Scalable Vector Graphics (SVG)

XML Graphics for the Web

SVG Overview

- Scalable Vector Graphics (SVG) is a language for describing two-dimensional graphics and graphical applications in XML.

- SVG is suitable for Web applications based on data-driven, interactive, personalized graphics from real-time data sources

- Industry applications of SVG include mobile authoring, print based on XML page description including variable data printing, Web applications, and Geographic Information System (GIS) mapping.

- SVG was introduced as an open standard by the World Wide Web Consortium (W3C) in 1999 for publishing animation and for interactive applications using vector graphics on the Web.

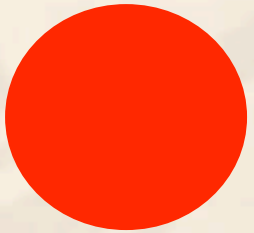
SVG Features

- Small file size

- SVG files are normally smaller than other web graphics such as JPEG, GIF. And it’s quick to be downloaded.

SVG Features

- Example



```
<?xml version="1.0" standalone="no"?>
<!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 1.1//EN"
"http://www.w3.org/Graphics/SVG/1.1/DTD/svg11.dtd">
<svg width="100%" height="100%" version="1.1"
xmlns="http://www.w3.org/2000/svg">
<circle cx="100" cy="50" r="40" stroke="black" stroke-width="2"
fill="red"/>
</svg>
```

SVG Features

- Display independence

- SVG files print due to the resolution of your printer, no matter it's 300 dpi or 600 dpi. You'll never get jagged edges because of the pixel enlargement or anti-aliasing.

SVG Features

- Superior color control

- SVG offers a palette of 16 million colors. It supports ICC color profiles, sRGB, gradients, and masking.

SVG Features

- Interactivity and intelligence

- SVG offers dynamic interactivity. SVG images can respond to user actions with highlighting, special effects, audio, and animation.

SVG Features

- Zooming

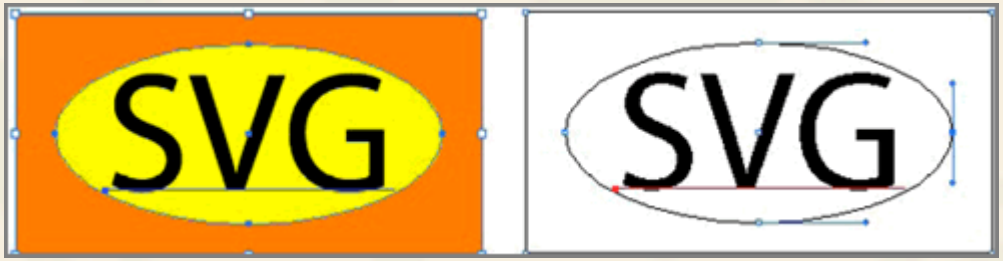
- Users can magnify an image up to 1,600% without sacrificing sharpness, detail, or clarity. Text stays text in SVG, images remains editable

SVG Features

- Text-based files

- An SVG file is text-based, not binary. It is a "human readable" format much like HTML.

SVG Features



The code of this SVG file looks like this:

```
<rect id=”Rectangular_shape” fill=”#FF9900” width=”85.302”
height=”44.092”/>
<ellipse id=”Elliptical_shape” fill=”#FFFF3E” cx=”42.651” cy=”22.046”
rx=”35.447” ry=”16.426”/>
<text transform=”matrix(1 0 0 1 16.2104 32.2134)” font-family=”ÅfMyriad-
RomanÅf” font-size=”31.2342”>SVG</text>
```

SVG In HTML Tags

<embed> Tag

- **<embed src="rect.svg" width="300" height="100" type="image/svg+xml" pluginspage="http://www.adobe.com/svg/viewer/install/" />**

<object> Tag

- **<object data="rect.svg" width="300" height="100" type="image/svg+xml" codebase="http://www.adobe.com/svg/viewer/install/" />**

<iframe> Tag

- **<iframe src="rect.svg" width="300" height="100"> </iframe>**

SVG Shapes

SVG has following shapes:

- Rectangle <rect>
- Circle <circle>
- Ellipse <ellipse>
- Line <line>
- Polyline <polyline>
- Polygon <polygon>
- Path <path>

SVG Filters

The filters are used to add special effects.

- feBlend <rect>
- feColorMatrix
- feComponentTransfer
- feComposite
- feConvolveMatrix
- feDiffuseLighting

SVG Gradients

- A gradient is a smooth transition from one color to another.

There are two main types:

- Linear Gradients
- Radial Gradients

SVG Examples

- Chart and graph demo
- http://www.adobe.com/svg/demos/chart.html
- Visual building search
- http://www.adobe.com/svg/demos/vbs/html/frameset.html
- Chemical Markup Language
- http://www.adobe.com/svg/demos/cml2svg/html/index.html

SVG References

- All the information come from
- http://www.adobe.com/svg/overview.html
- http://www.w3schools.com/svg/default.asp

Thank you!