Glenn Kirk

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Background

A highly motivated individual, dedicated to problem-solving and writing clean and efficient code. I enjoy working on all aspects of game programming, with a focus on gameplay and graphics. I have experimented with most game engines, and have AAA experience with Unreal Engine 4 and Unity 3D, including deep knowledge of the Unreal Engine DirectX 11 and 12 rendering pipeline.

Employment History

Full employment history available upon request

Graphics Engineer (Remote), OffWorldLive Ltd.

(April 2020 – May 2022)

- Helped research, design, and implement an Unreal Engine livestreaming plugin which has since attained 30,000+ active users, with cinematic camera and 360 degree rendering functionality
  - Worked with DirectX 11 and 12 to implement shared GPU textures between Unreal Engine and other local software
  - Designed and implemented an authentication system within Unreal Engine to solve complex licencing requirements
  - Integrated libav (FFmpeg) C libraries to add real-time audio/video encoding and RTMP streaming from within Unreal engine
  - Implemented a telemetry system to gather information on how users interact with the plugin
- Co-Inventor of 2 patents for advanced 360 degree rendering and bloom techniques (links below)
- Designed and implemented a WPF automation tool which receives commands over websockets to remotely control Unreal Engine and OBS Studio streaming
- Worked closely with external Virtual Production clients to implement custom level and gameplay features in C++ and Blueprints
- Worked with our custom build pipeline hosted on GitHub to solve issues as required
- Carried out profiling and optimisation of code, graphics, and networking per project as required
- Setup and management of diverse cloud Unreal Engine deployments across AWS and Google Cloud including for large, long-duration virtual events (Club Quarantaene)
- Worked as a Producer with a small team to create a showcase project, highlighting the features and performance of company created tools

Freelance VR Programmer (Remote)

(May 2018 – April 2020)

- Gameplay and graphics programming for a number of clients
- Working with Unreal Engine 4, Unity3D, and Godot game engines
- Working with various clients to design and implement gameplay functionality
- Titles worked on included a 2D platformer, VR astronaut first-person, multiplayer match 3 game

Project Lead / VR Programmer / Designer (Remote, Contract), Holonautic

(November 2018 – February 2019)

- Planning the direction and timeline of a new VR project
- Organised a small team by providing a task list of required features
- Set deadlines and worked with the team to meet those deadlines
- Gameplay and graphics programming in VR for Unity 3D
- Designed the gameplay, levels, and features

Placement Programmer, Sumo Digital Ltd.

(May 2016 – August 2017)

- Developed a AAA console title from prototype to green-light using Unity3D and Unreal Engine 4.
- Worked in a variety of programming disciplines, including gameplay, physics, UI, and audio programming.
- Implemented a volume-based water physics system, compatible with any physics object in the game
- Designed and implemented a dialogue system using Excel and imported to the game using VB.Net and JSON, allowing designers to dynamically edit dialogue outside of the game engine
- Implemented camera positioning, movement, and FOV adjustments for player custom-made vehicles
- Worked with the audio team to implement different gameplay and menu audio effects using the WWISE platform
- Worked with the art team to implement various particle effects and animations, such as firing turrets, water ripples and spray, and collectable items
- Implemented a pause menu system for game options and debug settings for development
- Profiling and optimisation of different gameplay features as required

Patents

2021 - Part 2 Efficient graphical processing in 360-degree spherical space

2021 - Part 1 Efficient graphical processing in 360-degree spherical space

Awards

2017 **Part 1 winner; Part 2 winner (And previous years 2016, 2015)**
IBM Master the Mainframe

2015 **School Prize for Best Overall Performance in the First Year in Computing**
University of Central Lancashire

Key Skills

Languages	C++, C#, HLSL, GLSL, Cg, Lua, Java, C, Zig, VB.Net, HTML, JavaScript
Software	Unreal Engine, Unity 3D, Vulkan, DirectX 11/12, OpenGL, Perforce, Plastic SCM, Git