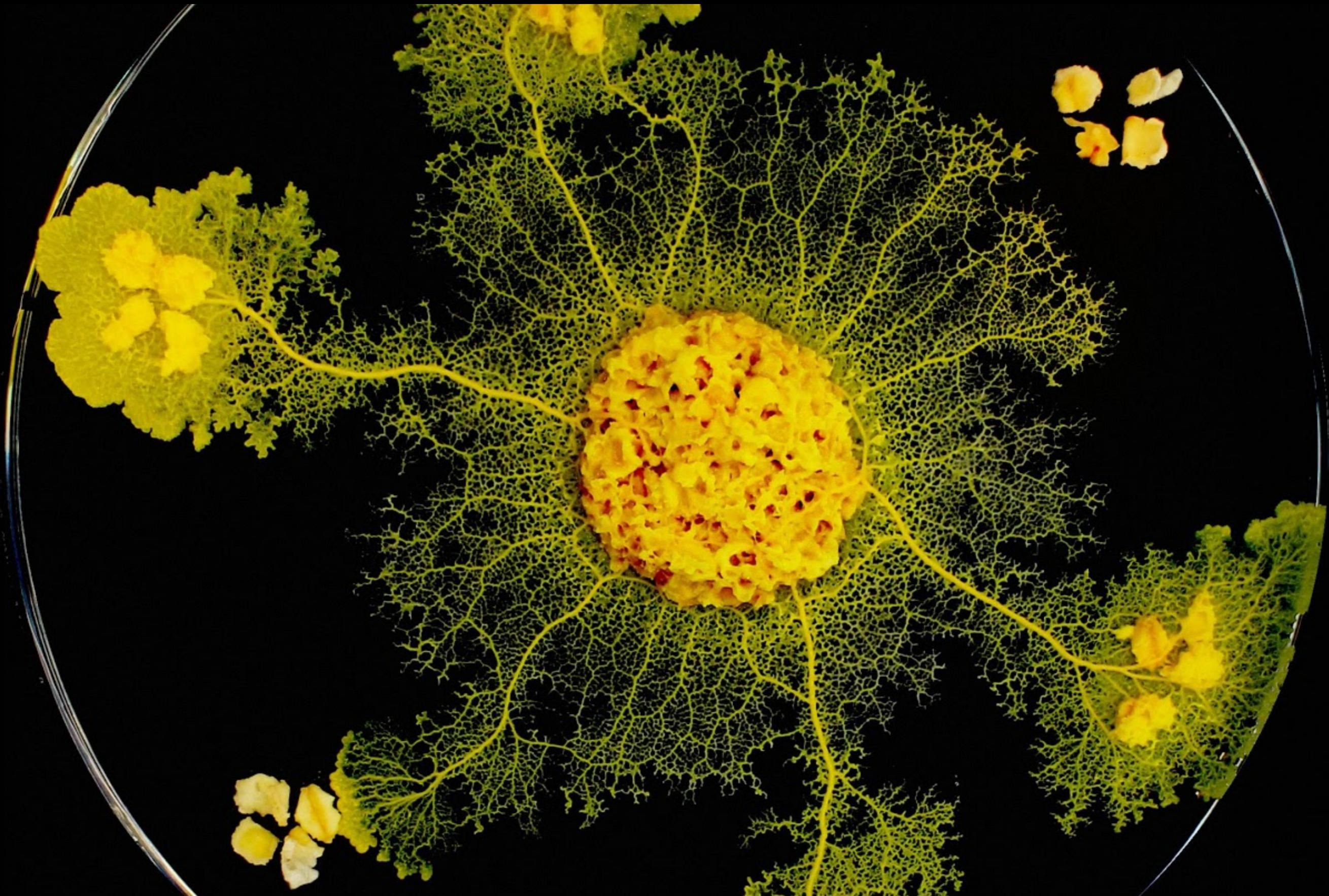
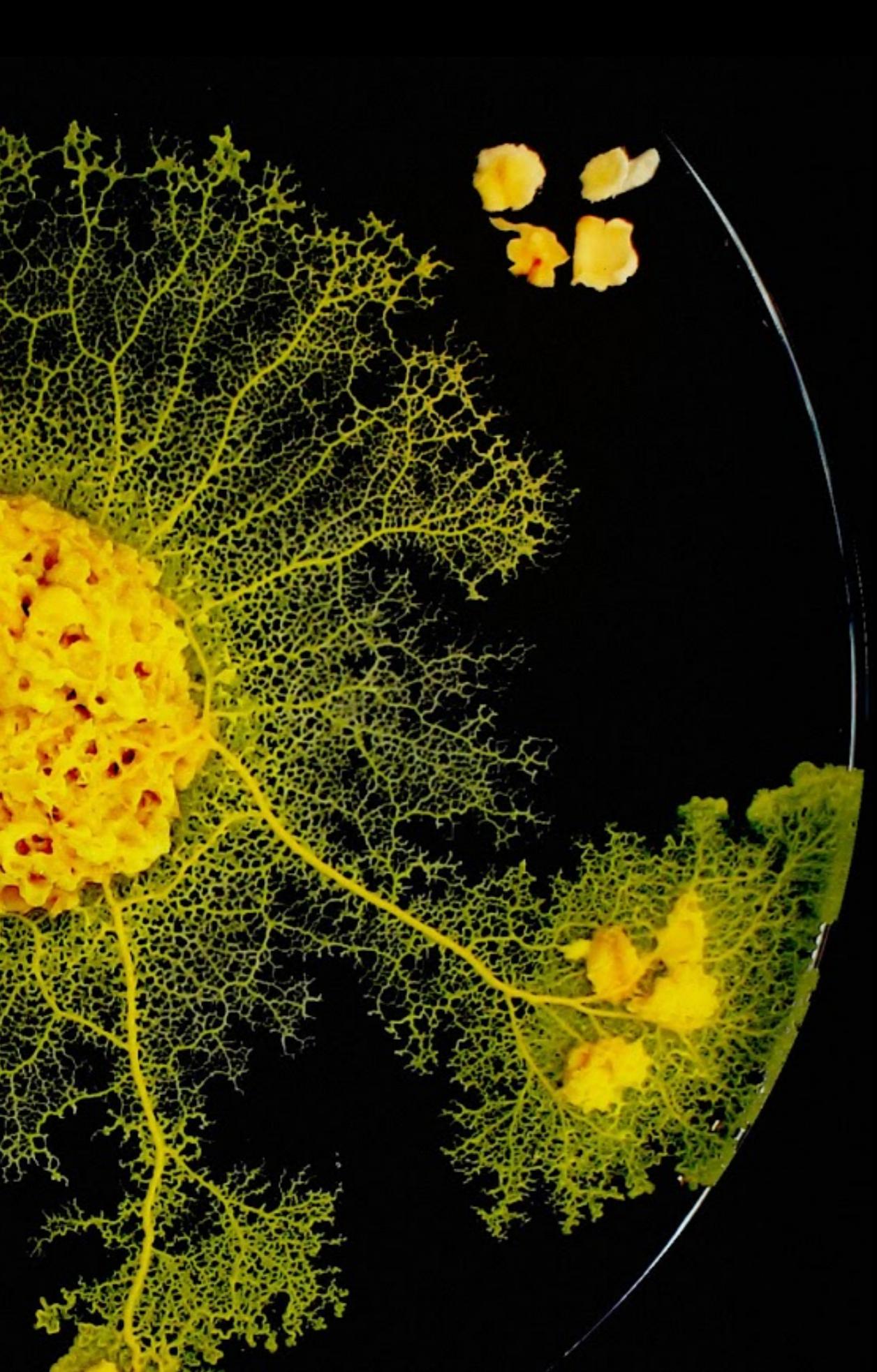
The background of the slide features a complex, organic simulation of a slime mold. The mold is composed of numerous small, glowing green particles that form intricate, branching structures resembling a network or a brain. These structures are more concentrated in the center and spread out towards the edges of the frame. The overall effect is one of organic growth and movement, set against a solid black background.

# Slime Mold Particle Simulation on Unreal Engine

University of California, Santa Cruz  
CMPM164 Final Project Issei Mori, Angus Forbes

# This is a Slime Mold

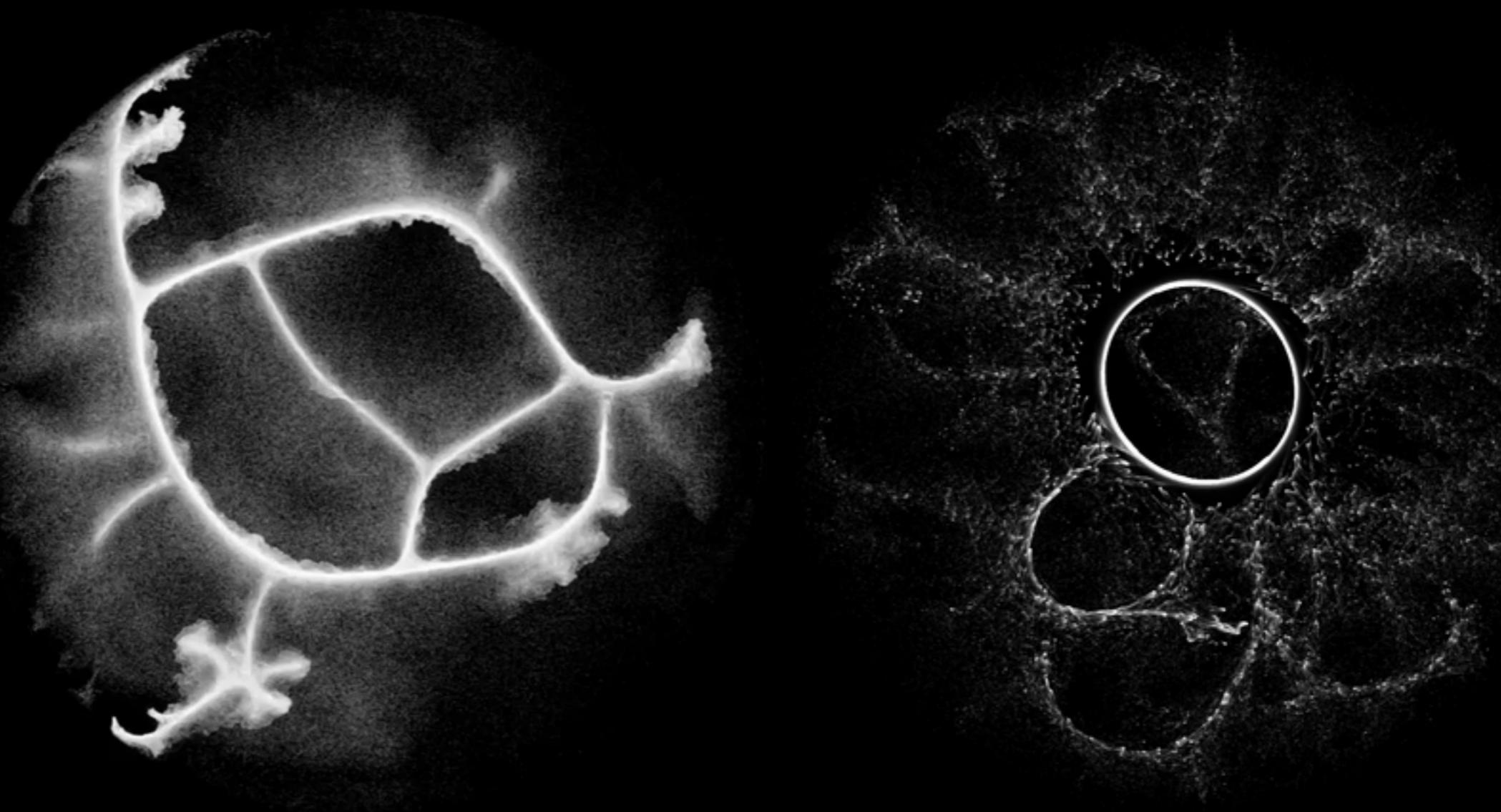




# Slime Molds

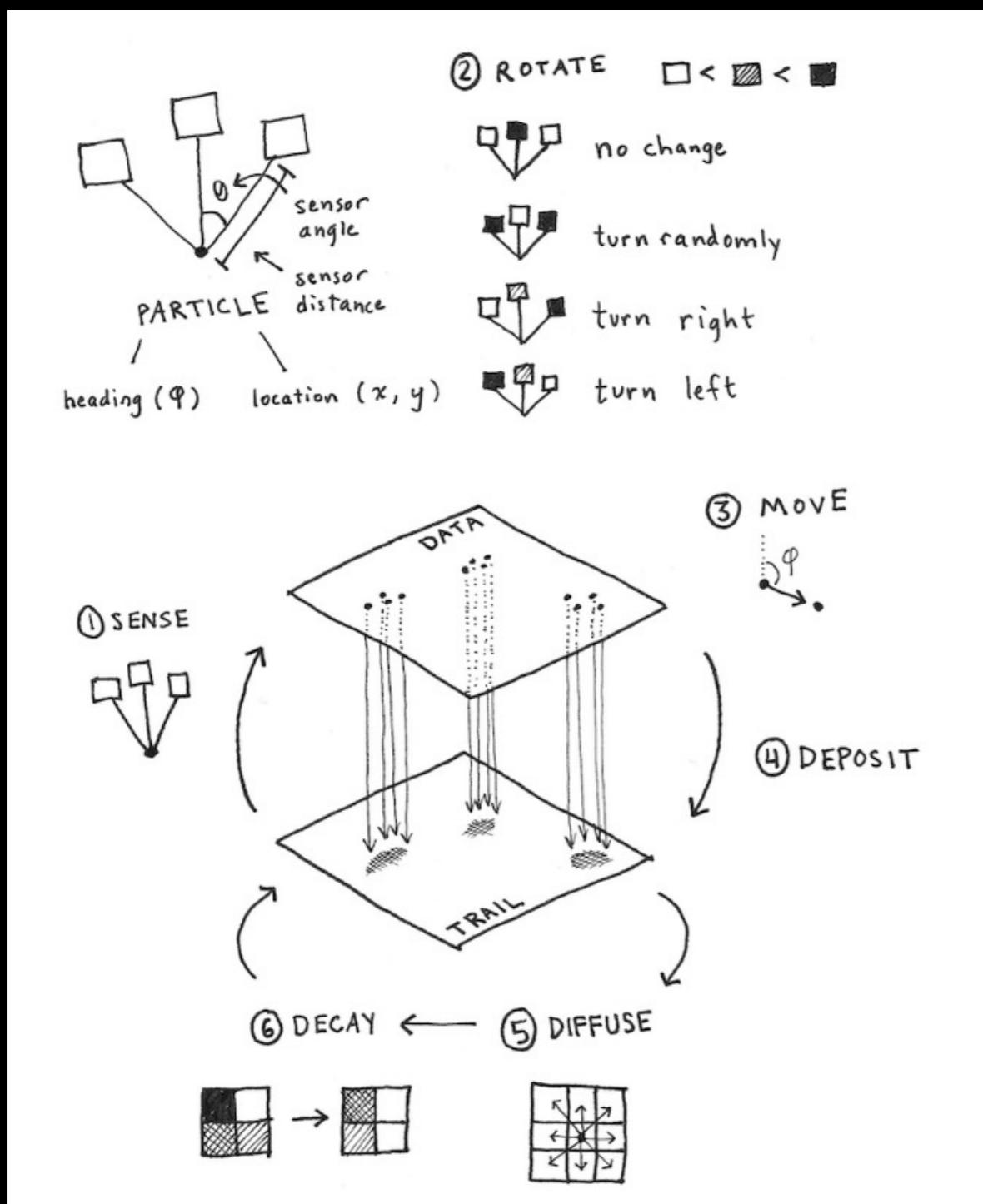
- A type of fungi.
- They feed on microorganisms in dead plants.
- They search for food, taking efficient paths.

# Visualizing Slime Molds



Sage Jenson, “physarum”

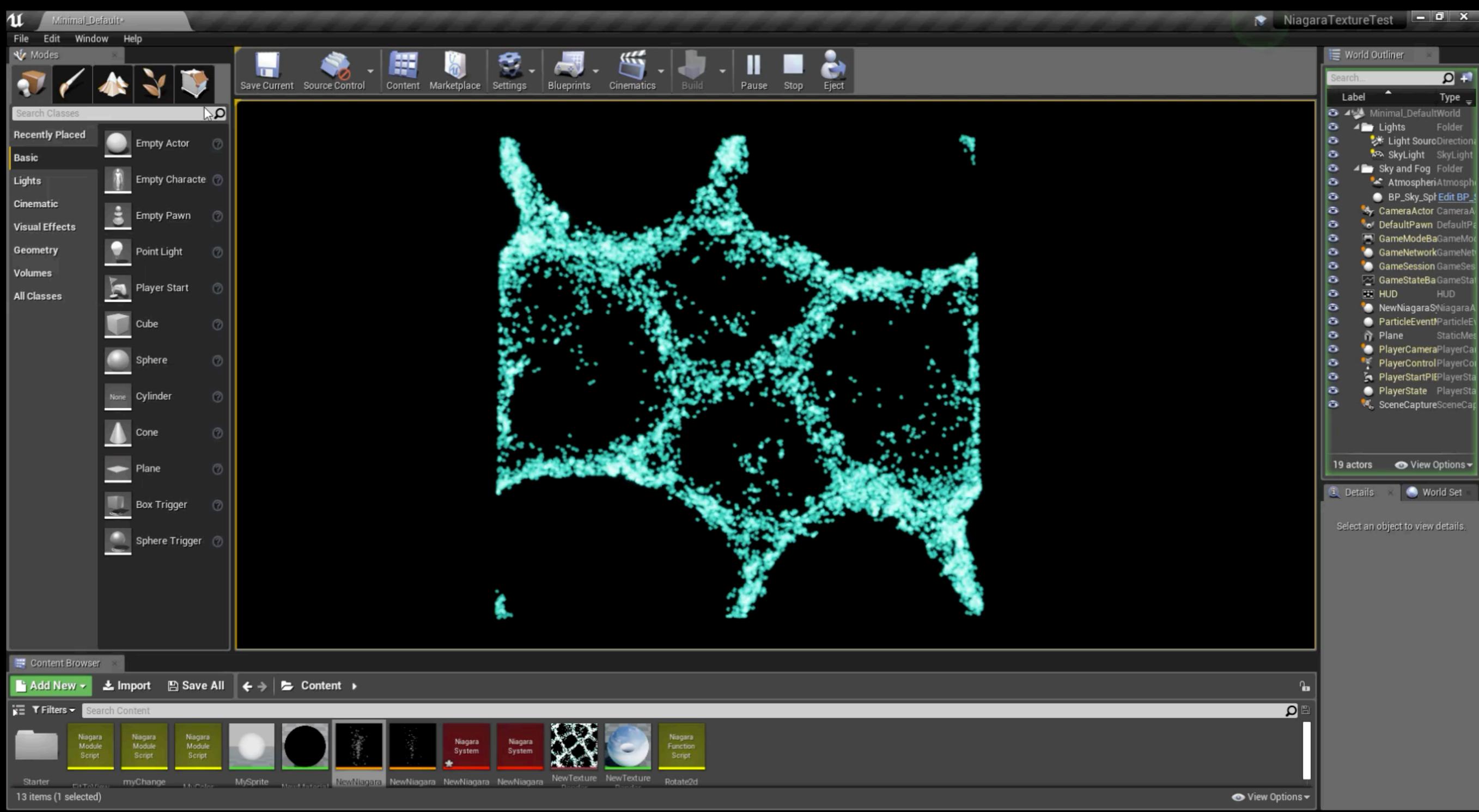
# The Algorithm



1. Sense
2. Rotate
3. Move

We can program the behavior of each particle in Niagara.

# Demo



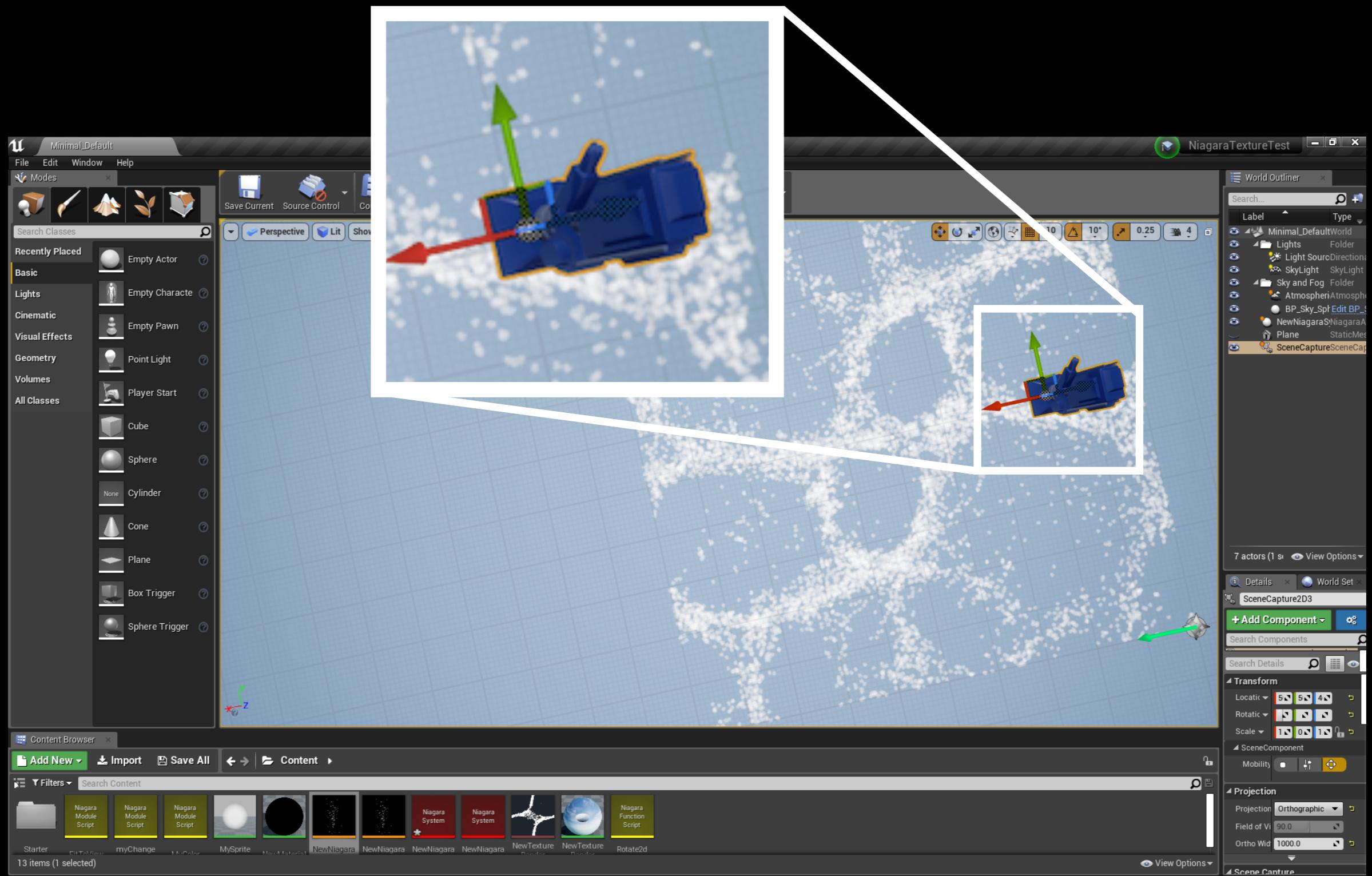
# Implementation

1. Spawn Particles, with random velocities
2. Sense 3 directions and measure the density.
3. Move to the highest density direction

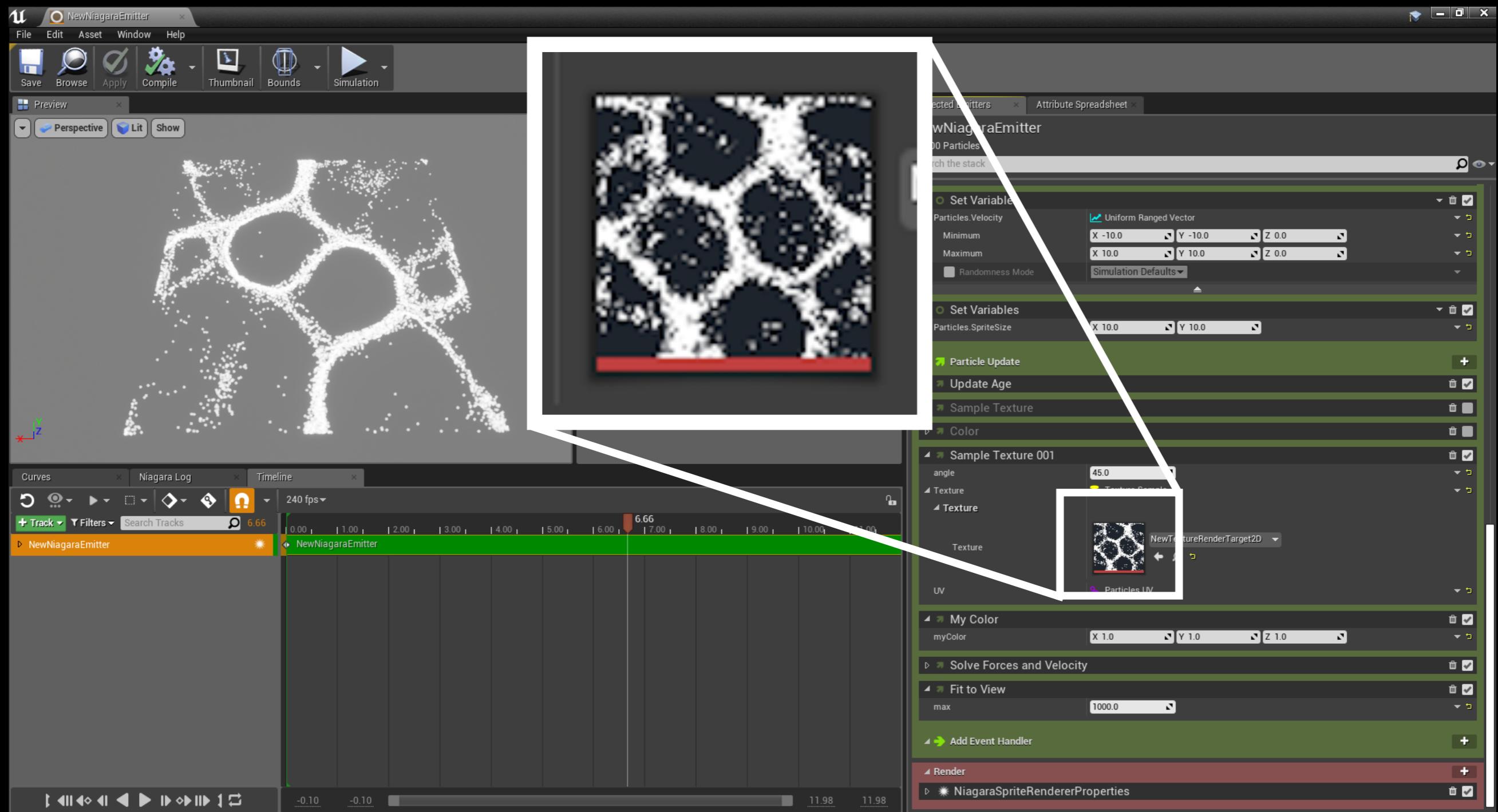
# Implementation

- How do I measure the density?  
=> No such a function
- How do I “see” other particles?  
=> No unique ID to each particle (Coming Soon)

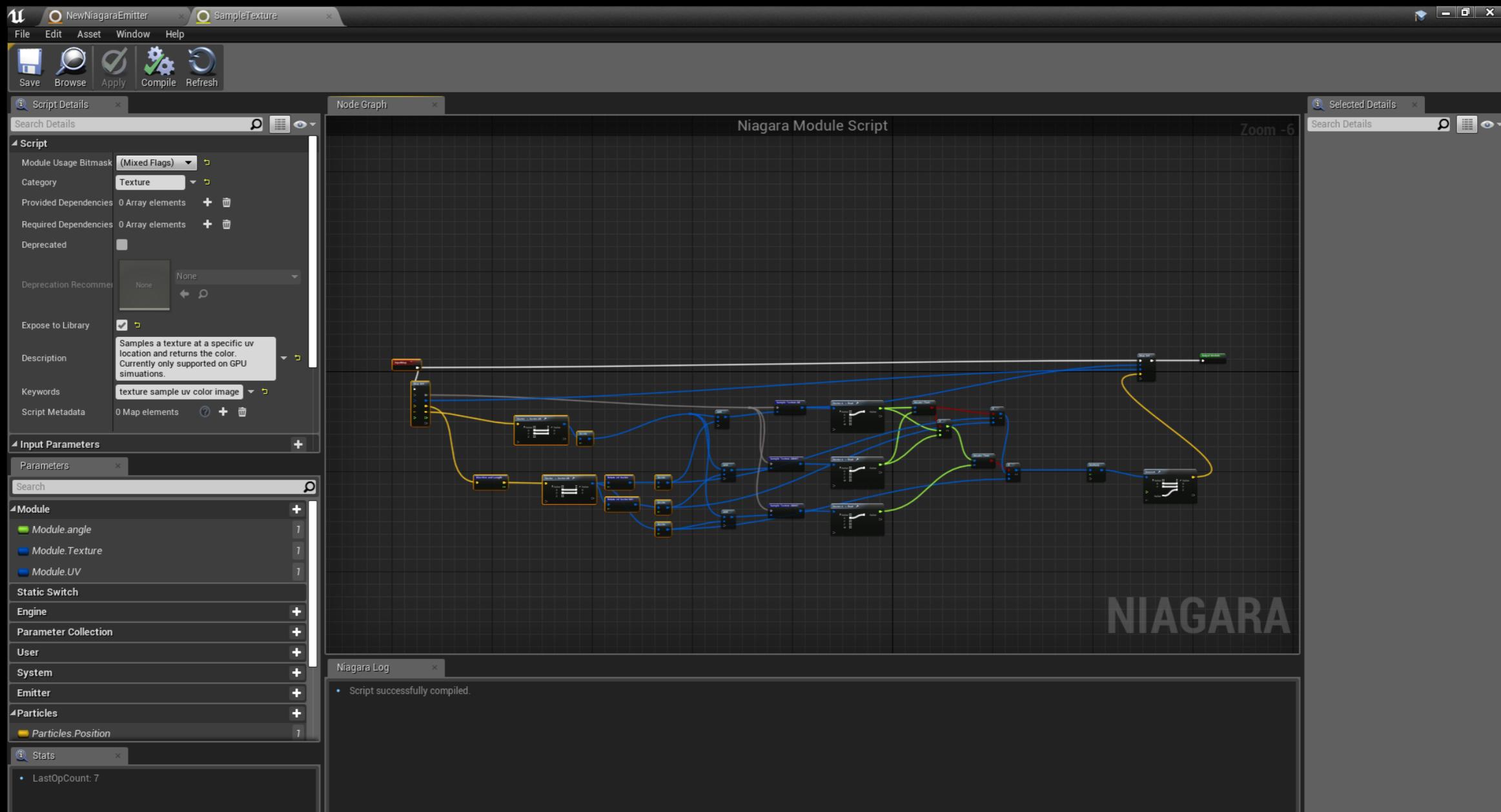
# Implementation



# Implementation

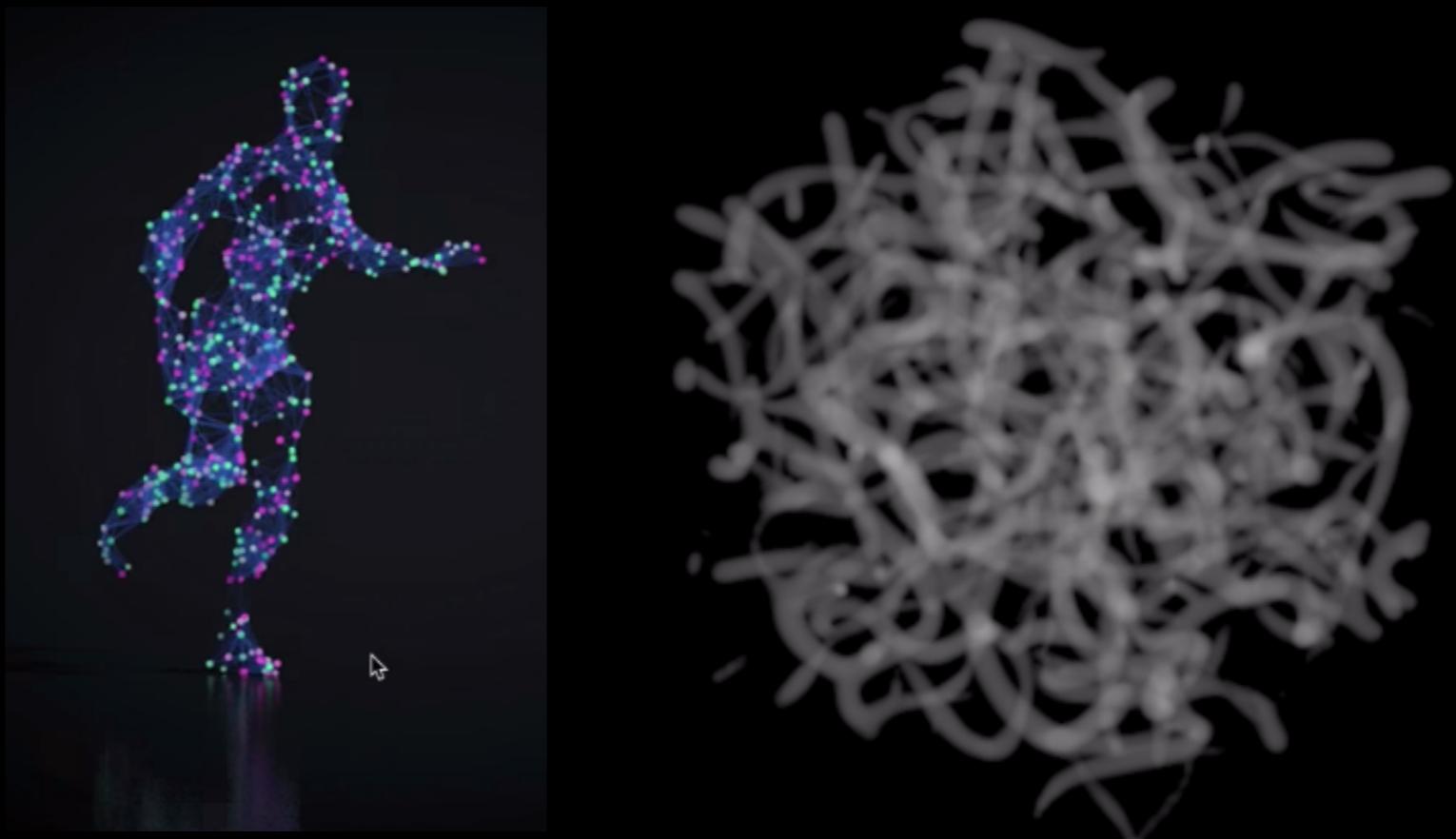


# Implementation



# What's Next?

- 3D and Mesh
  - => No WriteToTexture(), No unique ID
  - => Export from Houdini \$\$\$



# References

Sage Jenson, “physarum”, <https://www.sagejenson.com/physarum>

Entagma, Physarum Slime Mold, <https://entagma.com/physarum-slime-mold/>