

Mesh Generator

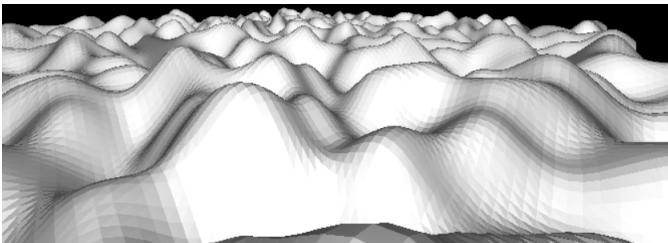
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Introduction

- Mesh generated with mathematical functions
- Generate fixed noise surfaces
- UI to preview and download as .obj



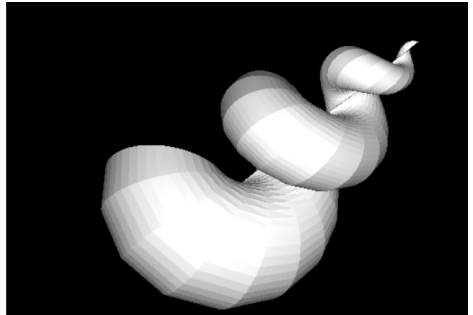
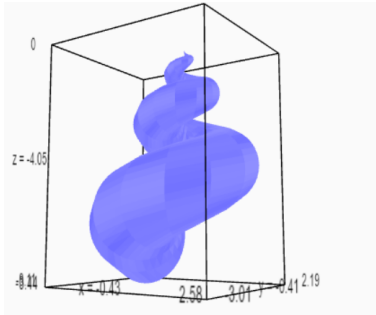
Motivation/Purpose

- The idea is from prior year's particle exporters
 - I still wanted to do something different
- Can create more complicated 'primitive' objects
- Good for math function visualization
- Can create fixed terrain

Existing work

- Many mathematical software provide 3D rendering of functions
 - SageMath
 - Mathematica
 - Matlab
- Most do not allow free travel when exploring
- Have not found one with .obj exporter.

- Compared to SageMath



What I used



 [caseman](#) / [noise](#)



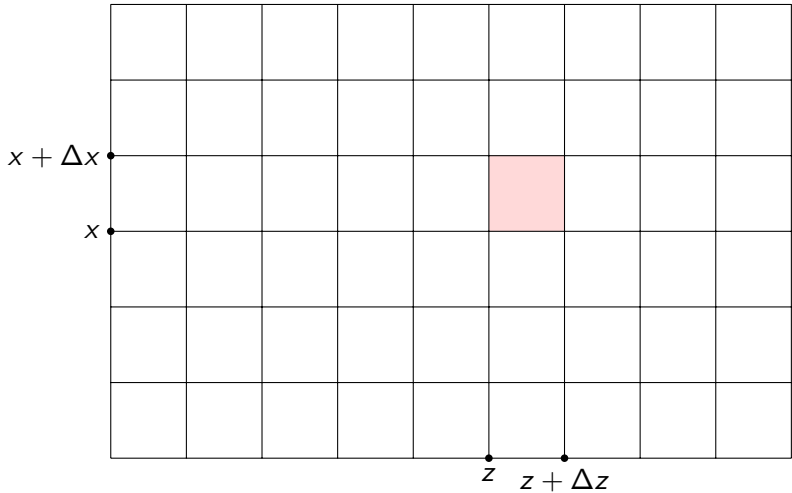
three.js



What I did

- Web GUI
- Example rendering and exploring in WebGL
- Three different type of generation
 - Map the xz -plane to a height point
 - Map a uv -plane to 3D space
 - Map the xz -plane to height point with noise
- Objects include
 - Vertices
 - Normals
 - Texture coordinates
 - Faces

A mapping example



A mapping example

