

Austin William Brennan

Demo Reel Breakdown Sheet

vimeo.com/AustinBrennan/DemoReel

Demo Reel Timeline

[Lighting & Compositing \(0:02 - 0:43\)](#)

[Modeling and Surfacing \(0:48 - 1:00\)](#)

[Simulation & FX \(1:00 - 1:55\)](#)

The Ant Eater Short Animation (0:02 - 1:00)

Animated short that I created with 6 other students during the fall semester in 2016.



Lighting

Developed look and feel of lighting

Lit and troubleshot every shot in the short

Output AOV's to create masks for objects and separate light passes

Monitored and troubleshot the render farm

Compositing

Created Nuke scripts for every shot

FX

Developed tool for detecting tongue and environment collisions in Houdini

Used for saliva in shot 6

Modeling & Surfacing

Modeled and surfaced the interior of the ant hill, the stone & mud aged pillars in the first shot, and the anteater tongue in shot 6

Concept artwork

Drew concept for shot 1

Drew concepts for temple, pillars, and tongue

Layout

Worked on camera placement on each shot

Snow Cottage (1:00 - 1:24)

Final project for my physically based animation class. Particles are moved according to forces applied by gravity, wind, and their position sampled into a velocity grid.



Wrote C++ code to simulate natural phenomenon

Code is flexible and can be configured to produce a wide variety of effects

Modeled, surfaced, and lit the scene of the snowy cottage

GitHub Repo - github.com/awbrenn/velocity-field-with-particles

2D Computational Fluid Dynamics (1:25 - 1:34)

Interactive computational fluid dynamics simulation. User is able to paint density and divergent forces to generate a fluid like image.

Written in C++

Allows user to load any background image



GitHub Repo - github.com/awbrenn/2D-fluid-simulator

Game Based On Smoothed Particle Hydrodynamics (1:34 - 1:43)

Final project for a course in 2D fluid simulation. User must navigate particles to the purple zone by switching the direction of gravity using the WASD keys.

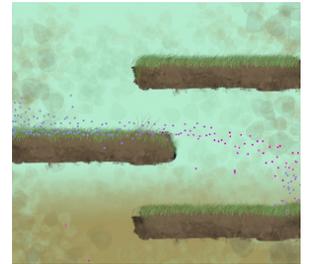
Written in C++

Designed a collision system optimized for quick level design

Painted backgrounds for each level

Themed game off of 90's style CD-ROM game

GitHub Repo - github.com/awbrenn/sph-game

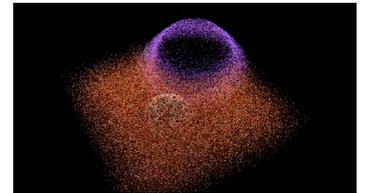


GPU Particle Simulation (1:43 - 1:47)

In this simulation 250,000 particles collide with two spheres and change colors when they collide.

Written with OpenCL and C++

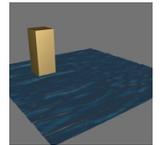
Simulating 250,000 particles in real time on a GeForce GT 640



Water Surface Simulation (1:47 - 1:51)

A water surface simulated using the Navier-Stokes equations written to run in parallel on a GPU.

Written with OpenCL and C++



Springy Mesh Simulation (1:51 - 1:55)

This simulator reads in a mesh stored in a Wavefront .obj file format and generates springy struts in place of the edges of the mesh. The mesh is then dropped onto a floor and can be moved around by applying external forces with the WASD keys.

Written in C++

Converts any triangulated mesh into springy object

GitHub Repo - <https://github.com/awbrenn/squishy-object>

