

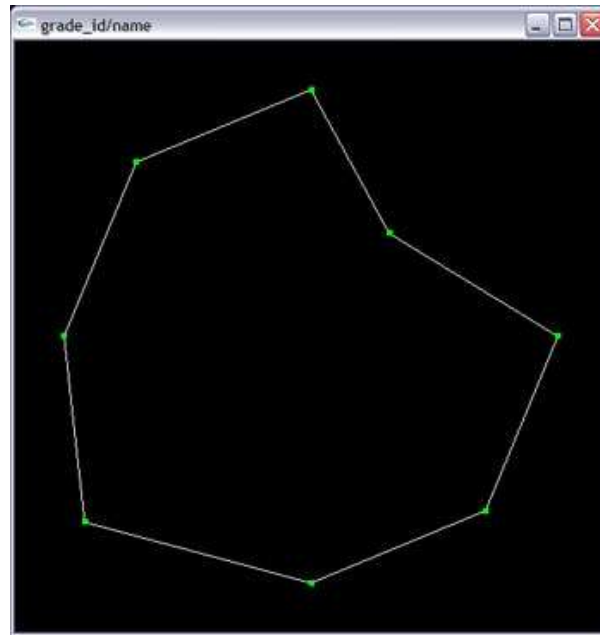
# Project 1c

Points: 15 (+10 BONUS)

## Task 1: Picking and Dragging

Points: 5

Enable picking and dragging from Project 1a for the  $N = 10$  control points  $P_i$  of Project 1b (Tasks 1, 2, and 3) and display the



corresponding curve. The curve should change as the  $P_i$  are moved.

When the keyboard **shift** key is pressed, instead of the movement in the x-y plane, vertical movement of the mouse moves the point along the **Z** axis (note: since we look from the top this is not yet visible).

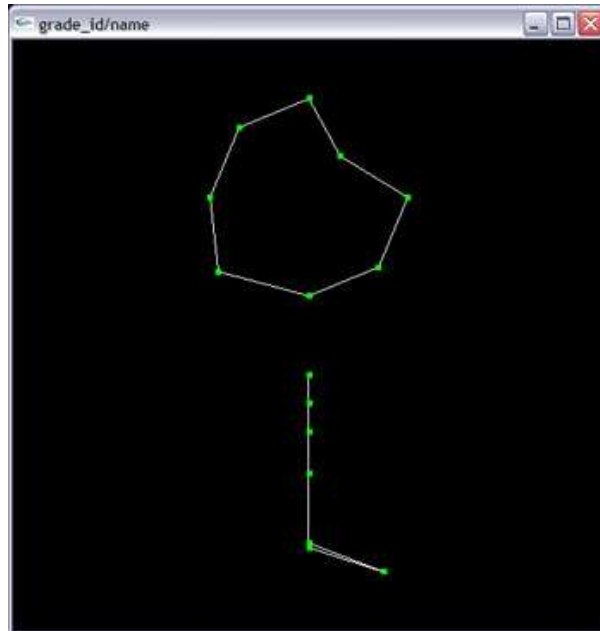
NOTE: Picking should work in Single View, but it is not required in Double View.

## Task 2: Double View

Points: 10

In the top half of the window draw the default view perpendicular to the x-y plane. In the bottom half of the window draw the side view perpendicular to y-z plane.

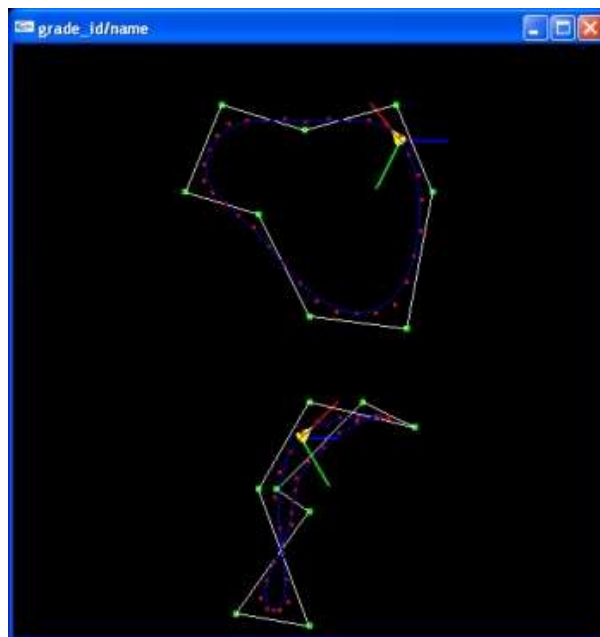
The double-view should be toggled when **4** is pressed.



## Bonus

Points: 10

Create a yellow triangle when key **5** is pressed. It should loop along the curve



indefinitely and have an RGB coordinate frame attached where  
 $R$  = tangent,  $G$  = main normal,  $B$  = bi-normal direction.

## WHAT TO SUBMIT

- A .zip archive containing
  - all **modified source** files (.cpp's and-or .js, shaders, etc)
  - A **link** to a screen capture of your running program showcasing the implementation of all of the tasks using [recordit](https://www.screentoolkit.com/) (Mac, Win) or similar software.