Kevin M. Chin

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Work Experience

Unity Technologies

Software Developer Intern May 2021 – Aug 2021 | Montreal, Canada

- Investigated and rewrote asynchronous code in the Game Foundation package; replaced Promises model with asynchronous Tasks which is the C# standard; the new simplicity of asynchronous code saves both the users and the developers an invaluable amount of time; improved async code performance by 20%.
- Implemented Unity cloud services for product backend which was critical for the product's next major release.

Offworld Industries LLC

Software Developer Intern May 2020 – Dec 2020 | Vancouver, Canada

- Upcoming multiplayer FPS game, C++ in Unreal Engine 4; wrote and networked the ammo/reload/rearm system for weapons, implemented and networked grenade throwing system.
- Wrote tool for designers to configure "Aim Down Sights" for weapons, saving animators hundreds of hours on iteration. Dynamically offset the ADS position so a new animation isn't required if designer modifies ADS position.
- Designed and implemented an object pooling model for AI which drastically improved performance and reduced the enemy spawn frametimes by 200%.
- Designed and implemented a UE4 tool for the company which validates asset names based on their type (e.g., a X asset should have Y prefix and Z suffix), enforcing unified asset naming conventions across the company.

Selected Projects

XNGINE – 3D Game Engine

GitHub Link

- 3D graphics game engine written from scratch in C++ with an emphasis on architectural quality and performance.
- OpenGL/GLSL backend; implemented a variety of graphical features such as dynamic omni-directional shadows.
- Wrote a deferred renderer with tiled light culling, allowing for 4000 light sources to render at 76+ FPS.
- Excellent 3D world representation using quaternions instead of Euler angles.
- Built in a developer terminal for executing commands which continues to save tens of hours in debugging.

Ayax Development Kit – 2D Game Engine – C++, OpenGL, GLSL

GitHub Link

- C++ game engine for making modern 2D games; wrote a built-in editor with ImGui for level creation, configuring of game objects and animations, and importing of sprites and resources.
- Wrote a code reflection metaprogramming library to expose game object fields to the editor.
- Created and included a 2D platformer game with the engine to demonstrate how to use the engine to developers.

Super Whiplash – Online Multiplayer Game – C++, Unreal Engine 4

Steam Store Page

- Fully networked with remote procedure calls and replication; plays over internet using Steam to find servers.
- Implemented custom vehicle physics from scratch and networked the physics with client-side prediction; resulted in smoother and more reliable vehicle physics for online play than the built-in Unreal Engine vehicle physics.

Education

University of British Columbia

B.Sc. Computer Science (3.9 CS GPA) Sept 2018 – Dec 2022 | Vancouver, BC, Canada

Technical Skills

C, C++, C#, Java OpenGL/GLSL Perforce, Git Unreal Engine, Unity Engine