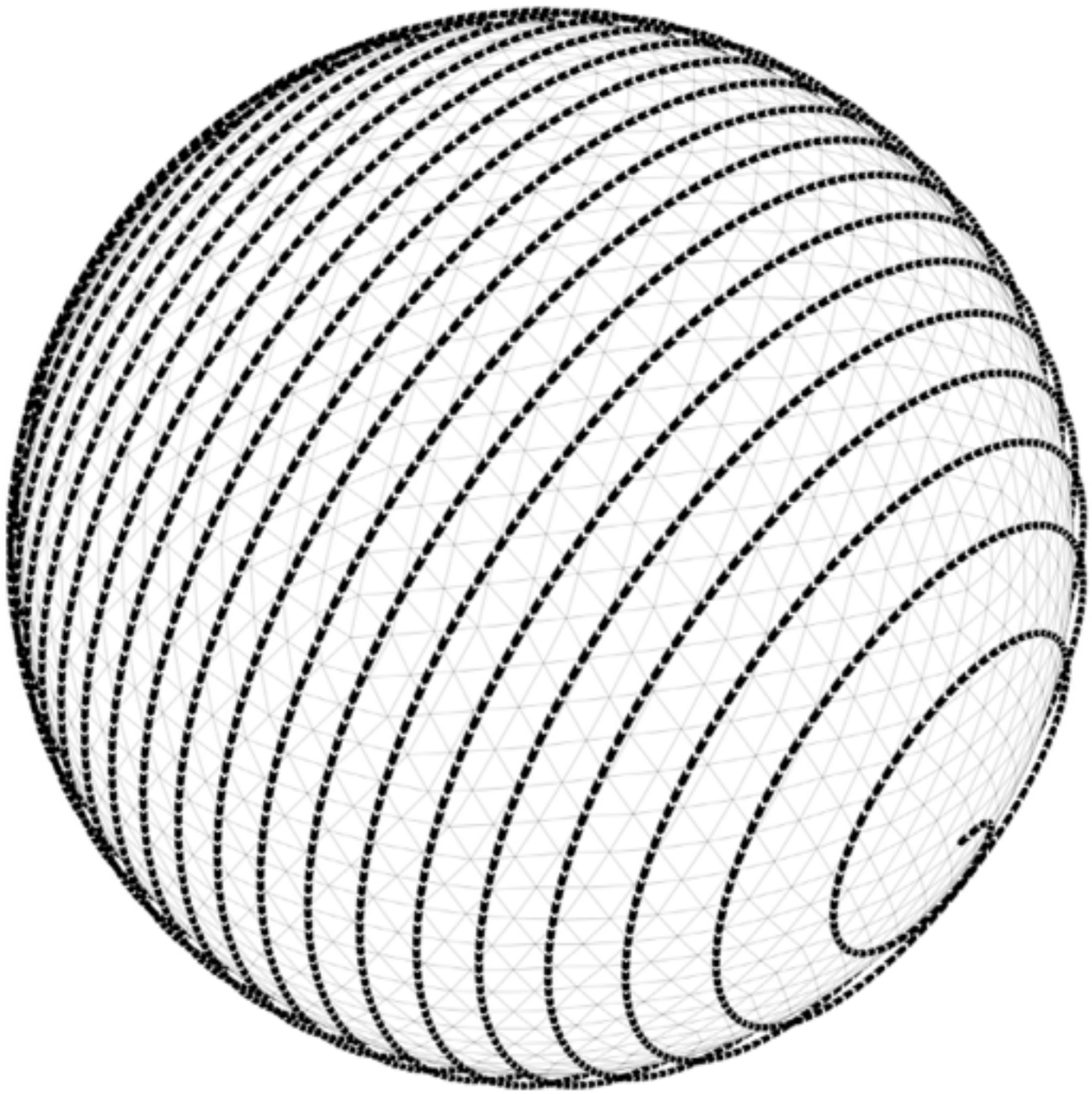
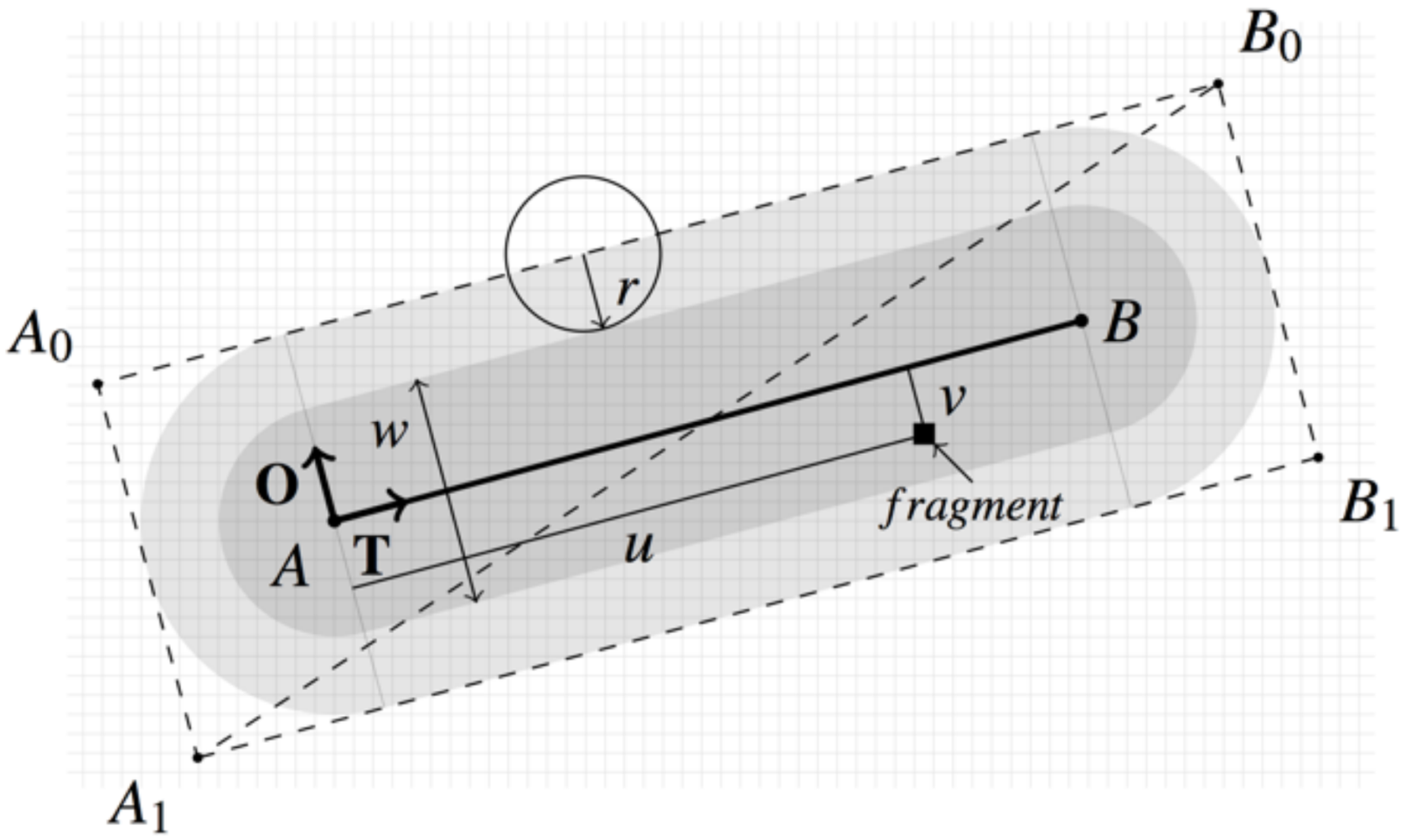


OpenGL Antigrain Geometry

Performance & Quality

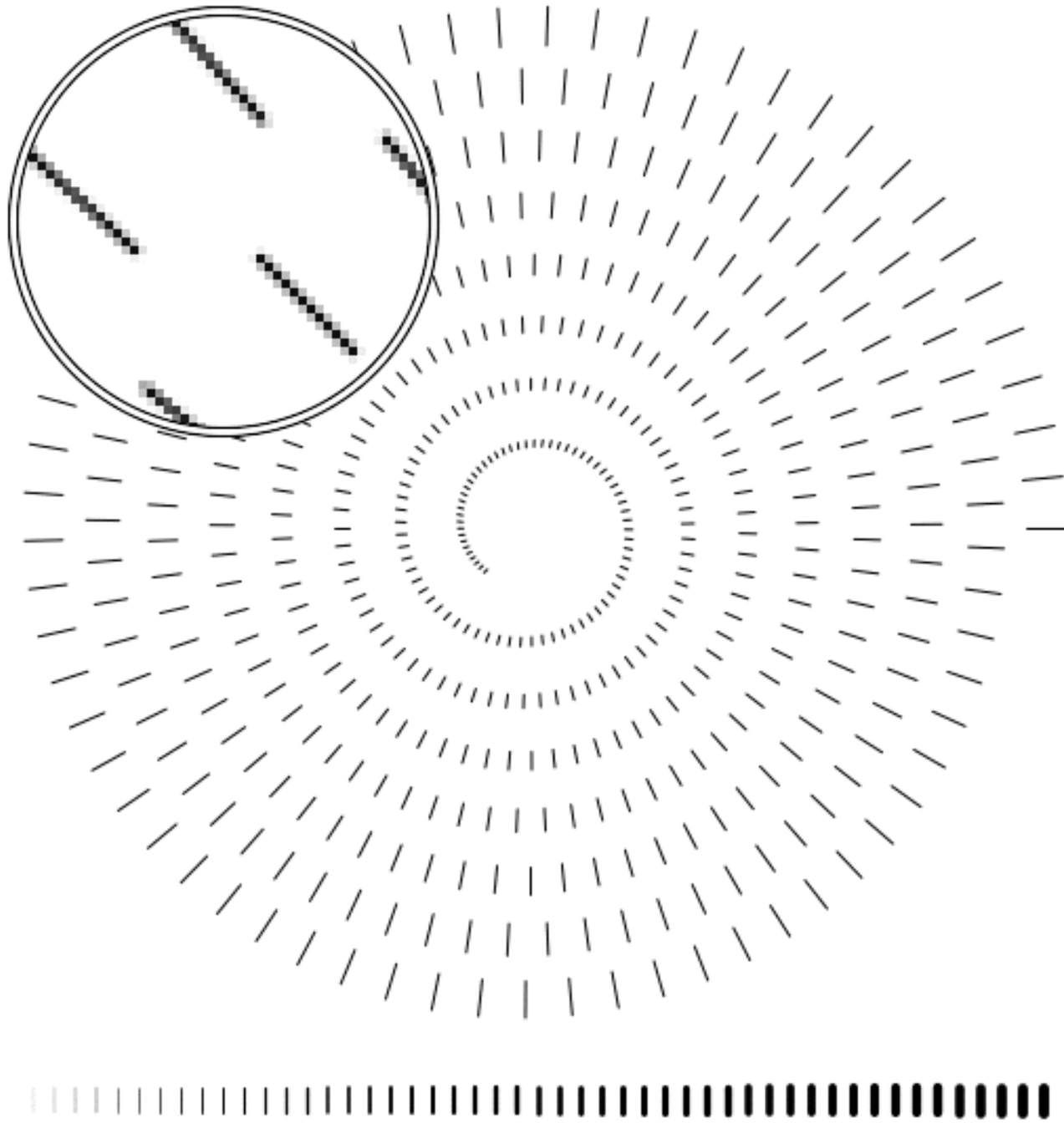
OpenGL Antigrain Geometry

To ensure proper antialiasing, we need to compute fragment coverage. This can be done if we know the signed distance of any fragment to the actual shape.



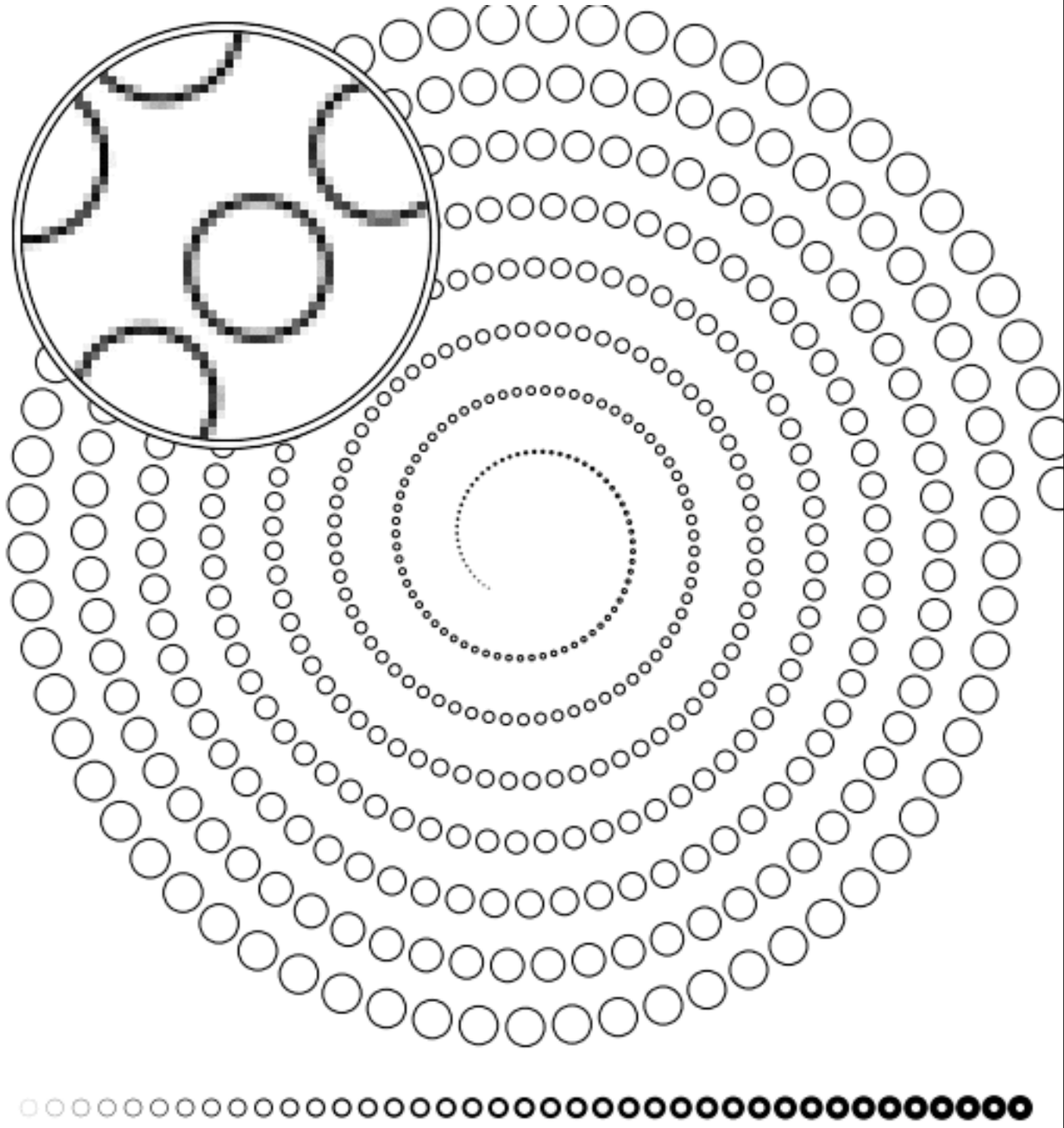
Lines

Distance to segment (easy)



Circles

Distance to circle (easy)

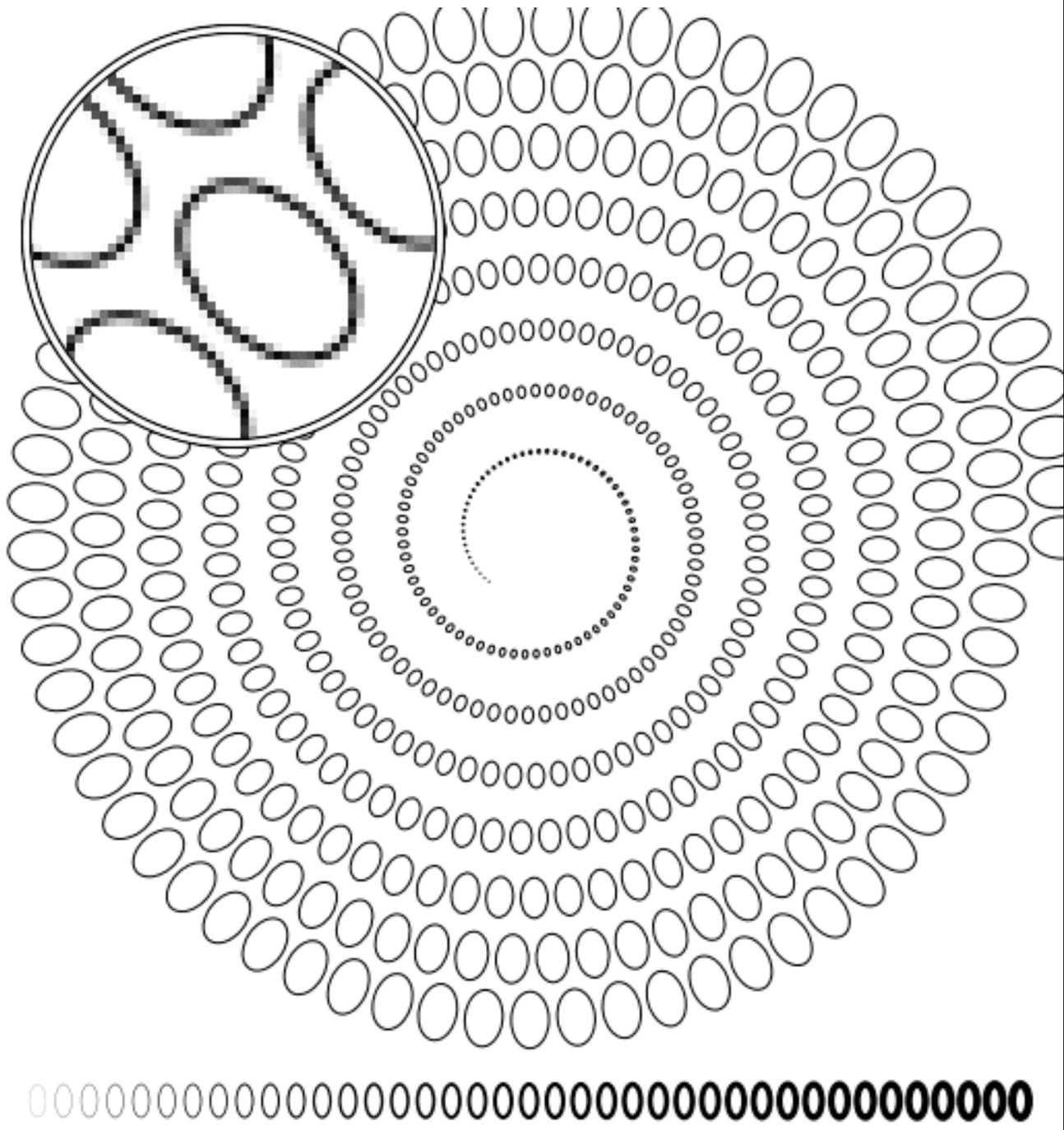


Ellipses

Distance to ellipse

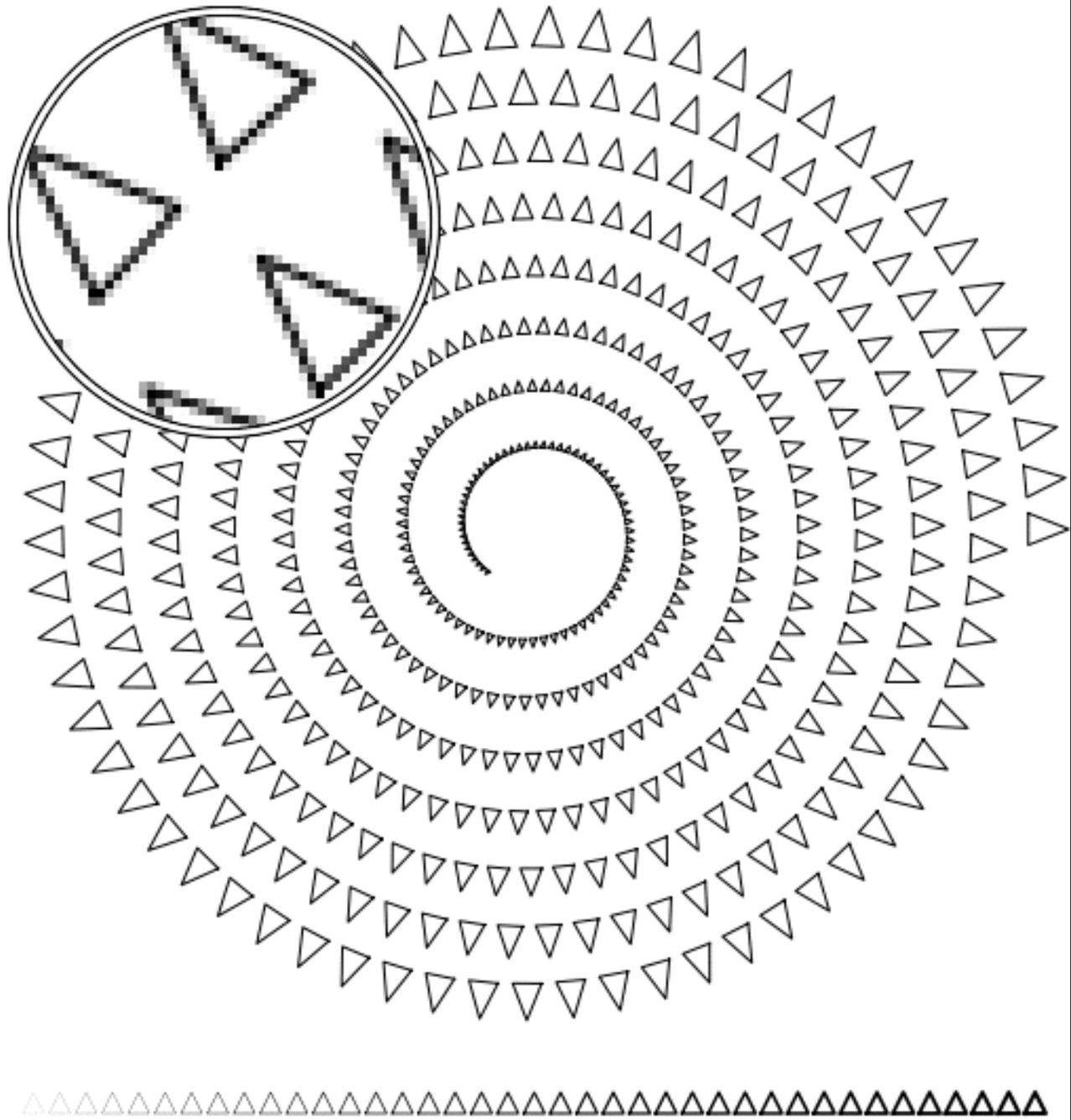
→ use approximation for thin ellipses

→ thick ellipses require polyline



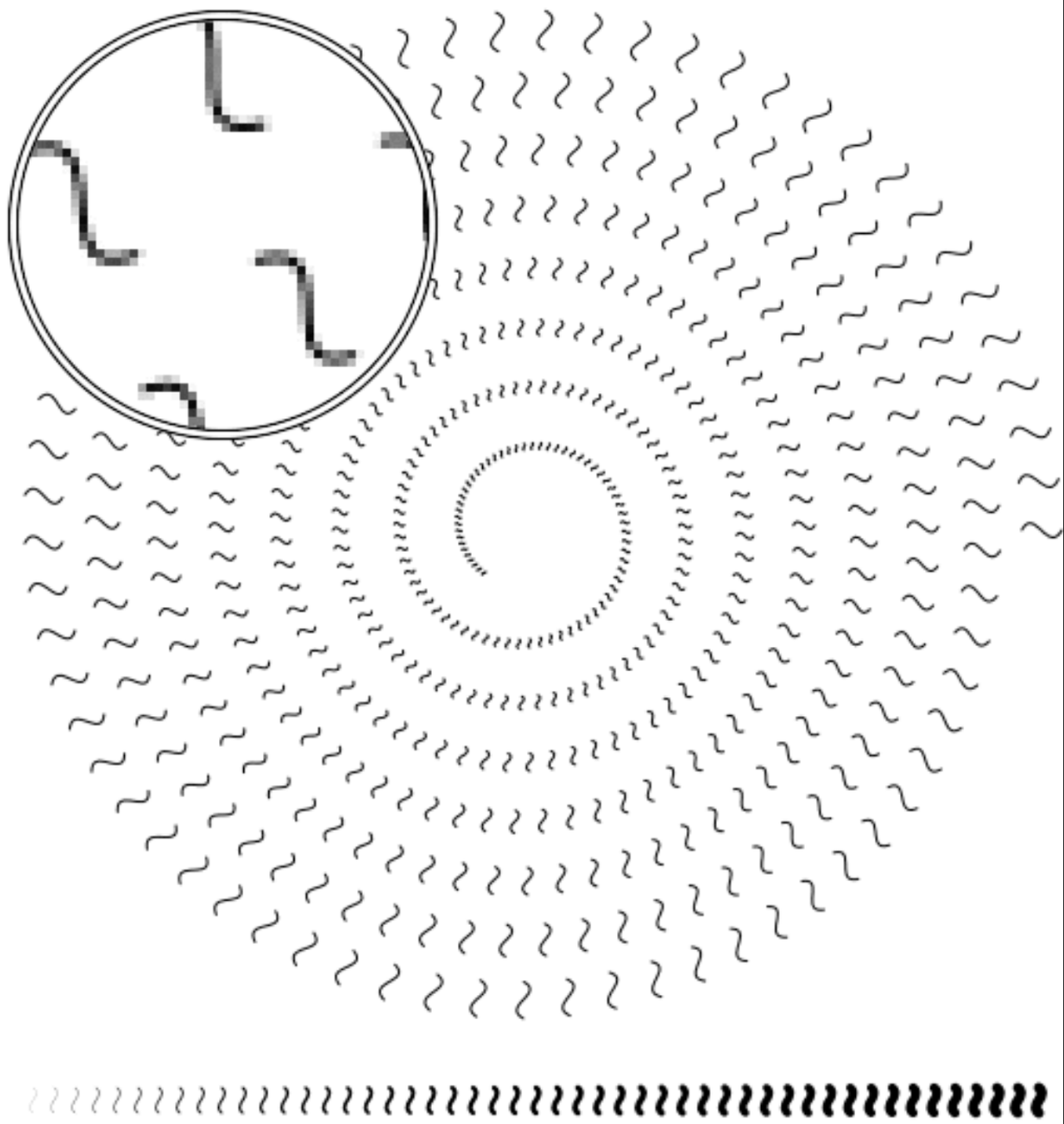
Triangles

Distance to triangle
→ no control of corner



Polylines

Handle caps, joins and dashes

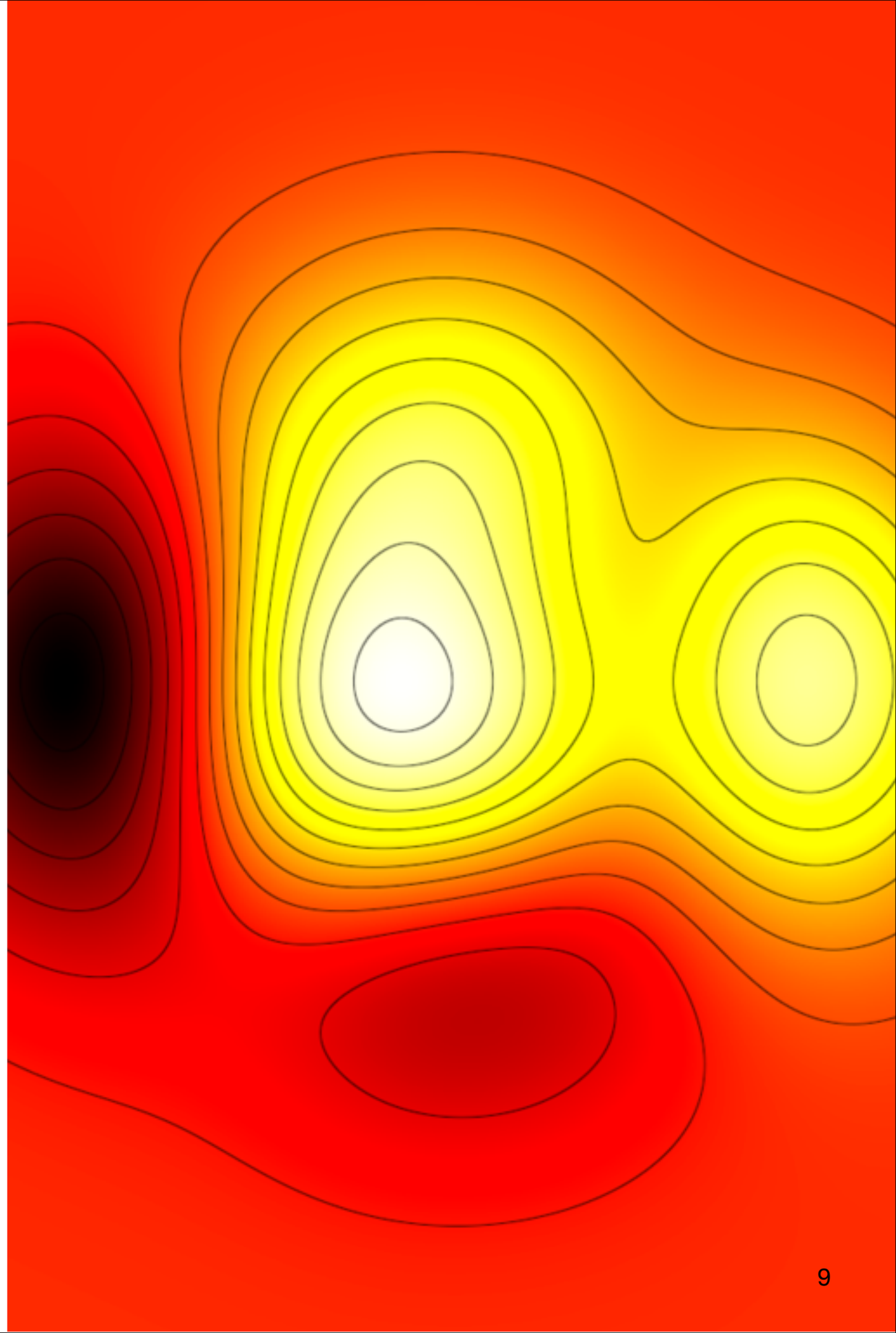


Text

Freetype rasterization
Signed Distance Field

Image interpolation

Interpolation using texture kernels



Polygons

Not yet done
Requires triangulation
Requires clipping

Related Bibliography

- *Shader-based Antialiased Dashed Stroked Polylines*
  N. P. Rougier. Journal of Computer Graphics Techniques, 2.2 (2013).

- *Higher Quality 2D Text Rendering*
  N. P. Rougier. Journal of Computer Graphics Techniques, 2.1 (2013).