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Bézier
3D Nature Environment with Procedurally Generated Terrain and Trees Liam Ozog lozog 20515121
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Name:
*Artistic Merit (Polish/Artistry/Humour)

*Technical Merit (Algorithms/User Interface/Graphics Techniques)

*Difficulty

*Code/Documentation/Demo

*Mark center tabularlr Objective Mark: /10

Name:

Objectives
description
[___ 1:] UI: Implement a first-person camera with associated controls to allow navigation of the scene, including movement in 3 axes, speed adjustment, and camera rotation.
[___ 2:] Modelling: Add a skybox to the scene using cube mapping.
[___ 3:] Implement reflections for water using OpenGL's stencil buffer.
[___ 4:] Generate a pseudo-random terrain heightmap with Perlin noise.
[___ 5:] Add grass to the scene using billboards to create the illusion of many blades of grass.
[___ 6:] Add texture to the ground and foliage using texture mapping.
[___ 7:] Use L-systems to procedurally generate trees.
[___ 8:] Implement shadows using a depth map stored in an OpenGL frame buffer.
[___ 9:] Implement bloom using framebuffers and Gaussian blur.
[___ 10:] Objective ten. Use a ścreen-dooréffect to simulate alpha transparency for grass.