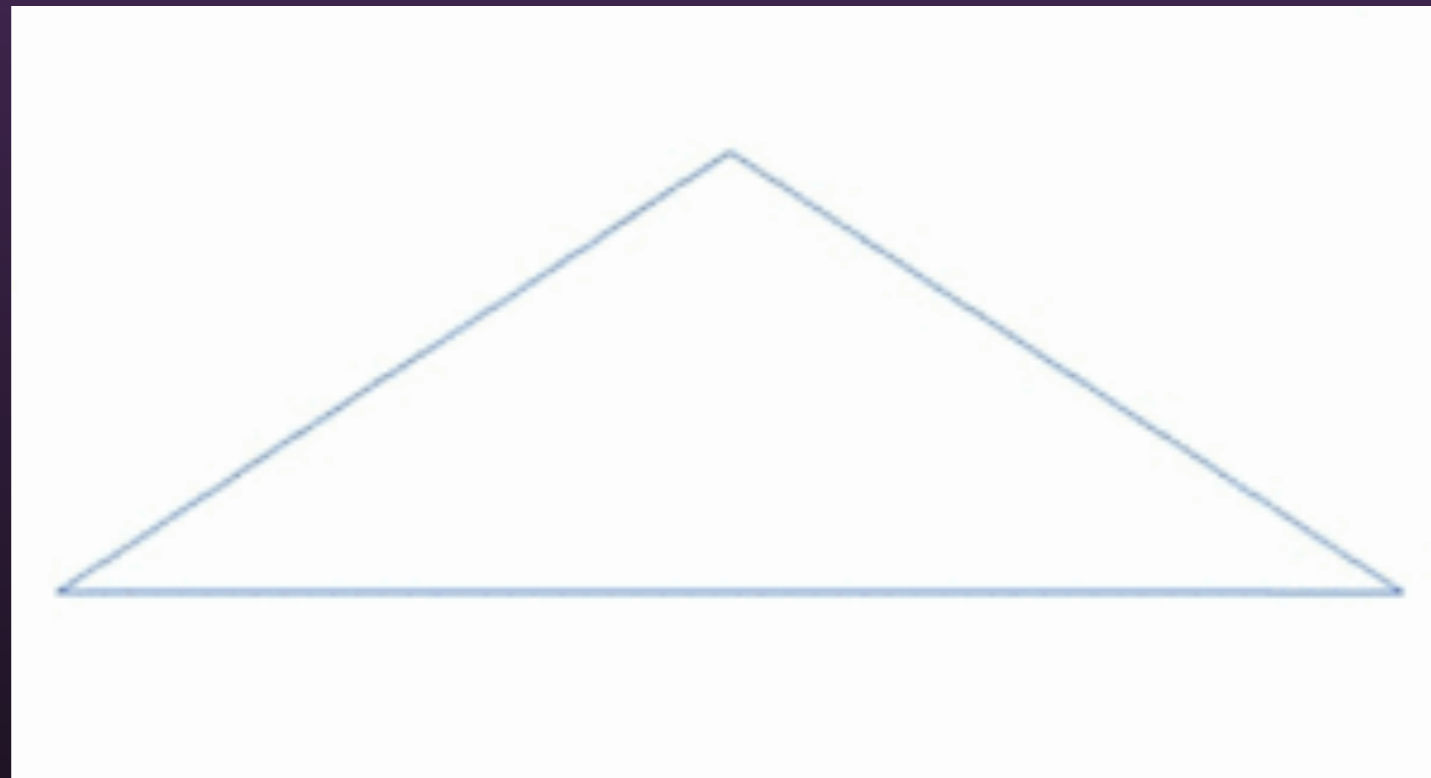


Computer Generated Landscapes

Tom Arnold

What/Why/How

- Generate interesting, dynamic scenes
- Simulation, games, movies
- Procedural content generation, computer graphics



* https://en.wikipedia.org/wiki/Fractal_landscape

Generating Terrain

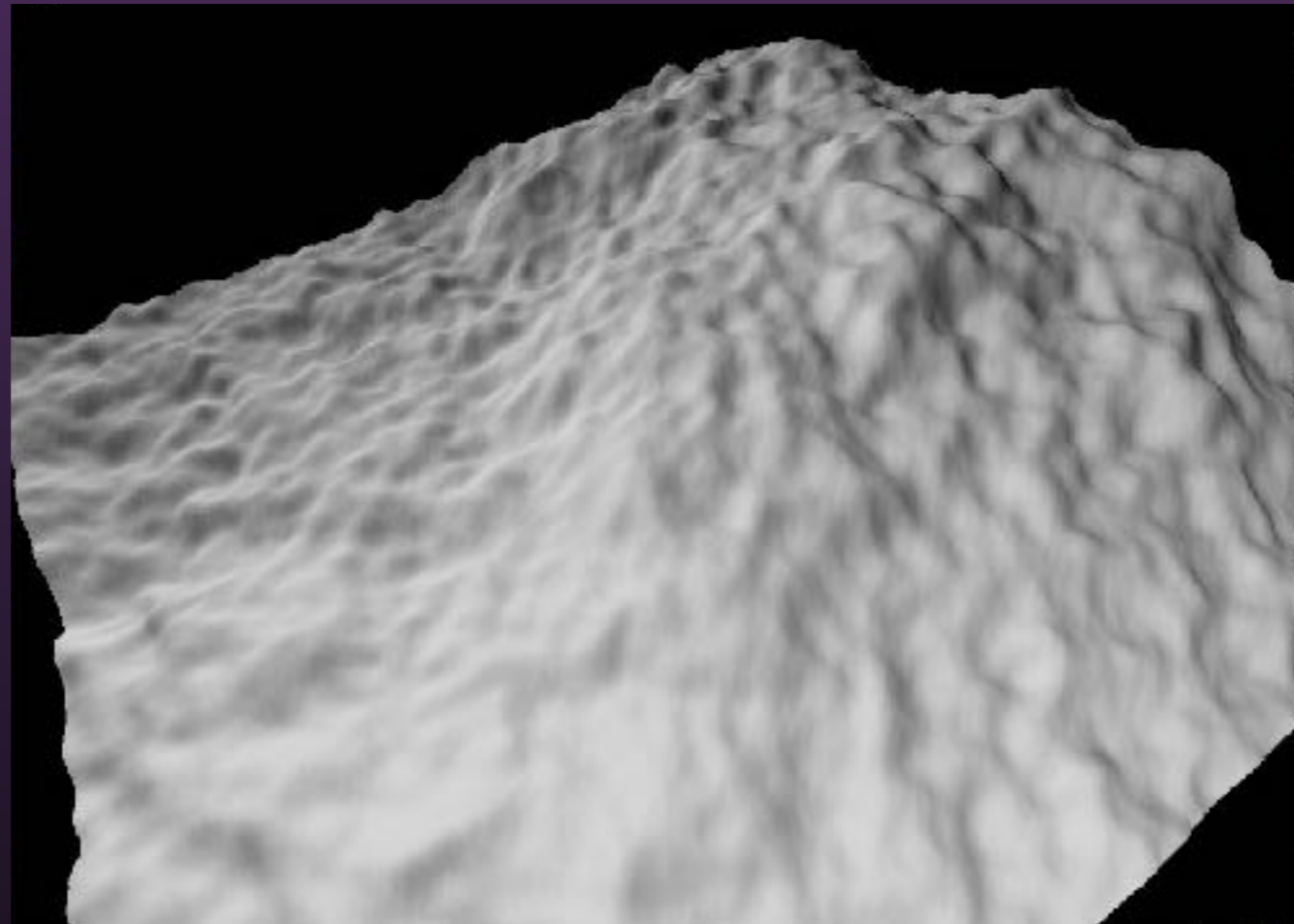
- “Interesting” terrain
- Placing textures/objects in the scene



* *Minecraft*

Rendering Terrain

- Level of detail
- Shadows



** Screenshot of previous project I worked on*

Objectives

- Interactive WebGL demo
- Write-up explaining how everything works
 - Procedural generation
 - Rendering
 - Optimizations

Timeline

- Week 6 - Initial skeleton project
- Week 8 - Terrain generation algorithm
- Week 10 - Terrain LOD renderer
- Week 12 - Terrain dynamic lighting
- Week 14 - Shadow rendering (terrain and objects in scene)
- Other procedural content and simulation aspects will be explored if there is time

Tools

- <https://threejs.org/> - Javascript 3D Library