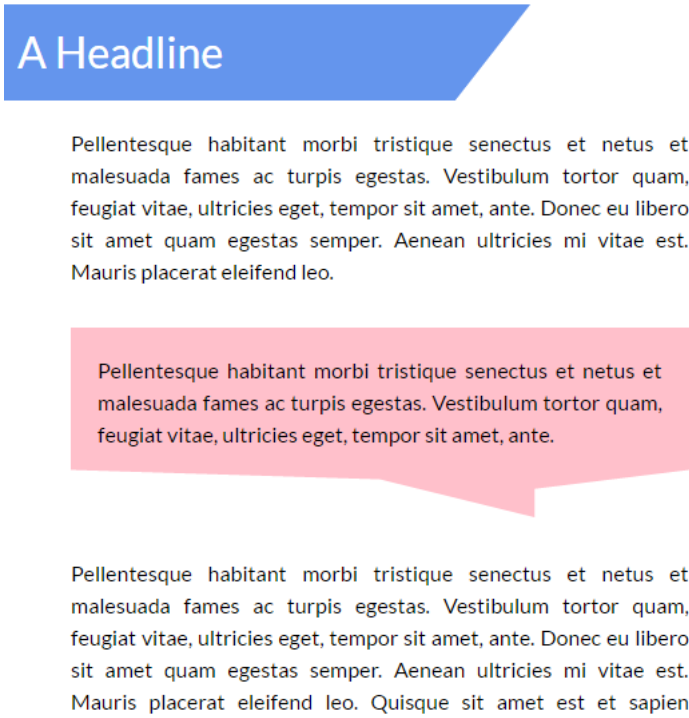
```
.clip-me {  
  clip-path: polygon(10% 20%, 20% 30%, 50% 80%) margin-box;  
  margin: 10%;  
}
```

In the case above, the **margin-box** of our element will be used as a reference to determine the exact location of clipping points. The point (10%, 10%) is the top-left corner of our **margin-box** and thus our **clip-path** would be positioned in relation to that point.

In case of SVG elements it can be **fill-box**, **stroke-box** and **view-box**. The value **view-box** will use the nearest SVG viewport as a reference box if no **view-box** is specified.

Uses of clip-path

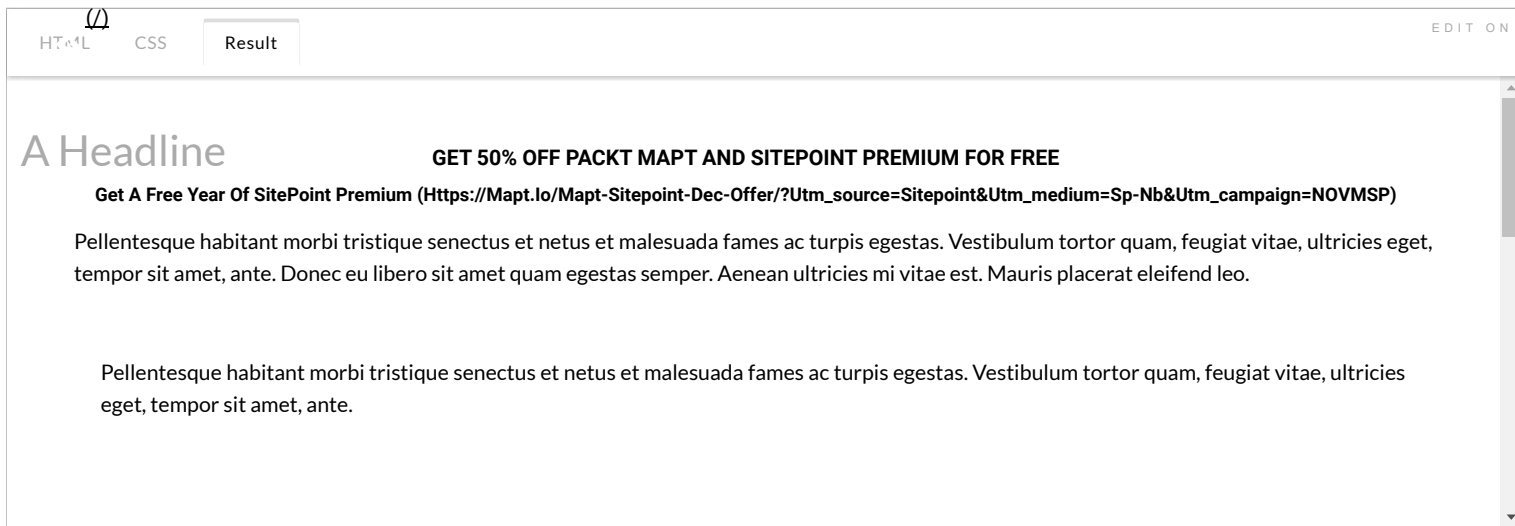
This property has a lot of interesting uses. Firstly, it can improve our text content. Take a look at the image below. The background behind the headline and the second paragraph was created using **clip-path** property:



You can easily create the first background using gradients and other such techniques. However, it would be a lot harder to create the second one without the help of **clip-path**. Note that the line at the bottom of that message-like background is not perfectly horizontal, it is a bit oblique. To achieve this result with **clip-path** you need only a single line of CSS:

```
.p-msg {
  clip-path: polygon(0% 0%, 100% 0%, 100% 75%, 75% 85%, 75% 100%, 50% 80%, 0% 75%);
}
```

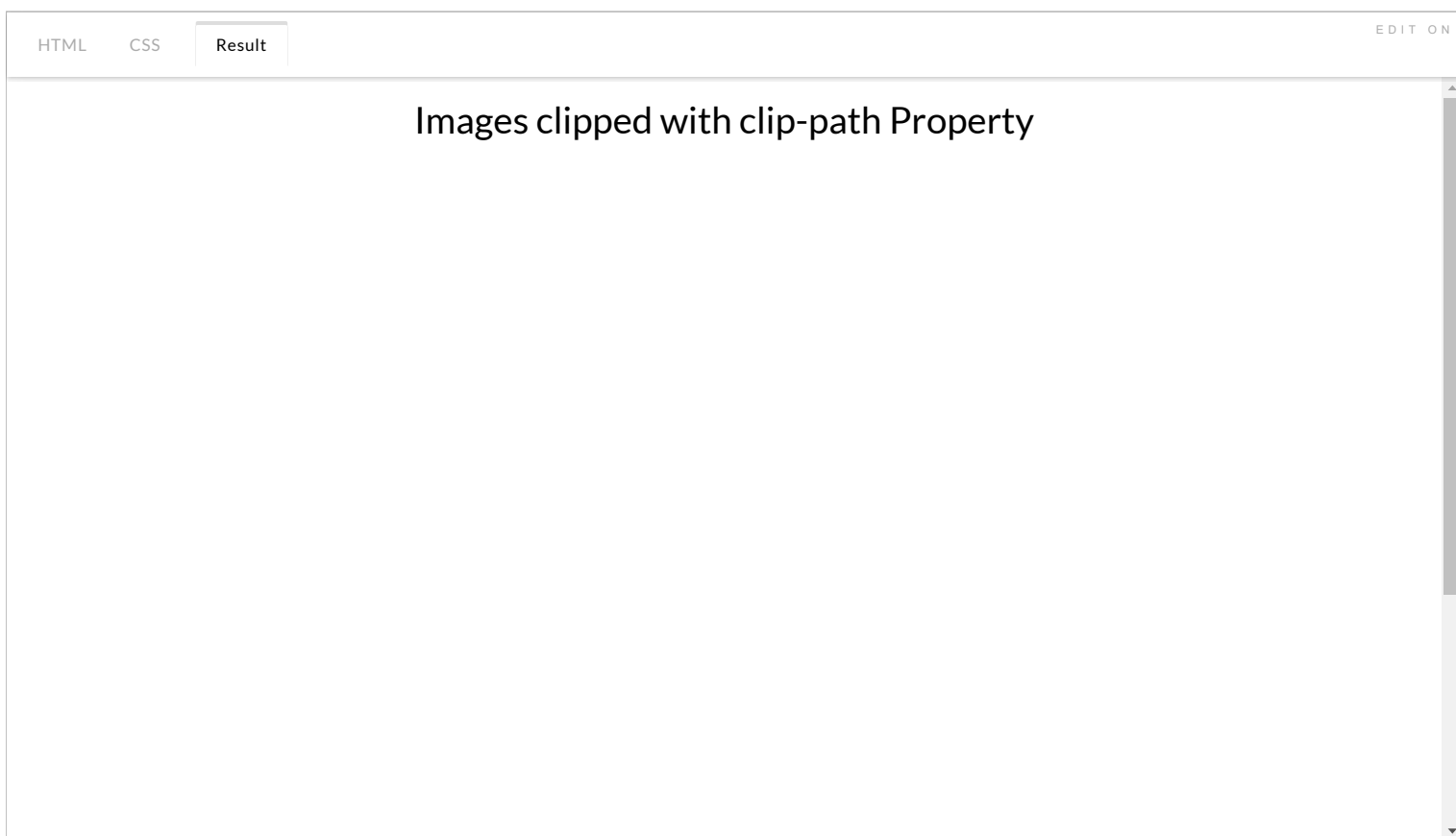
The background has seven vertices and it is reflected in our polygon's **clip-path**. How did I come up with those co-ordinates you ask? I'll leave that to the reader to figure out — doing so will help you have a better understanding of the concepts. Play around with the CodePen below to get the hang of it:



You can also clip images into different shapes with this property and arrange them together in cool ways with the help of a little CSS. The image thumbnails in your galleries no longer need to be rectangular and the user avatars can have any shape that you wish. In this tutorial, we will arrange images in the shape of a rhombus. Since all images have the same basic rhomboid shape they will use the same **clip-path** value. Here is the CSS for rightmost image:

```
.right {  
  clip-path: polygon(50% 0%, 100% 50%, 50% 100%, 0% 50%);  
  position: relative;  
  top: -352px;  
  left: 256px;  
}
```

Here is an example of **clip-path** images in action:



There is a lot more that you can do with **clip-path** — you can create buttons with fancy shapes or add nice hover effects to your navigation menu. You are limited only by your own creativity!

Adding Animation GET 50% OFF PACKT MAPT AND SITEPOINT PREMIUM FOR FREE

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This property is also able to be animated. The only thing that you have to keep in mind is that the number of vertices in the final and initial shape must be the same. This makes sense because otherwise the browser won't know where to add that extra vertex (or where to remove it from). Here is some CSS to animate a trapezium:

```
@keyframes polygons {
  25% {
    clip-path: polygon(20% 0%, 100% 38%, 70% 90%, 0% 100%);
  }
  50% {
    clip-path: polygon(0 46%, 100% 15%, 55% 74%, 0 100%);
  }
  70% {
    clip-path: polygon(100% 38%, 100% 38%, 66% 100%, 0 53%);
  }
}
```

In the final phase of the animation, the trapezium changes into a triangle. As I mentioned earlier, we can't change the number of vertices and expect the animation to be smooth. Changing the number of vertices will make the transition abrupt. To resolve this issue, I have set the first two vertices in the last polygon in such a way that they coincide. This way our quadrilateral transforms nicely into a triangle.

HTML CSS **Result** EDIT ON

Browser Support

This property is not supported by IE and Edge. Firefox only supports **clip-path** partially (*it only supports the `url()` syntax*). However, from version 47 onward, Firefox supports this property with the **layout.css.clip-path-shapes.enabled** flag enabled.

Chrome, Safari and Opera require the prefix **-webkit-** in order to work properly. Unfortunately, even they don't support shapes in external SVGs. You can read more about browser support on [Can I Use \(http://caniuse.com/#search=clip-path\)](http://caniuse.com/#search=clip-path).

Conclusion

This tutorial covered the basics of **clip-path** to help you get started. While it did not take much time to learn how to use this property, using it creatively will take a little practice. By the time browser support is decent enough, you will be ready to create stunning effects with **clip-path**.

I would also like to mention two tools – [clippy \(http://bennettfeely.com/clippy/\)](http://bennettfeely.com/clippy/) by Bennett Feely and [clip path generator \(http://cssplant.com/clip-path-generator\)](http://cssplant.com/clip-path-generator) by CSS Plant – to make it easier for you to create complex polygonal paths.

Have you created something awesome with clip-path? Please provide a link to it in the comments.

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I am a front-end developer who has a keen interest in working with various libraries and reading about latest developments in my field. I also publish a list of most popular [web development articles \(http://freadio.com/blog/webdev/\)](http://freadio.com/blog/webdev/) of the week every Tuesday on the website [Freadio \(http://freadio.com/\)](http://freadio.com/).

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Nino

cool shit man

Reply · Share · 1 Like ·  

Arnique

As cool as this property is, avoid it like the plague until there is proper browser support.

Reply · Share · 3 Likes ·  

Thomas DM ↗ Arnique

Agreed.

Especially if you need to animate it. Performance and reliability vary greatly across browsers and browser versions.

Reply · Share ·  

dsouravs

Doesn't work in FF 43 although FF 47 is latest at the moment. Didn't upgrade to FF 47 yet. But not working even in FF 43 which is a modern browser is very very disappointing.

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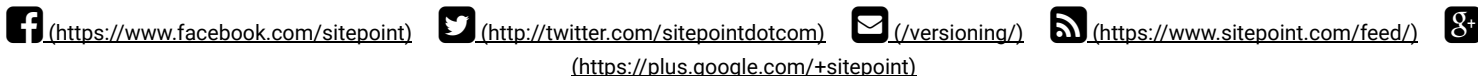
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