CSC 195 2014S, Class 09: Images as Markup: Exploring SVG

Overview

- Preliminaries.
  - Admin.
  - Questions.
- Vector graphics.
- SVG.
- Lab.

Preliminaries

Admin

- Cool talks on tech in liberal arts today
- Cool CS table article Friday
- We’ll look at some of the things you built.
- Next homework: Do something interesting with SVG.

Vector graphics

- Two main models of computer graphics:
  - Raster graphics: Model image as pixels
  - Vector graphics: Model images in terms of basic shapes and lines.
- Why use vector graphics rather than raster graphics
  - Scalable without loss of resolution
  - Scaling does not change storage space / Representation is almost independent of size
  - No loss of information: If you decide to change something, we still know what the thing is. Easy to change.
  - Some T-shirt companies like them.
  - Generally MUCH SMALLER than raster graphics
  - Better for some output devices
- In most modern systems, output is raster (screen, printer)
  - Question as to when
**SVG**

Goals:

- For the Web
- Human readable
- Easy to render
- Rich/powerful

Represent as XML (like HTML, but generalized)

- Lots of parsers
- Familiar syntax
- ...

- radius r="10"
- center point or top-left cx="100" cy="50"
- Fill color (gradient, pattern, continuously changing, etc.)
- Stroke thickness stroke-width="1px"
- Stroke color
- [brush, if supported]
- Transformations (rotation, scale, skew, ...)
- Opacity

- Other shapes
  - Rectangle
    - Left, top, width, height
    - Curviness of corners
  - Polygon

- Other things
  - Line
    - Starting and ending points
    - Stroke stuff
    - Can we specify curved lines? Yes. Bezier curves. [Read more later.]

- Additional issues
  - Layering

Copyright (c) 2014 Samuel A. Rebelsky.

This work is licensed under a [Creative Commons Attribution 3.0 Unported License](http://creativecommons.org/licenses/by/3.0/) To view a copy of this license, visit [http://creativecommons.org/licenses/by/3.0/] or send a letter to Creative