

Report



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Course - Computer Graphics and Image Processing
(Curves)

1 Curve Editor

This is created in Visual Studio 2015, Windows OS. The main task is to draw curves based on user choice out of two techniques: Bezier and Spline. The user may choose by popup menu shown in Figure 1 and the selected choice name is appeared as in Figure 2.

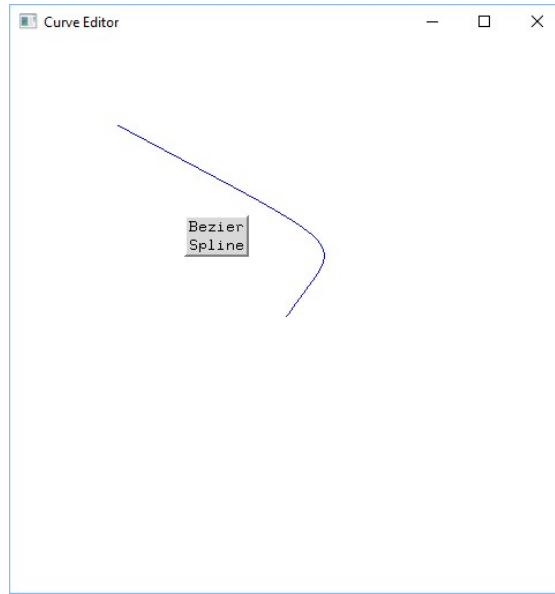


Figure 1: Selecting curve type

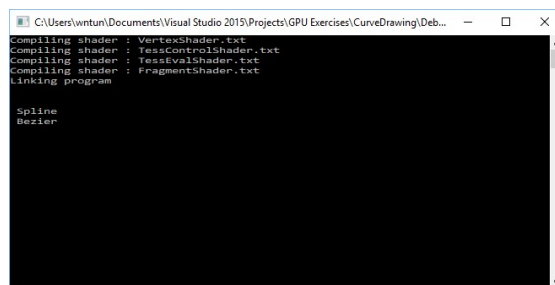


Figure 2: Console response

1.1 Bezier Curve

User may change an end point of the curve by mouse click and the program automatically draws a curve from origin (0,0) to mouse click.

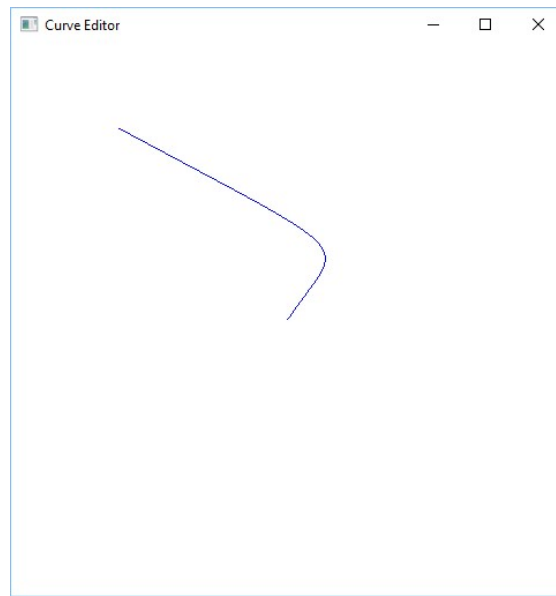


Figure 3: Bezier curve

1.2 Spline Curve

User may change direction of curve by mouse click and the program automatically draws a curve with the existing starting point and end one with the specified direction.

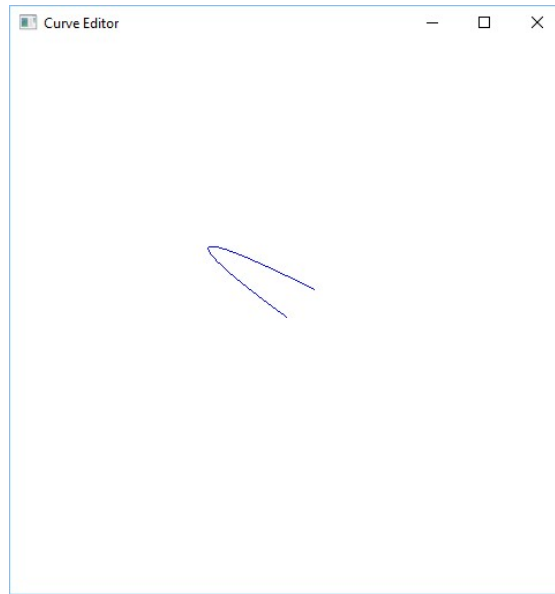


Figure 4: Spline curve

1.3 Implementation Notes

Two vertex buffers are required: one for bezier and another for spline. For the former one, we need four points based on Bezier curve formula. The latter one only requires two points and required tangents are already specified in tessellation evaluation shader.