

Computer Graphics Project 6 - Geometric Modelling

For this project I tried to show rainbow tentacles winding around each other, such that they kind of look like a “finger trap” when wound up. To do this I have 5 initially-vertical bezier curves radially surrounding one vertical bezier curve on the Y-axis. The animation has the bottom point of each curve stay stationary, and each subsequent point more and more impacted by circular motion, such that each curve spirals around the Y-axis, winding around the other curves, then unwinding before winding the other direction. I did this using shaders, but the actual bezier calculation happens on the CPU. Keybinds to meet the requirements are as follows:

- space, f, and x all start and stop the winding animation
- c cycles through 4 options for curve color (rainbow, assorted colors, white, gray)
- v toggles displaying the control points for the curves
- b toggles displaying the control lines for the curves
- o and p switch between orthographic and perspective projection, respectively
- r resets the program to initial state

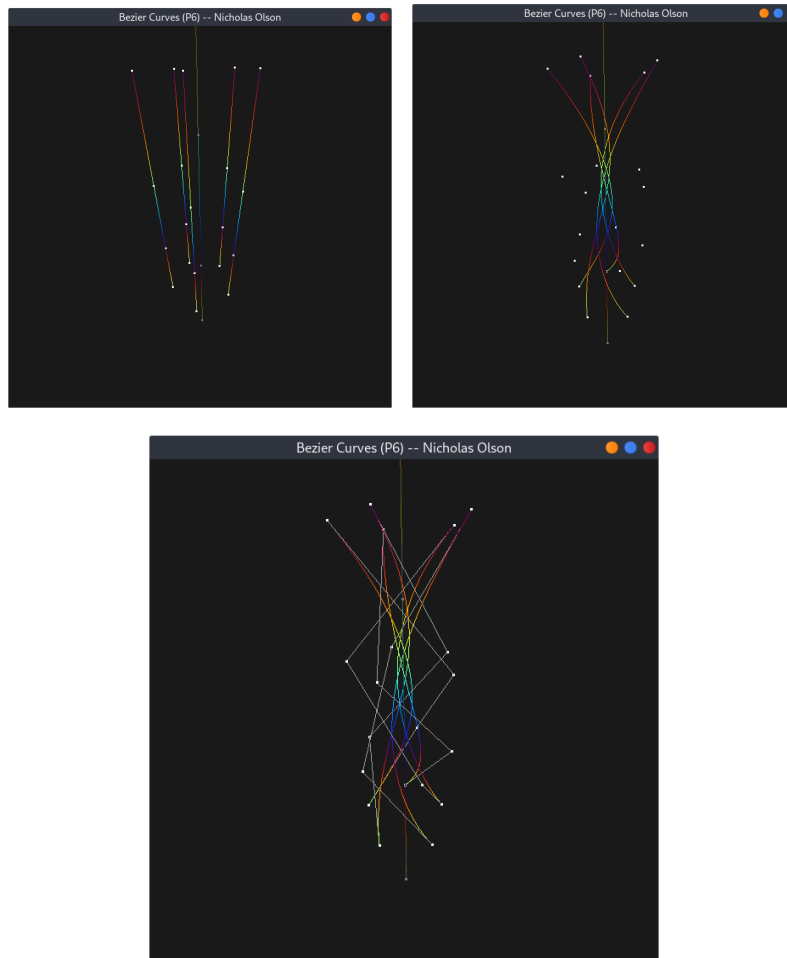


Figure 1: Screenshots showing the default, and animated states (w/ & w/o control lines)

The video showing off the program can be found at [this link](#).