IHS Math Seminar Fall 2023 Graphics Programming Introduction

November 2
Benjamin G. Thompson
he/they

Photorealism

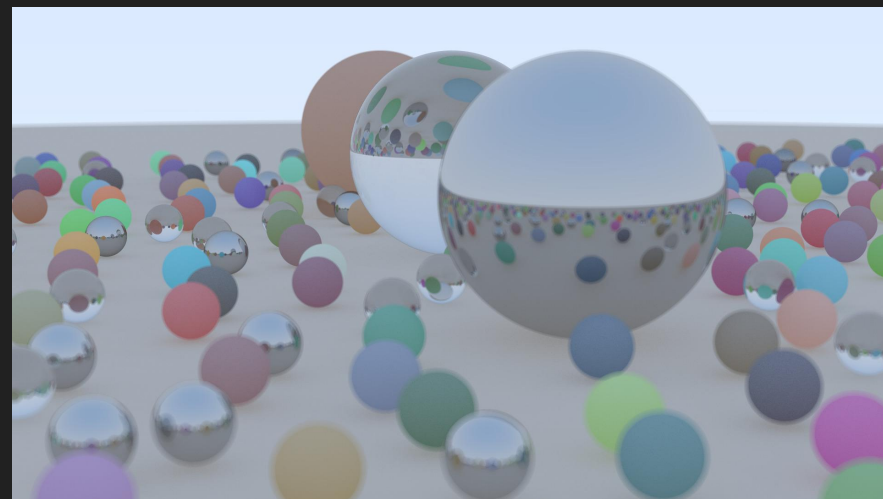

[0030Donut.png](#) (2021)

Blazing Fiery, [CC BY-SA 4.0](#)

My attempt at a basic ray-tracer programmed from scratch
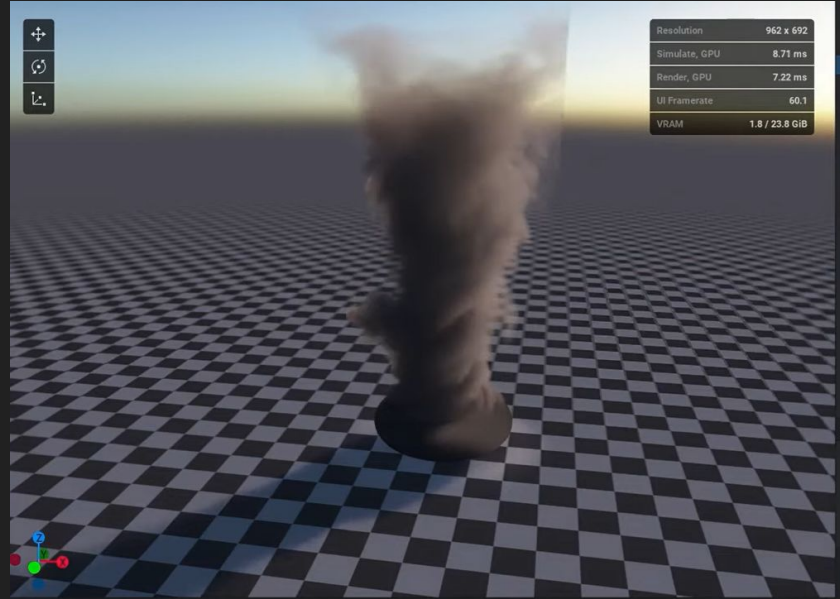
Light distortion

Outer Wilds (2019), Mobius Digital / Annapurna Interactive

VFX

[EmberGen 1.0 Release Trailer](#) (2023)

JangaFX

[Quick EmberGen Tutorial: Creating a Tornado Effect](#) (2022)

JangaFX

VFX in animation

Frozen (2013), Walt Disney Pictures

Marlon West, Head of Effects Animation at Walt Disney Animation Studios ([source](#))

"When you have a sister who's shooting snow and ice out of her hands people notice those effects." ([source](#))
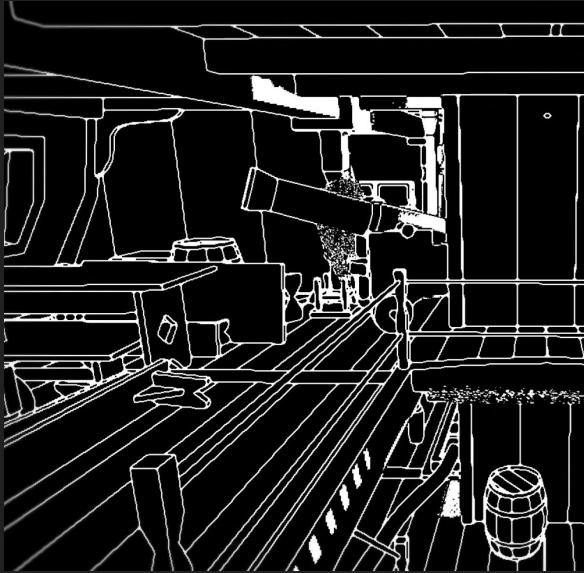
Projection models

[HUMBLE](#) (2017)

Aftermath/Interscope (Top Dawg Entertainment)

[Anon](#) (2023)

Weston Allen and Dorian Electra

Unique art styles / effects

Return of the Obra Dinn (2018)

Lucas Pope

Simulation (2016)

Tkay Madiza

General Outline

- Basic geometry (2 lessons)
- Fragment shaders (5+ lessons)
- Graphics programming using Raylib (3+ lessons)
- …?

Freya Holmér, shader extraordinaire and Ex-Founder of Neat Corp. ([source](#))

"So what is a shader? You can think of a shader as code running on your GPU." ([source](#))

Preview of what's to come…