

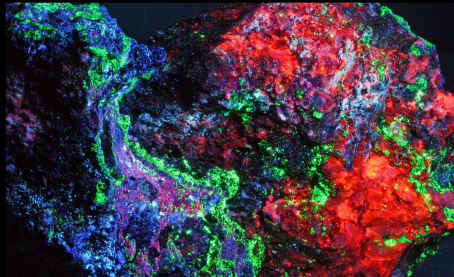
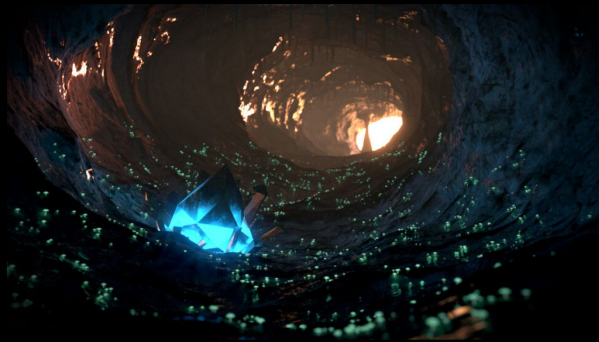
# Mushroom Grotto

Creative Simulation Course 2023



Ana Strazicic

# Project Inspiration



# Rough draft

- sketching out the environment, proportions, atmosphere

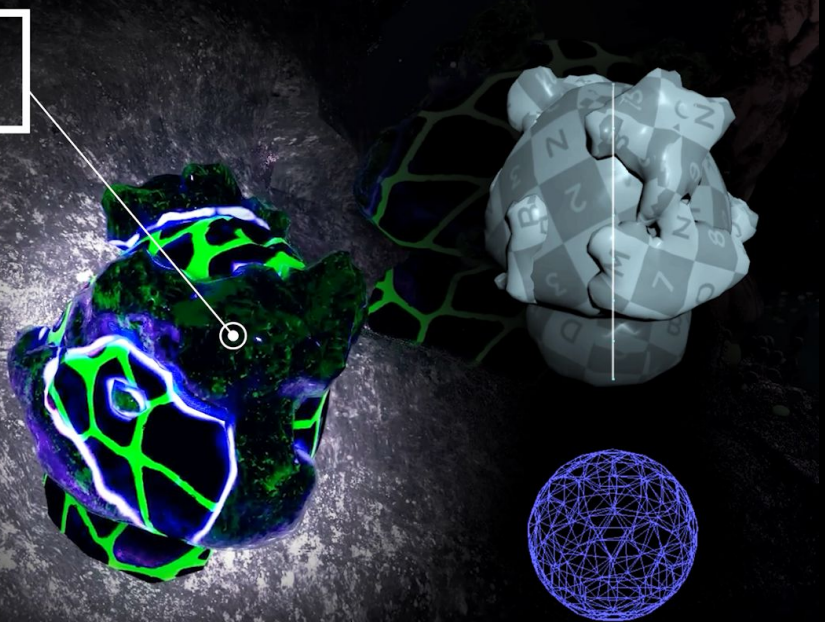


# Creating the main asset

## Puffer Shroom

Procedurally modeled  
in Houdini

Puff animation  
rigged using KineFX



Smoke release activated by:

1. Click within set distance
2. Collision with player

Smoke randomly picked  
from a set array with UE  
Blueprint

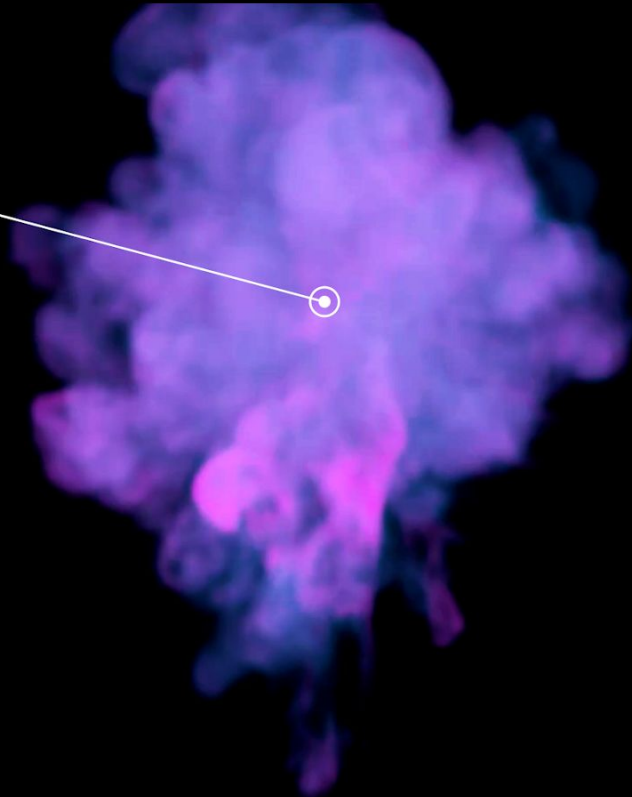
# Creating the focal simulation

**Spore Cloud**

**Pyro Simulation VDB**

**Timeshifted for accelerated  
exhaust**

**Added an opacity curve for  
a complete fadeout**



# Creating the focal simulation

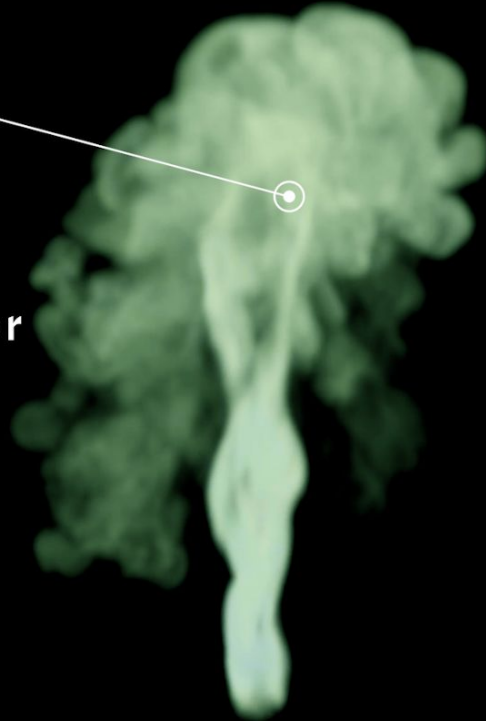
## Spore Cloud

colored within UE Materials

> final color

= scatter color + absorption color

Played with different iterations  
by using a procedural workflow



# Creating Houdini Digital Assets for UE

- optimizing workflow with Houdini to Unreal Engine tools

## 1. Cave base tool for UE

- length, width, noise

- used to construct the rough shape of the cave structure that was later enhanced with Megascan cliff assets for more detail

## 2. Carpet mushrooms for UE

- area, density, size variation, bend

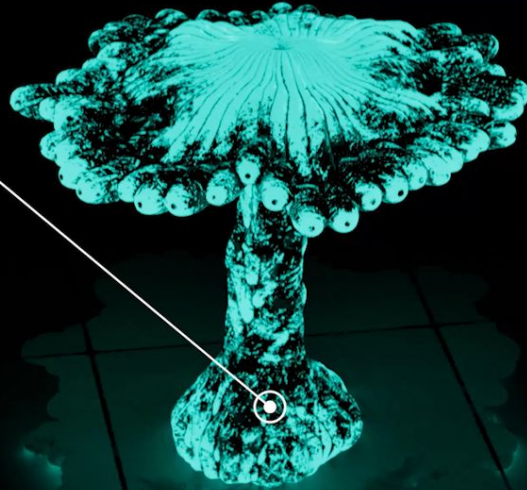
- idle wobbles were added with UE materials

# Creating other environment enriching features

## Lillypad Mushroom

Houdini Vellum simulation  
used as a VAT

Mushroom flopping on the  
ground set off by player  
proximity





# Creating other environment enriching features

## Wiggle Mushroom

Bend loop and wiredeform

Also used as an VAT



# Creating other environment enriching features

- 1) **Giant hife mushroom** - low poly and high poly model created in Houdini,
  - texture baked in Substance Painter
  - emissive gradient within UE Materials
- 2) **Green Puddle** - single layer water UE, added ripples within UE Materials
- 3) **Niagara System** - spores and water droplets
- 4) **Interactive flashlight** - pressing "F" triggers flashlight ON/OFF

**THANK  
YOU!**

