

Abstract geometric lines in black on a white background, forming various overlapping polygons and shapes.

Session #3

ARCHITECTURAL INTELLIGENCE

DigitalFUTURES Summer 2022

WHAT IS FRACTAL GEOMETRY?

geometric shapes containing detailed structure at arbitrarily small scales, usually having a fractal dimension strictly exceeding the topological dimensions.

Meaning? It's a pattern that is repeated over and over through the 4th dimension (endless pattern)

SIERPINSKI TRIANGLE

LEVEL : 1

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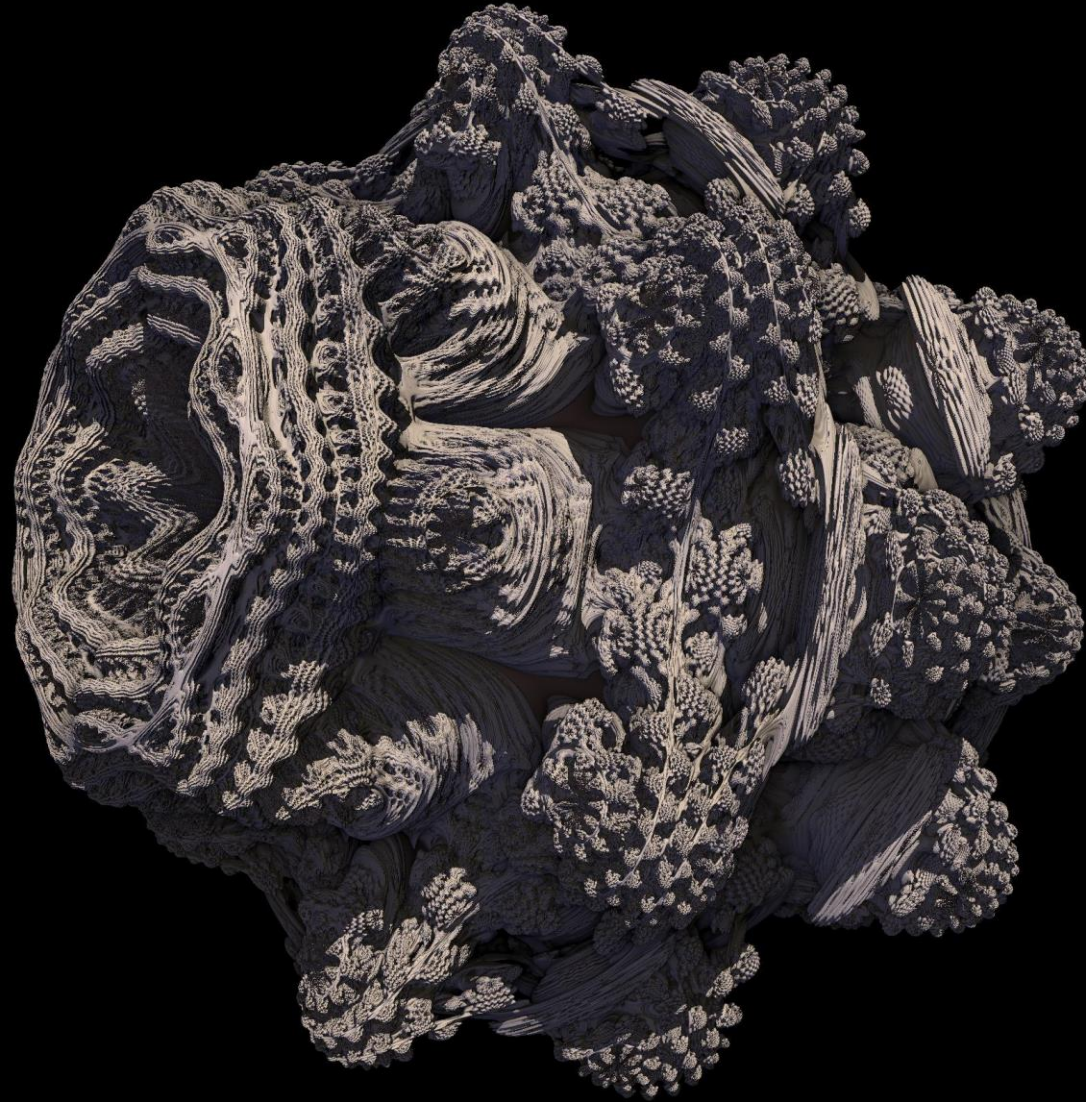
FRACTAL GEOMETRY MODELS:

- MANDELBULB
- JULIABULB
- KOCH SNOWFLAKE
- L-SYSTEM TREES
- MANDELBROT

SOFTWARE/APPS:

- Processing
- SideFX Houdini
- Rhino3D
- Autodesk Maya
- Any programming language (python/C#/VB/C++)

MANDELBULB



EXAMPLES

write a code that can generate fractal geometry

CODE_5.GH

CODE_6.GH

EXAMPLES

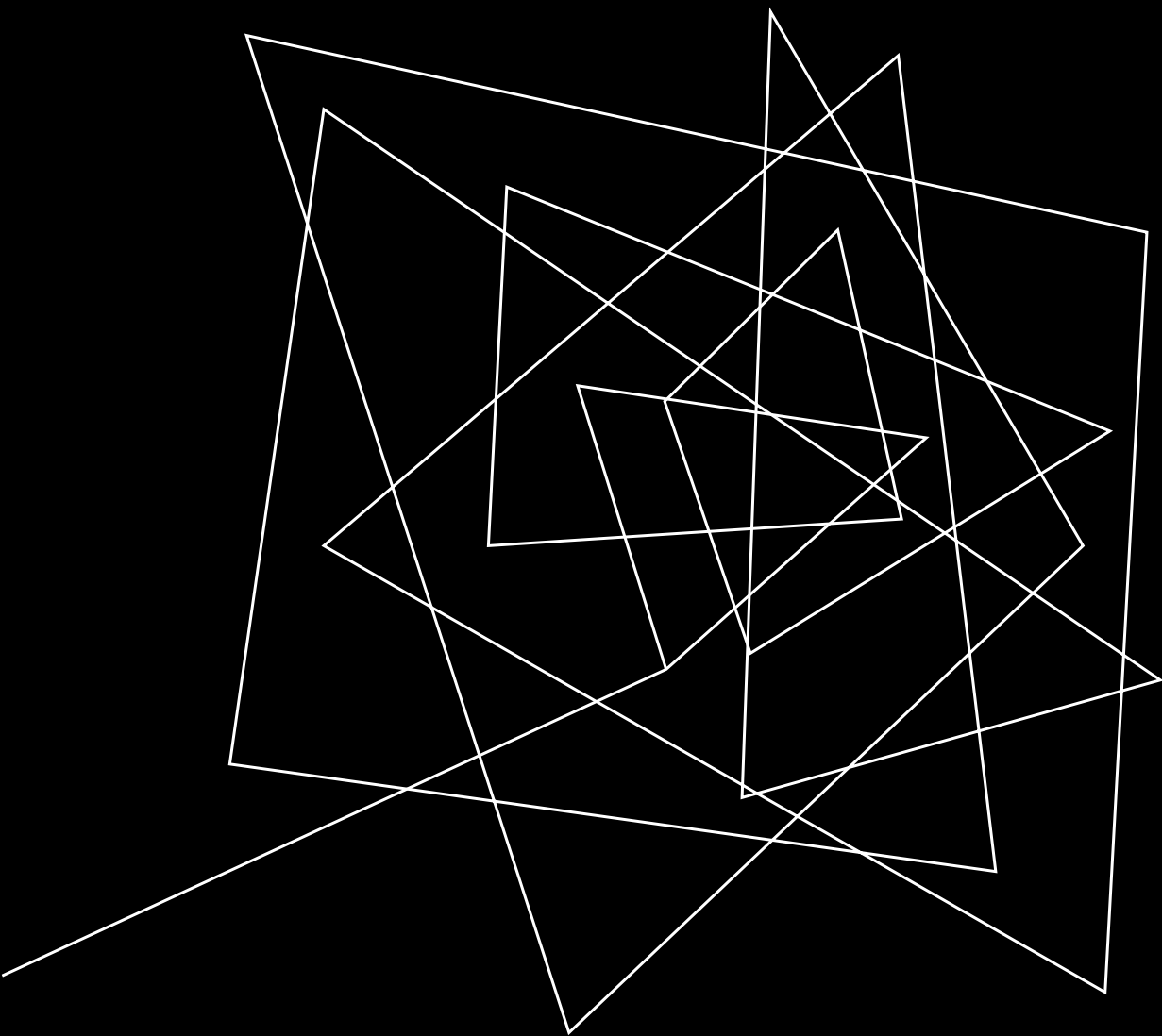
Visualize Mandelbulb using Unreal Engine 5

MANDELBULB.UASSET



WHAT HAVE WE LEARNED TODAY?

HOW TO EMBED IT IN
ARCHITECTURE?



THANK YOU 😊