Oliver Renwick

Chennai, India 600114

+91 7824020564 | oliverrenwick.w@gmail.com | https://github.com/Oliver-Renwick | www.linkedin.com/in/oliverrenwick-graphicsdev

Summary

Graphics Software Developer with 1.5 years of experience building GPU-driven, real-time rendering applications using Vulkan and modern C++. Strong foundation in graphics programming, engine architecture, and performance-oriented design. Proficient in Object-Oriented Programming, multi-threaded systems, and shader-based rendering techniques including PBR and post-processing. Seeking to contribute to high-performance graphics systems and tools development.

Work Experience

GLSL Developer - Hexr Factory Immersive Tech Pvt Ltd March 2023 – August 2024

- Implemented a custom .OBJ parser to efficiently load .obj and .mtl file for an in-house engine, improving asset import and rendering workflows.
- Designed and implemented an Entity Component System (ECS) for the in-house game engine, enabling flexible object properties and improved modularity in scene management.
- Implemented the Vulkan rendering pipeline for the in-house engine, implementing depth buffering, anti-aliasing, and efficient management of vertex, index and uniform buffers.
- Researched and implemented lighting models, including Blinn-Phong and Physically Based Rendering (PBR), with support for directional, point and area lights to enhance visual realism.
- Implemented a debugging GUI using Dear ImGui, enabling real-time editing of object properties such as transformations and materials.
- Mentored team members on graphics programming.

Projects

Ghost - Vulkan based game engine

Built a GPU-driven game engine focused on real-time rendering, physics, and multiplayer networking. The engine features a modern rendering architecture with support for physically based rendering (PBR), skybox environments, shadow rendering, and multi-threaded resource management.

Key technologies:

- Vulkan API for high-performance rendering

- Multithreaded asset streaming and multithreaded draw submission

- UDP-based client-server networking for real-time object state replication

- Debug and profiling integration using Render Doc

Vulkan Renderer - Vulkan-based rendering engine

Developed a real-time renderer using the Vulkan API, with GLTF model loading capabilities and skybox rendering for immersive scene visuals.

Technical Skills

C/C++, Vulkan, OpenGL, optimization, debugging and profiling, CUDA, Winsock, Render Doc.

Education

B.Sc. in Visual Communication June 2020 – May 2023
Loyola College, Tamil Nadu, Chennai.