KYLE NG

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EXPERIENCE

Dirk Interactive Inc.
August 2024 – May 2025
Software Engineer
Burnaby BC

- Translated technical documentation into clear, visual system diagrams, improving understanding of system architecture and facilitating more effective design discussions.
- Integrated and refactored existing gameplay code to support vehicle-specific behavior, reusing and extending non-vehicle entity logic for consistency and maintainability.

T&T Supermarket
August 2021 – September 2024
General Service Assistant
Burnaby BC

PROJECTS

DKEngine
September – December 2024
C++, OpenGL

- 3D game engine with custom physics and rendering. Includes glTF model imports, materials, and shadow mapping.
- Implemented physically-based lighting models, including directional, point, and spot lights, with configurable intensity, falloff, and color for realistic scene illumination.
- Built a shadow mapping system supporting dynamic shadows from multiple light sources using depth textures and PCF filtering for soft shadows.
- Developed the engine's core rendering architecture, organizing the render loop, scene graph traversal, and draw call submission to support efficient real-time rendering of 3D scenes.
- Developed a glTF model importer with support for meshes, materials, and hierarchical transforms to streamline asset loading.

Solarium
January – April 2024
Swift, iOS, SceneKit, Blender

- 3D puzzle-adventure game where players are tasked with repairing an ecological facility in a solarpunk environment.
- Engineered the game's architecture, integrating graphics, physics and other components for a cohesive and immersive gameplay environment.
- Scripted puzzle logic in Swift, integrating world entities and interactive elements to enhance gameplay immersion and challenge.
- Designed captivating puzzles aligned with the game's narrative to enhance player engagement.

BoomBlocks
September – December 2023
Blueprints, Unreal Engine 5, Blender

- 3D physics-based demolition sandbox game where players play as a demolitionist and destroy buildings using a variety of tools.
- Implemented diverse tool functions based on user stories, enabling players to efficiently place, switch, rotate, and delete tools for optimal demolition strategy.
- Developed multiple physics-based tools, enriching gameplay with a wide range of destructive options.
- Conducted performance optimizations by analyzing performance traces and eliminating excess geometry, ensuring smooth gameplay across various platforms.

EDUCATION

British Columbia Institute of Technology
Burnaby BC
Bachelors of Science, Applied Computer Science | CGPA: 85% w/ Distinction
September 2023 – May 2025
Diploma, Computer Systems Technology | CGPA: 86% w/ Distinction
April 2021 – May 2023

SKILLS

Languages: C++, C#, C, Java, Swift

Engines/Libraries: Unity, Unreal Engine, SceneKit, Vuforia, Mixed Reality Toolkit, Raylib