

Benjamin Kimberley | Games Programmer

<https://benjaminkimberleycodeportfolio.wordpress.com>

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Profile

I am a Games Programmer with a focus on developing C++-based gameplay, gameplay systems and engine systems. Over the years, I have been developing my own "BEngine", gaining hands-on experience in engine architecture, graphics, optimisation and more. Most recently, I have been working in UE5 to build on my experience in these areas, both as a solo developer and within a team environment. I enjoy taking on new subjects and projects to challenge myself, expanding my knowledge to build more efficient and feature-rich systems.

Technical Skills

- Strong working knowledge of C++ & DirectX 11/12
 - Engine design & implementation, particularly graphics, pipelines and 2D rendering
 - Gameplay, gameplay systems and UI
 - Optimisation techniques: OOP vs. DOD, SIMD, pooling, threading/job systems
 - Custom AI implementations: A*, Monte Carlo tree search, fuzzy logic, behaviour trees
 - Data-driven design (JSON)
- Moderate-to-strong working knowledge of Unreal Engine 5 Blueprint/C++
 - Extensive Blueprint implementation across different areas (UI, Actors, Gameplay, Systems)
 - C++-first implementation of gameplay systems
- Working knowledge of Unity, HTML & Lua
- Version Control (GitHub), Comms (Trello, Clickup, Discord), Documentation (UML, Obsidian)

Previous Experience

Scroll Lock Studios | UE5 | <https://benjaminkimberleycodeportfolio.blog/ajol/>

Mar 2025 - Feb 2026

Co-Director/Lead Programmer

"A Journey of Light" was a large-scale UE5 project and a professional venture, as well as my first major Unreal Engine project. My role covered both general team leadership and lead/primary programming responsibilities. My contributions and experiences gained were:

- Primary gameplay systems
 - Implemented the majority of gameplay blocks (both shared and individual behaviours)
 - Designed and implemented the primary gameplay manager, driving level loading and puzzle-state systems
 - Implemented internal game-state flow and main-loop UI navigation
- UI
 - Design and implementation of most UI (menu buttons, banners, tooltips, control contexts, info displays, inventory)
 - General game state navigation
- Project management & design
 - Initial project setup
 - Established internal file structure for UE project files, including conventions and architecture for class hierarchies, structs, enums and other reusable types.
 - Discord, file-sharing, Miro, source control (GitHub)

- Contributions to level layout and gameplay block conventions (specific to UE implementation)
- Led Scrum processes and drove weekly and long-term project milestones

BEngine (C++, <https://benjaminkimberleycodeportfolio.blog/engine/>)
Sole Developer

Sept 2020 - Present

BEngine is a 2D-oriented C++ engine, developed and iterated on across several different game projects and technical explorations. Each project has driven improvements or new features within the engine, providing hands-on experience across a wide range of programming areas and challenges. Some of the larger areas I have worked on across the engine's lifetime and its projects include:

- Integration of DirectX 12 graphics pipelines for rendering, alongside DirectXTK for SpriteBatch and audio
- Integration of Box2D for physics and as the backbone of the actor callback system
- Development of a component-based actor system
- Implementation of various AI models, including A*, behaviour trees, fuzzy logic, and Monte Carlo
- Development of data-driven pipelines for textures, audio, UI and gameplay
- Implementation of various gameplay systems, including RPG character systems (units, equipment, items), platforming and combat mechanics

Unnamed Turn-Based Project (UE5/C++)
Sole Developer

May 2026 - Present

This is an ongoing solo UE5 project, serving as a continuation of my experiences from "A Journey of Light", with a particular emphasis on C++-first implementation of key gameplay features and systems. The project has allowed me to build on my previous Blueprint-focused experience while developing a deeper understanding of:

- C++ development conventions and patterns in UE5
- Blueprint exposure rules, limitations and C++/Blueprint integration
- Developing workflows for converting Blueprint-side types and scripting to C++

Qualifications

Sheffield Hallam University
MComp Computer Science for Games | First Class Honours: 77.06%

Sept 2019 - June 2023

- Y4: Individual Project (72%), Advanced Graphics Projects (81%)
- Y3: Research-Based Games Project (71.55%), Effective C++ Programming (61%)
- Y2: 3D Game Dev (81%), Maths for Modelling & Rendering (72%), SW/HW Optimisation Techniques (74%)

Hobbies/Interests

Naturally, my main hobbies centre around gaming. My core genres tend to fall into RPG/Strategy/Roguelike categories, but really a wide range of games across genres. My core game is WoW, where I currently raid competitively (top ~100 raiding guild), and would otherwise be playing things like Marvel Snap, Rimworld and Noita as other games of choice. Outside of this, keeping up on a couple manga and anime, with Kagurabatchi recommended as a read, and Dr Stone as both a read and watch.