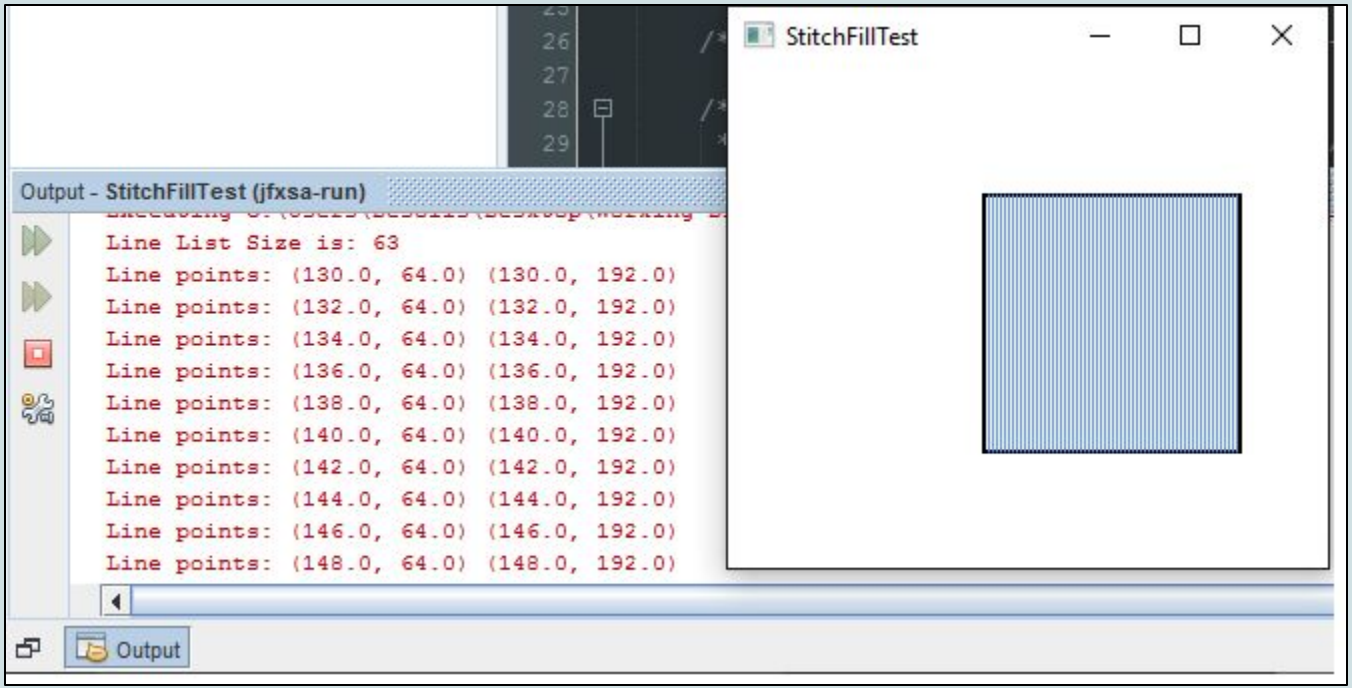
Embroid-It

Briefing 6

Chris Park, Trae Rawls, Nate Owens

Stitch Fills

Vertical Stitch Fill Tested (Rectangles)



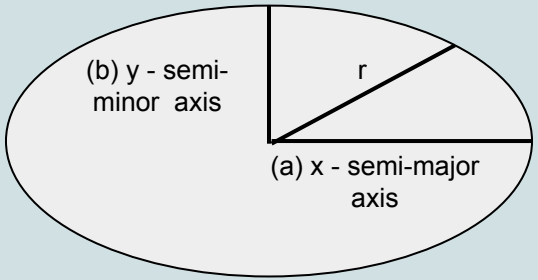
Noteworthy Discovery:

JavaFX Canvas divides lines between pixels. Sharp line drawing requires an offset.

Todo:

- Subdivide line segments to create smaller stitches.
- Move on to Ellipses.

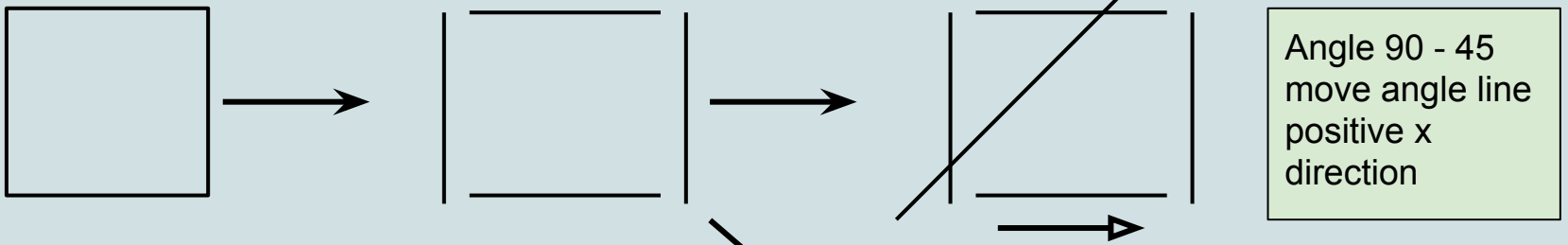
Radial Fill



$$r(\theta) = \frac{ab}{\sqrt{(b\cos\theta)^2 + (a\sin\theta)^2}}$$

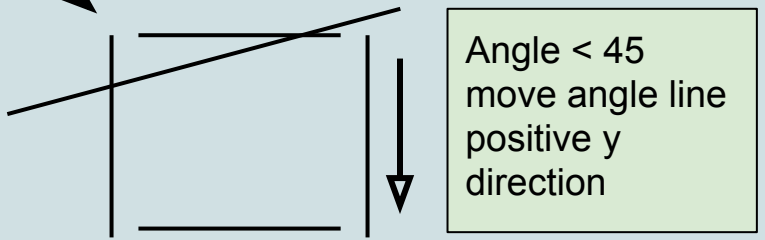
Where :
a = semi major axis
b = semi minor axis

Further fill stitch development (0 to 180 degrees)



Angle 90 - 45 move angle line positive x direction

- Break rectangle down into 4 line segments.
- Each iteration: (starting 0,0 relative)
  - Check line intersections with angle line. (there will always be at least 2)
  - Create a line based on those points.

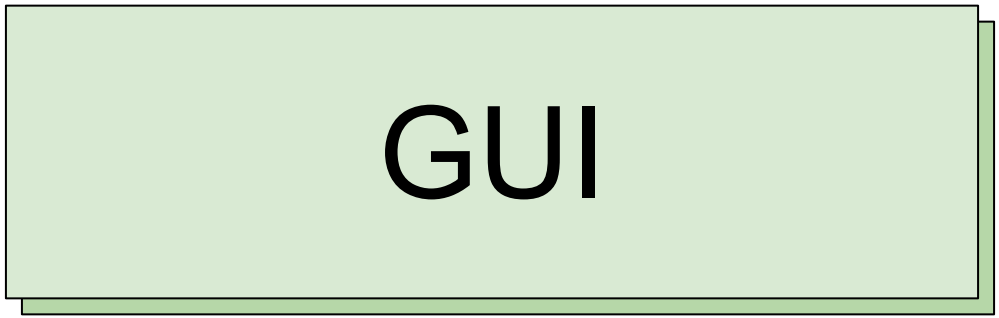


Angle < 45 move angle line positive y direction

Known edge cases:

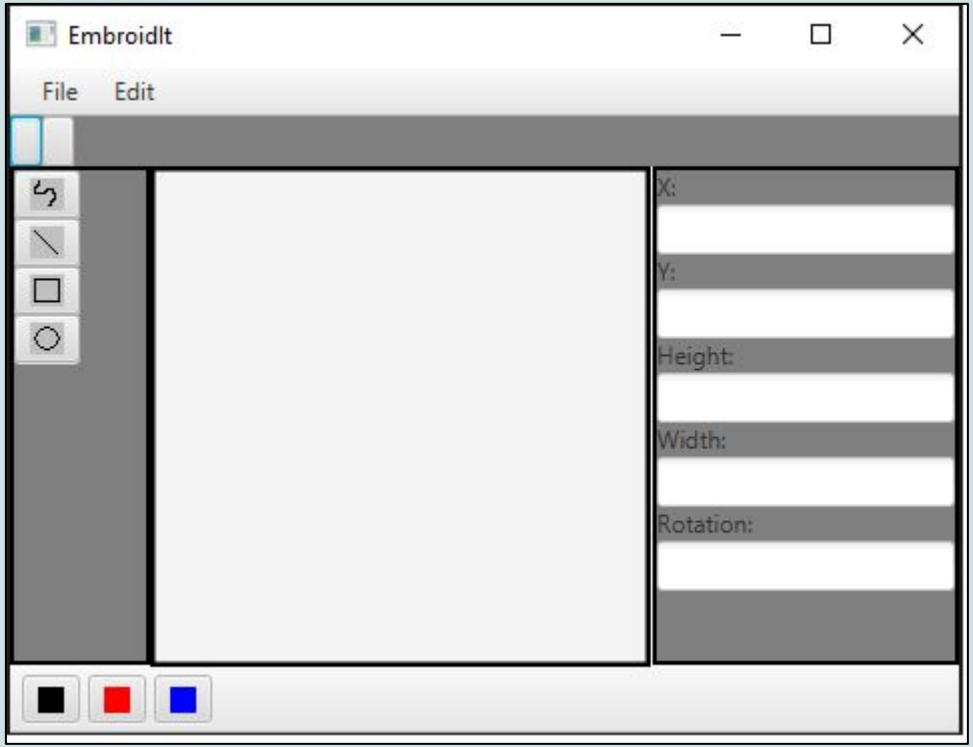
- **Corners**: Matching intersections between lines. Discard duplicate points if found.

For angles greater than 90 degrees. invert x positions for angle line and run segment algorithm. Then flip x positions on all resulting segments to get proper line segments.


GUI

Shapes, Stitches, Properties (Trae)

- Origin centering of the canvas layers.
- Preparing for shape modification.
- Shape/Stitch layering.



CSS Skinning (Nate)

Research and design style sheet definitions for nodes and UI controls.

Note: This example does not reflect actual application design