HTML5 and CSS3 for Mobile Applications

SVG: Scalable Vector Graphics

Prof. Paul Krause, University of Surrey

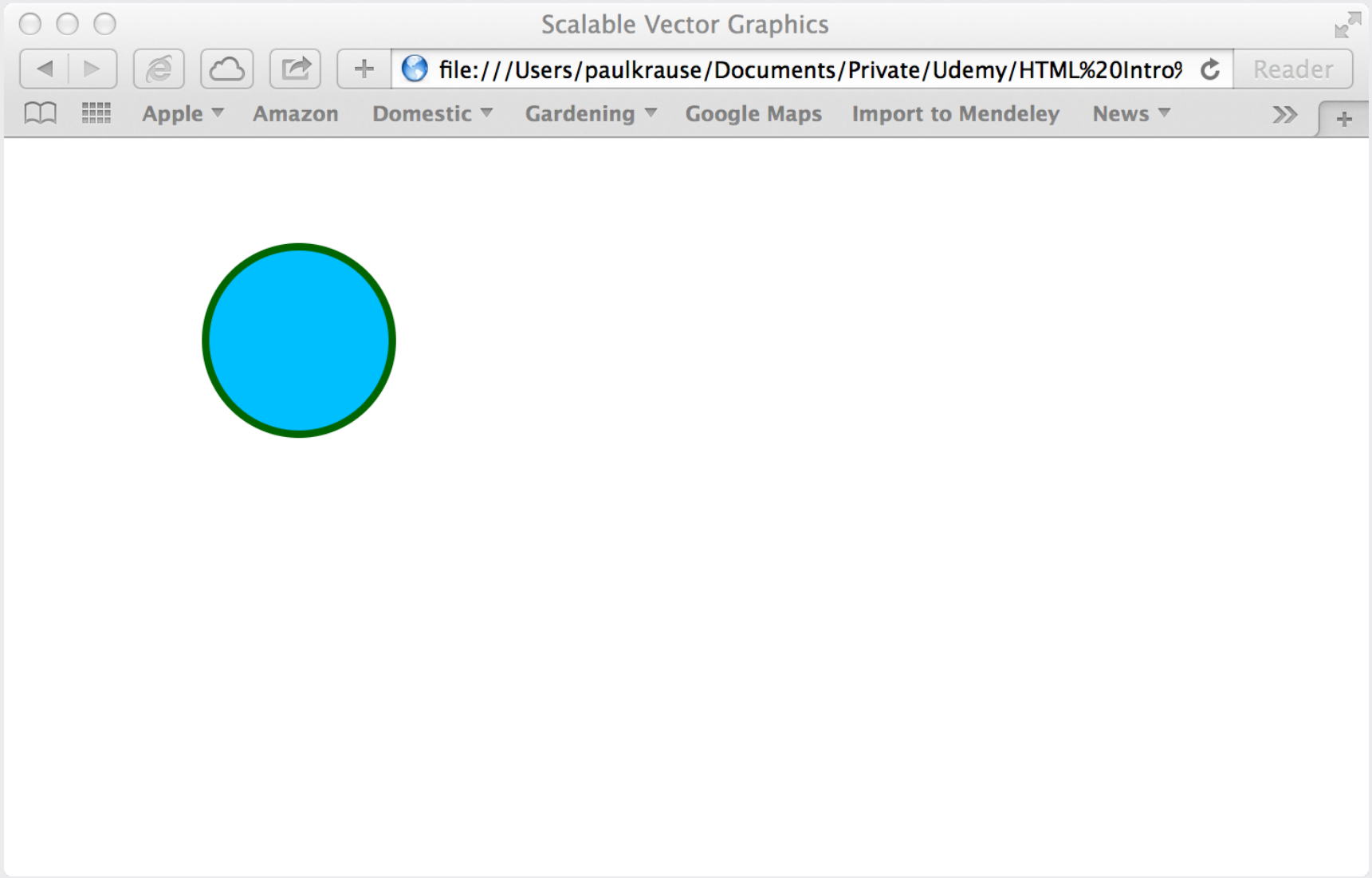
Scalable Vector Graphics

Advantages of SVG

- Small file size
- Can be changed with scripting
- Scales without pixelated or jagged edges
- Easy to understand
- Can be animated

Simple Circle in svg

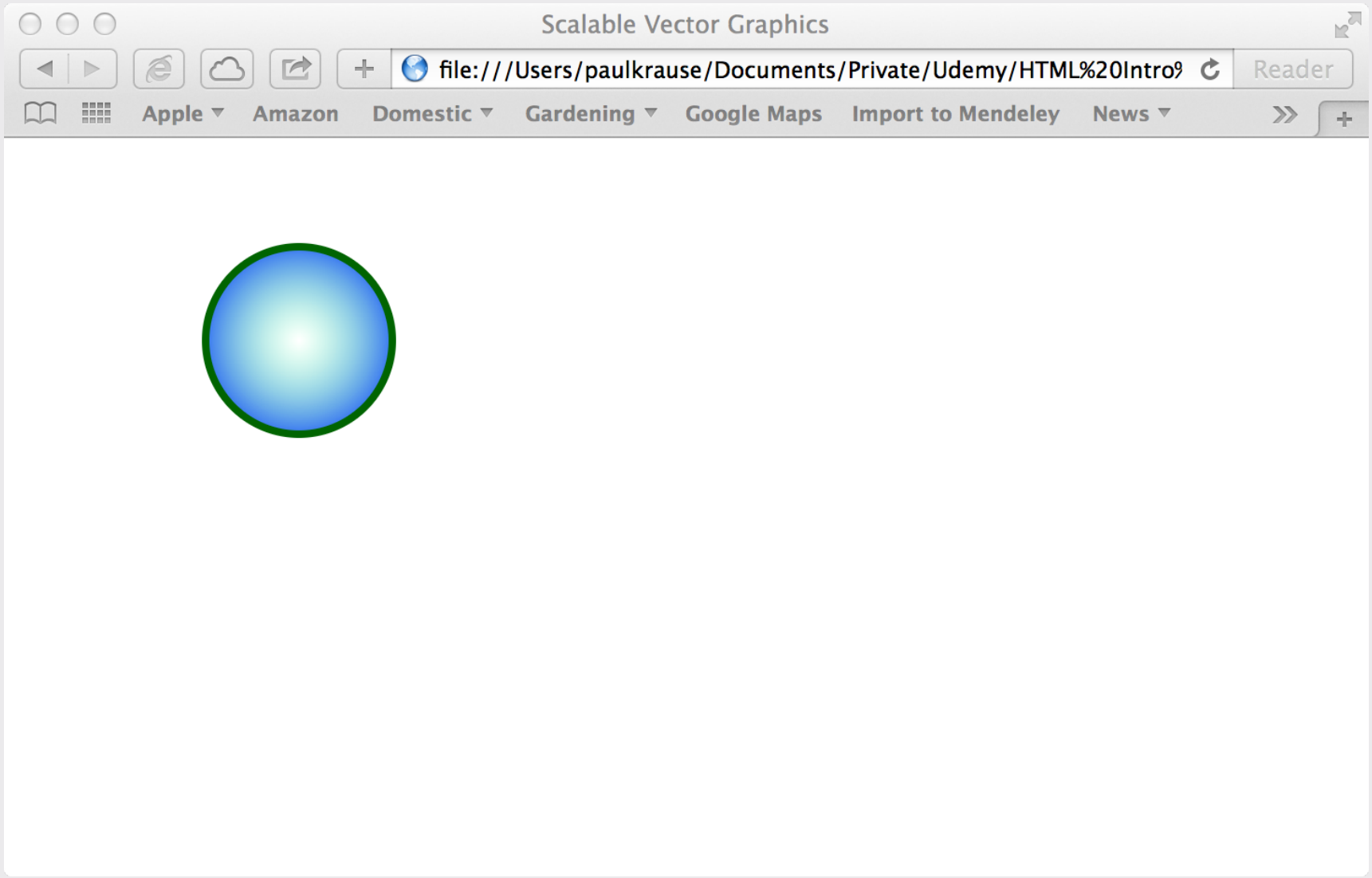
```
<!DOCTYPE html>
<html lang="en-GB">
  <head>
    <meta charset="utf-8">
    <title>Scalable Vector Graphics</title>
  </head>
  <body>
    <svg width="300" height="200">
      <circle cx="150" cy="100" r="50" stroke="darkgreen" stroke-width="4" fill="deepskyblue"/>
    </svg>
  </body>
</html>
```


Scalable Vector Graphics
file:///Users/paulkrause/Documents/Private/Udemy/HTML%20Intro9
Reader
Apple
Amazon
Domestic
Gardening
Google Maps
Import to Mendeley
News

Circle with gradient fill

```
<svg width="300" height="200">
  <defs>
    <radialGradient id="grad" cx="50%" cy="50%" r="60%" fx="50%" fy="50%">
      <stop offset="0%" style="stop-color:rgb(51,255,153);stop-opacity:0" />
      <stop offset="100%" style="stop-color:rgb(0,51,255);stop-opacity:1" />
    </radialGradient>
  </defs>

  <circle cx="150" cy="100" r="50" stroke="darkgreen" stroke-width="4" fill="url(#grad)"/>
</svg>
```


Scalable Vector Graphics
file:///Users/paulkrause/Documents/Private/Udemy/HTML%20Intro9
Reader
Apple
Amazon
Domestic
Gardening
Google Maps
Import to Mendeley
News

Animate the circle

```
<svg width="300" height="200">
  <defs>
    <radialGradient id="grad" cx="50%" cy="50%" r="60%" fx="50%" fy="50%">
      <stop offset="0%" style="stop-color:rgb(51,255,153);stop-opacity:0" />
      <stop offset="100%" style="stop-color:rgb(0,51,255);stop-opacity:1" />
    </radialGradient>
  </defs>

  <circle cx="150" cy="100" r="50" stroke="darkgreen" stroke-width="4" fill="url(#grad)">
    <animate attributeName="r" attributeType="XML" begin="0s" dur="6s" fill="freeze"
     from="50" to="0" />
  </circle>
</svg>
```

```svg
<!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 1.0//EN"
  "http://www.w3.org/TR/2001/REC-SVG-20010904/DTD/svg10.dtd">
<svg xmlns="http://www.w3.org/2000/svg" height="200" width="300" version="1.0">
  <title>Animated Circle</title>
  <desc>Circle with gradient fill that slowly collapses</desc>
    <defs>
      <radialGradient id="grad" cx="50%" cy="50%" r="60%" fx="50%" fy="50%">
        <stop offset="0%" style="stop-color:rgb(51,255,153);stop-opacity:0" />
        <stop offset="100%" style="stop-color:rgb(0,51,255);stop-opacity:1" />
      </radialGradient>
    </defs>

    <circle cx="150" cy="100" r="50" stroke="darkgreen" stroke-width="4" fill="url(#grad)">
      <animate attributeName="r" attributeType="XML" begin="0s" dur="6s" fill="freeze"
       from="50" to="0" />
    </circle>
</svg>
```

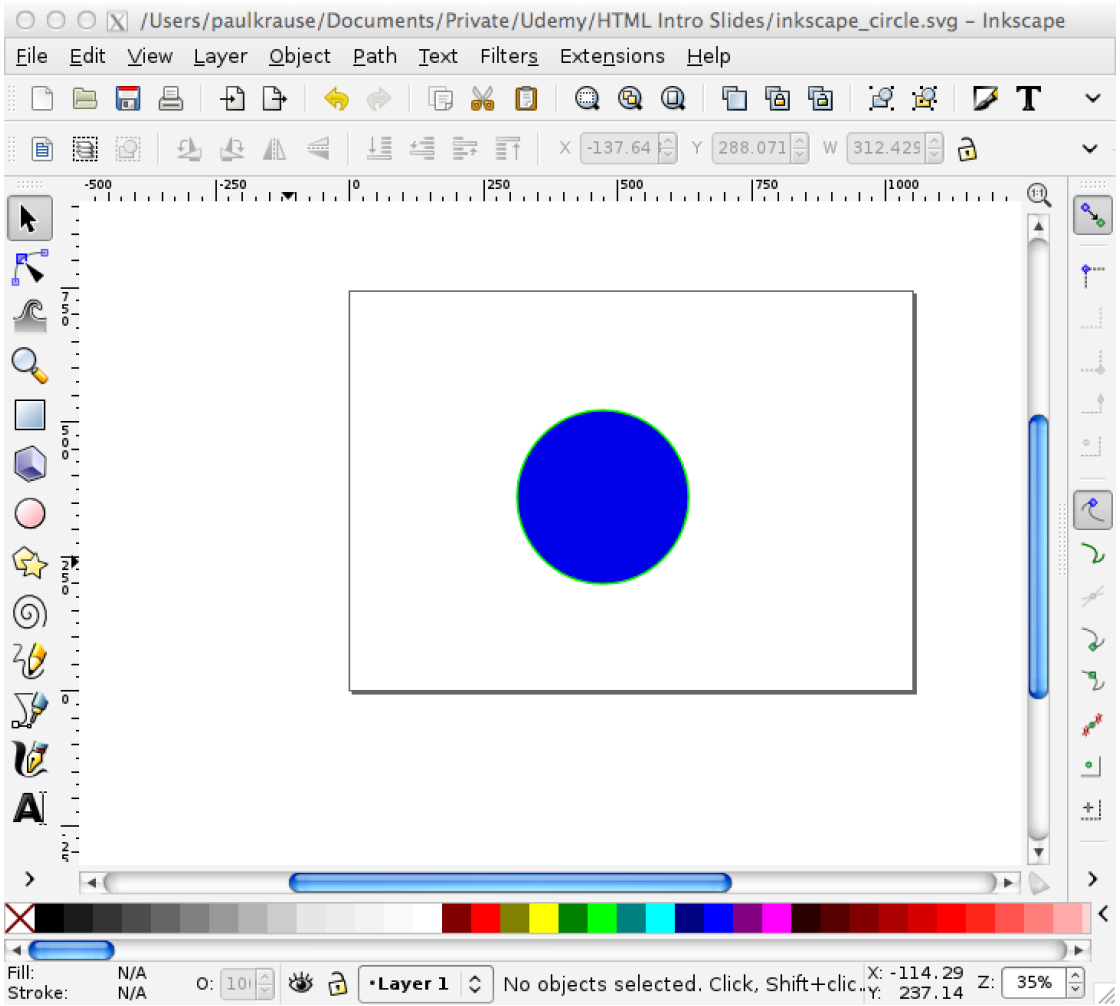
and import it into the HTML

```
<!DOCTYPE html>
<html lang="en-GB">
  <head>
    <meta charset="utf-8">
    <title>Scalable Vector Graphics</title>
  </head>
  <body>
    <img src="images/animated_circle.svg" alt="Animated Circle">
  </body>
</html>
```

Including an svg file in a document

```
1
2     <img src="images/animated_circle.svg" alt="Animated Circle">
3
4     or
5
6     <embed type="image/svg+xml" src="images/animated_circle.svg" width="300" height="200">
7
8     or
9
10    <object data="images/animated_circle.svg" type="image/svg+xml" width="300" height="200">
11
12
```

Use Inkscape for drawing svg



But …

```
<g
   inkscape:label="Layer 1"
   inkscape:groupmode="layer"
   id="layer1"
   transform="translate(0,-308.2677)">
  <path
     sodipodi:type="arc"
     style="fill:#0000e5;fill-rule:evenodd;stroke:#00f300;stroke-width:4;stroke-
     linecap:butt;stroke-linejoin:miter;stroke-opacity:1;stroke-miterlimit:4;stroke-
     dasharray:none;fill-opacity:1"
     id="path2985"
     sodipodi:cx="474.28571"
     sodipodi:cy="385.52304"
     sodipodi:rx="160"
     sodipodi:ry="161.42857"
     d="m 634.28571,385.52304 a 160,161.42857 0 1 1 -320,0 160,161.42857 0 1 1 320,0 z"
     transform="translate(0,308.2677)" />
</g>
```

What we have done

- Very high level introduction to svg
- First point of call for more info:

  http://www.w3schools.com/svg/