Information Visualization
Introduction to SVG

Paulo Dias

deti departamento de electrónica telecomunicações e informática

universidade de aveiro

SVG – Scalable Vector Graphics

“SVG is to graphics what HTML is to text”

SVG – Origin

- SVG created by “W3C”, a Consortium that develops standards and guidelines to help everyone build “open source standards” for web.
- September 2001 : SVG 1.0 recommendation by W3C
- January 2004: SVG 1.1 recommendation by W3C
- August 2011: SVG 1.1 (2nd edition) - recommendation by W3C
- October 2018: SVG 2.0 - Recomendação

SVG - Advantages

SVG:

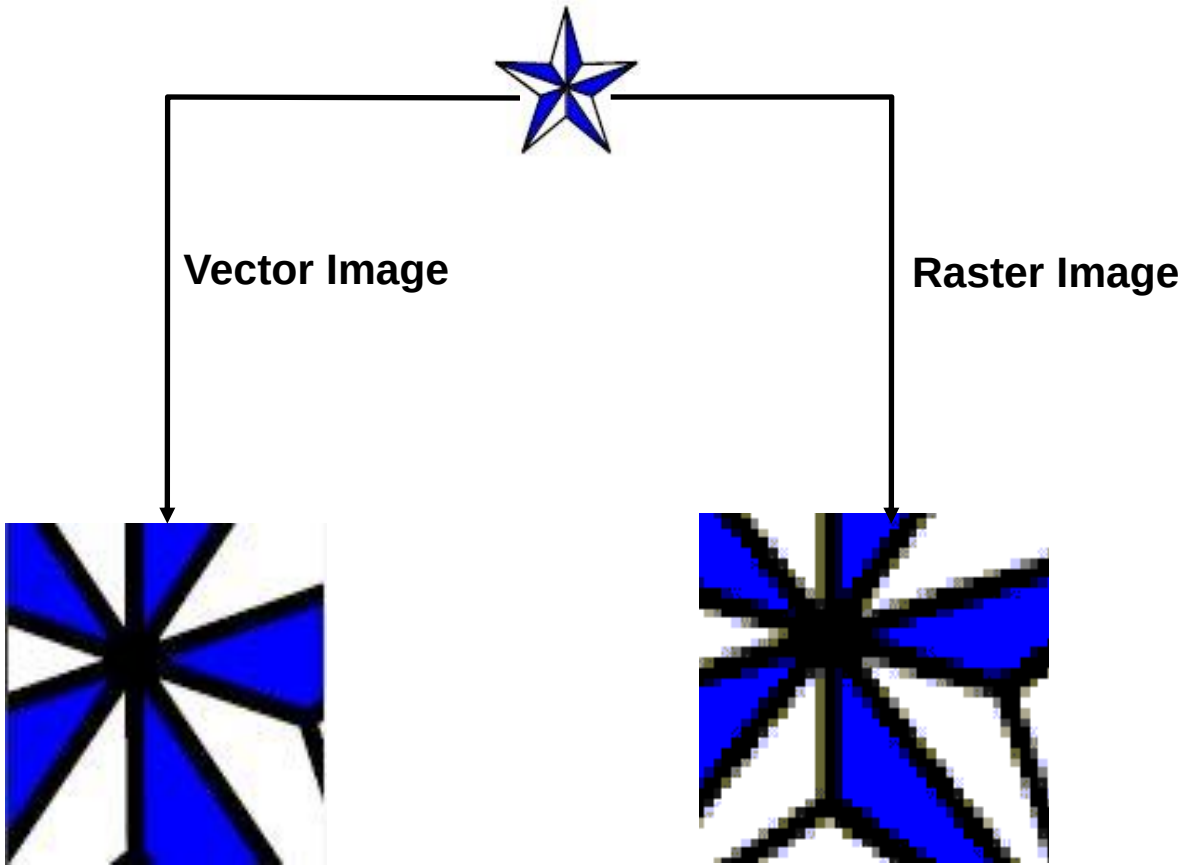
- XML File – can be created and edited with any text editor
- Scalable
- Can be printed and zoomed/resized without any quality loss
- Open standard – different from Flash
- Can be searched, indexed, compressed
- supported by all major browsers

SVG – Scalable Vector Graphics

- SVG is eficient
  - SVG files are text files relatively small When compared to raster formats (BMP, JPEG, PNG)
  - Can also be created from image editing software such as Inkscape or GIMP.

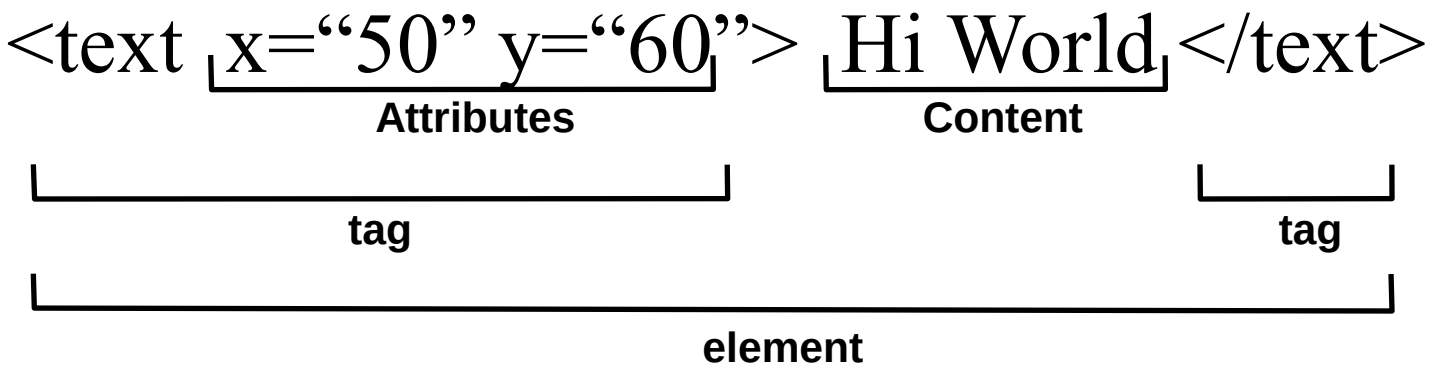
SVG – Scalable Vector Graphics

SVG is scalable



SVG – Scalable Vector Graphics

- SVG is XML based



SVG – Structure

- SVG based on 3 types of basic elements:
  - shapes
  - images (raster images can be loaded)
  - text

SVG - Structure

- An SVG document consists in a root element <svg> followed by several primitives that are graphics elements.
- It is possible to make relatively complex Graphics since SVG supports: gradients, transformations, filters, animations, interactions with Javascript, etc…

SVG – Structure

```
<!-- Abertura do ficheiro SVG -->
<svg>
<!-- Cria um shape rect especificando
   coordenadas do canto superior esquerdo e
   dimensões -->
<rect x="80" y="50" width="100"
   height="150"/>
<!-- Fecho o documento SVG -->
</svg>
```