



WORDCAMP NÜRNBERG
16./17.04.2016
#wcnbg

Better Themes with Scalable Vector Graphics (SVG)

It's not just images 😊

Who am I?

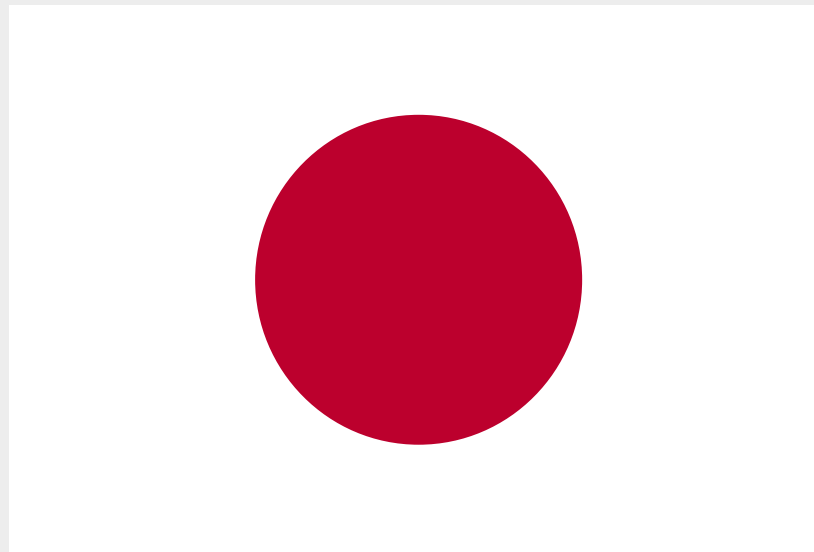
- Bernhard Kau
- Berlin, Germany
- PHP Developer
- WordPress Plugin Developer
- „From image to code“ Frontend Developer
- Organizer of the WP Meetup Berlin
- Blogger on kau-boys.de
- Twitter @2ndkauboy

What is a Scalable Vector Graphic?

- It's a graphic ... at least most of the time
- It's a vector format
- It's scalable ... as large as you want ... without a loss of quality
- Technically an XML file
- So it's code! Spooky 😊

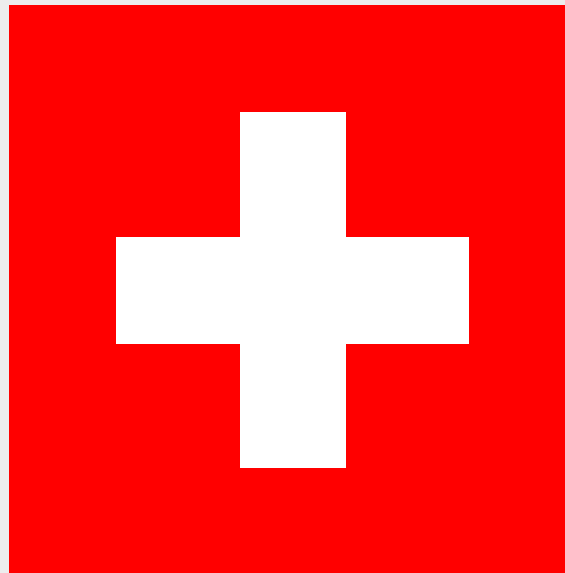
So what does a SVG look like?

```
<?xml version="1.0" encoding="UTF-8"?>  
<svg xmlns="http://www.w3.org/2000/svg" width="900" height="600">  
  <rect fill="#fff" height="600" width="900"/>  
  <circle fill="#bc002d" cx="450" cy="300" r="180"/>  
</svg>
```



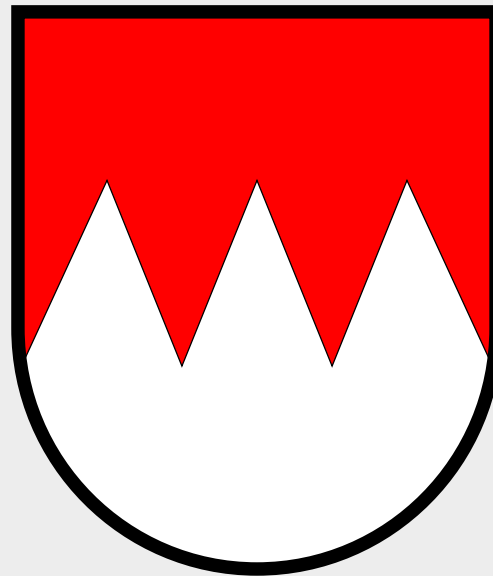
Got it? So what do we see here?

```
<?xml version="1.0" encoding="UTF-8"?>
<svg xmlns="http://www.w3.org/2000/svg" width="1000" height="1000" viewBox="0 0 32 32">
  <rect fill="#f00" height="32" width="32"/>
  <rect fill="#fff" height="6" width="20" x="6" y="13"/>
  <rect fill="#fff" height="20" width="6" x="13" y="6"/>
</svg>
```



Anyone? Just kidding 😊

```
<?xml version="1.0" encoding="UTF-8"?>  
<svg xmlns="http://www.w3.org/2000/svg" width="650" height="750" stroke="#000">  
  <path fill="#FFF" d="m6,6V425a319,319 0 0,0 638,0V6"/>  
  <path fill="#F00" d="m11,11v464l114-246 100,246 100-246 100,246 114,246V11"/>  
  <path fill="none" stroke-width="11" d="m6,6V425a319,319 0 0,0 638,0V6z"/>  
</svg>
```



How to use SVG images?

- Using an `` tag

```

```

How to use SVG images?

- Using an `<object>` tag

```
<object type="image/svg+xml" data="Flag_of_Japan.svg">  
    
</object>
```


How to use SVG images?

- Using a `<picture>` tag

```
<picture>  
  <source type="image/svg+xml" srcset="Flag_of_Japan.svg">  
    
</picture>
```



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How to use SVG images?

- As a CSS background image

```
.flag-jp {  
    background-image: url( "Flag_of_Japan.svg" );  
}
```

How to use SVG images?

- As a CSS background image with a „Data-URI“

```
.flag-jp-base64 {  
  background-image: url('data:image/svg+xml;base64,PHN2ZyB4bWxucz0iaH...');  
}  
  
.flag-jp-svg {  
  background-image: url('data:image/svg+xml;utf8,<svg xmlns="http://...');  
}  
  
.flag-jp-svg-urlencoded {  
  background-image: url('data:image/svg+xml;utf8,%3Csvg%20xmlns%3D%22...');  
}
```

How to use SVG images?

- Embedding them into the HTML

```
<div>  
  <svg xmlns="http://www.w3.org/2000/svg" width="900" height="600">  
    <title>Flag of Japan</title>  
    <rect fill="#fff" height="600" width="900"/>  
    <circle fill="#bc002d" cx="450" cy="300" r="180"/>  
  </svg>  
</div>
```

Note: Do not add `<?xml version="1.0" encoding="UTF-8"?>`



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Why should I use SVG?

Scaled PNG at 3.0 „Pixel Density“

SVG



Why should I use SVG?

```

```

```

```

Which browser supports SVG?



Source: <http://caniuse.com/svg>

SVG is more than just images!

- A web font format
- A better replacement for icon web fonts
- A way to create image maps
- A container for CSS filters

SVG as an icon font replacement

	Icon Font	SVG
Rendering	May be anti-aliased	Just “as is”
CSS Control	Only text styles usable	CSS font properties + SVG-specific CSS
Positioning	Hard, due to line-height, vertical-align, letter-spacing, word-spacing	Easy, it’s just an ordinary image
Loading Issues	CORS headers, Content-Type, broken CDN	Just hosted as a regular image
Other Issues	Proxy browsers (Opera Mini), User overwrites fonts, blocking of custom fonts	No issue even with proxy browsers
Semantics	Pseudo-Elements, , <i>, this is bad	An image is an image
Accessibility	Text might be tried to read by screen reader	Attributes like title, desc, aria-labelledby
Ease of use	Not very easy to create custom font	Have I mentioned, they are images? 😊
Browser Support	Even in IE6	Not in IE 8 and Android 2.3

SVG as an icon font replacement



WordCamp London 2016 - Sarah Semark

<http://triggersandsparks.com/talks/SVG-icons/>

SVG for image maps

```
<?xml version="1.0" encoding="utf-8"?>
<svg xmlns="http://www.w3.org/2000/svg"
  xmlns:xlink="http://www.w3.org/1999/xlink"
  x="0px" y="0px" width="100%" height="100%"
  viewBox="0 0 591.504 800.504" overflow="visible"
  enable-background="new 0 0 591.504 800.504"
  xml:space="preserve">
  <g id="Bundesrepublik_Deutschland">
    <a xlink:href="/thuerigen" xlink:title="Bundesland Thüringen">
      <path id="Thüringen" fill="#B1D1A3,,
        stroke="#284566" stroke-width="0.5"
        d="M312.004,351.725l1.845-0.401l3.39,0.274l1.912,..."/>
    </a>
    ...
  </g>
</svg>
```



SVG as CSS filters

```
<svg xmlns="http://www.w3.org/2000/svg">
  <filter id="monochrome"
    color-interpolation-filters="sRGB"
    x="0" y="0" height="100%" width="100%">
    <feColorMatrix type="matrix"
      values="1.00 0 0 0 0
             0.80 0 0 0 0
             0.65 0 0 0 0
             0    0 0 1 0" />
  </filter>
</svg>
```



```
.inline-filter {
  filter: url(#monochrome);
}
.external-filters {
  filter: url("filters.svg#monochrome");
}
```



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Sources

- <https://www.paciellogroup.com/blog/2013/12/using-aria-enhance-svg-accessibility/>
- <http://www.iheni.com/just-how-accessible-is-svg/>
- <https://css-tricks.com/svg-fallbacks/>
- <https://css-tricks.com/a-complete-guide-to-svg-fallbacks/>
- <https://css-tricks.com/probably-dont-base64-svg/>
- <https://css-tricks.com/icon-fonts-vs-svg/>
- <https://css-tricks.com/color-filters-can-turn-your-gray-skies-blue/>
- <https://www.image-map.net/>



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Thank you for your attention!

Slides will be posted on kau-boys.com