

Bezier Curves : Description

This short demo displays the rendering of Bezier curves. It renders three curves in the scene, each of them being a cubic Bezier curve. Using de Casteljau's algorithm, a 100 points along the curve are evaluated and a linestrip is drawn, connecting them.

This technique is one of the most commonly used methods for representing curves in both 3d and 2d space and could be used in collision detection, drawing paths to be followed by objects, vector graphics. Therefore, it is quite useful to implement it as its future uses could be many.

The control points of the curve could be moved and the line is updated every time one of the points is moved. The movement is done using the mouse and it follows the current plane of the screen space, through projecting and unprojecting the respective vertex to screen space. This provides for the most intuitive way of movement.

Future work on the project would involve movement of an object along the curve, connecting curves with C0 and C1 continuity.