

Computer Graphic Project 1 Phase 2 Write Up

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The objective is to complete a SQUINT Map, which given any point on the original coordinate, it can find a point on the SQUINT field. The original point has a normalized coordinate, (u, v) in range $[0, 1]^2$, and given (u, v) , the point on SQUINT field is given by:

$$S_{u,v} \cdot \mathbf{p} = \mathbf{f} + \lambda_u^u \lambda_v^v \mathbf{fp}^\circ(u\alpha_u + v\alpha_v)$$

After the mapping function is implemented, we need to render the quad mesh, to achieve this, we use custom shape in processing, and plot SQUINT curve vertically and horizontally. **The user can define $n \times n$ grid by pressing n , input desired number, and press n again to confirm input.**

And for texture mapping, we need to map the image tile by tile, for each tile, we iterate through the contour and map the contour in image to SQUINT field.

For the animation, we reused SEM code from phase 1, and simply change `drawQuad()` to `drawSQUINT()`, and input corresponding A_t, B_t, C_t, D_t , to let the SQUINT map render the texture.