



WHITCOMB RILEY

SOFTWARE ENGINEER

CONTACT

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PORTFOLIO

 whitriley.com

SKILLS

Languages

- Proficient in C, C++, and C#
- Familiar with Python
- GLSL and HLSL

Tools

- Visual Studio, Shader Graph
- Git, SVN, and Perforce
- ImGui, OpenGL
- Maya and Blender
- Figma

Engines

- Experienced in building custom engines from scratch
- Comfortable with Unity

Mathematics

- Linear algebra
- 3D Math
- Calculus

ACADEMIC EXPERIENCE

GAMEPLAY & GRAPHICS PROGRAMMER

JAN 2021 – APR 2021

3D multiplayer RPG game, Unity Engine

4-person team

- Procedural terrain generation of a finite world that seamlessly wraps with itself endlessly.
- Generated a heightmap in chunks with multiple LoDs for improved rendering performance.
- Simulated Hydraulic Erosion to improve the look of the heightmap.
- Mesh blending for character creation to let players distinguish themselves in multiplayer.

ENGINE & TOOLS PROGRAMMER

SEP 2019 – APR 2020

3D multiplayer artillery shooter game, Custom C++ Engine

10-person team

- Implemented Marching Cubes for mesh generation of destructible levels and optimized for fast mesh revisions.
- Implemented point/triangle collision detection and resolution for the terrain mesh.
- Created a tool with ImGui to quickly create and edit procedures which define how different levels in the game generate.

GRAPHICS & VFX PROGRAMMER

SEP 2018 – APR 2019

2D top-down puzzle game, Custom C++ Engine

6-person team

- Created a tool with ImGui to quickly create and edit particle effects.
- Made a shader to give the game pseudo-3D lighting to make tiles visually less repetitive.
- Created the system for handling sprite animations and texture tiling.

EDUCATION

BACHELOR OF SCIENCE

Computer Science in Real-Time Interactive Simulation

DigiPen, Redmond WA

(2017 – 2021)