CONNOR KING

UK SC CLEARED (ACTIVE)

SENIOR SOFTWARE ENGINEER | SIMULATION & REAL-TIME SYSTEMS

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PROFESSIONAL SUMMARY

Accomplished Senior Software Engineer and Lead Unity Developer with over 6 years of experience architecting mission-critical simulation platforms, interactive digital twins, and autonomous logic systems for defense applications. Proven track record leading engineering teams at Babcock International to deliver high-fidelity training systems for UK submarine infrastructure. Experienced in end-to-end solo software engineering, shipping scalable architectures, custom rendering pipelines, and complex real-time applications in C# and C++.

TECHNICAL SKILLS

Languages: C#, C++, Python, Lua, HLSL / GLSL, SQL

Engines & APIs: Unity (Engine Internals, Custom Tooling, URP/HDRP), Unreal Engine, DirectX 11/12, OpenGL

Domains & Systems: Defense Simulation, Digital Twins, Procedural Generation, Spatial Computing (VR/XR), Custom Shaders, Real-Time Telemetry

Architecture & Tools: Systems Design, Profiling & Optimization, SOLID Architecture, Git, CI/CD, Agile/Scrum Leadership

PROFESSIONAL EXPERIENCE

Lead Unity Developer – Data Visualisation & Simulation | Babcock International Group 01/2022 – Present

- Promoted within 18 months to direct technical architecture, engineering standards, and delivery of simulation platforms across UK submarine and naval programs (SC Cleared).
- Architecting a 4D **UK Submarine Enterprise Estate Management Tool**, enabling interactive site/facility exploration, asset inspection, and Gantt-driven scenario planning linked to dynamic 3D timeline slider visualizations.
- Architected a **Nuclear Submarine Fire & Egress Simulation** featuring multi-agent AI pathfinding, spatial location tracking heatmaps, dynamic procedural cameras, and real-time telemetry replay systems.
- Engineered a physics-based **Reactor Radiation Hazard Visualization Engine** using deferred rendering pipelines and custom HLSL shaders to calculate and display real-time exposure thresholds.
- Establish team-wide engineering best practices, code review protocols, SOLID architecture, performance profiling benchmarks, and mentor junior and mid-level software engineers.

Unity Developer – Data Visualisation | Babcock International Group 07/2020 – 01/2022

- Built high-fidelity interactive 3D environments of future major dockyard infrastructure projects, delivering guided visual tours to drive stakeholder and investor confidence.
- Designed interactive **Digital Twin & Procedural Maintenance Applications** with automated disassembly workflows to streamline naval equipment inspection and cut diagnostic timelines.
- Developed immersive **VR Spatial Orientation Systems** utilized for submarine crew familiarization and operational readiness training.

Founder & Solo Systems Engineer | Soul Splicers (soulsplicers.com) 11/2021 – Present

- Architected and developed a full commercial 2D action-platformer from scratch in Unity/C#, designing all core state machines, combat mechanics, dynamic physics, and custom editor tools independently.
- Engineered custom Web3/API backend integrations, player analytics telemetry, and web services powering live pre-alpha community deployments.
- Managed full product lifecycle including CI/CD build pipelines, performance profiling across hardware configurations, and active player feedback integration.

KEY PROJECTS & INNOVATION

Autonomous Vehicle Simulation: Developed an autonomous agent simulation inside Unity utilizing Python and TensorFlow to execute reinforcement learning algorithms and sensor-based collision mitigation.

Custom C++ / DirectX Engine: Built a standalone 3D rendering engine in C++ and DirectX 11, implementing spatial partitioning, low-level memory allocation, bounding-box collision detection, and custom lighting.

Global Game Jam Champion (2019): Awarded 1st Place on-site at The Foundry (UK), engineering and shipping a multi-mechanic interactive loop within a strict 48-hour development sprint.

EDUCATION

MSc in Commercial Games Design (Distinction)
University of the West of England (UWE Bristol) • 2019 – 2020
Focus: Commercial Software Quality, Advanced Architecture, Engine Optimization

BSc (Hons) in Games Technology (2:1)
University of the West of England (UWE Bristol) • 2016 – 2019
Focus: C++, DirectX Graphics Pipelines, Real-Time Physics, Simulation Algorithms

LANGUAGES & ADDITIONAL INFORMATION

Languages: English (Native), Welsh (Intermediate)

Security Clearance: Active UK Security Clearance (SC)

Interests: Embedded Electronics (Arduino), Competitive Game Jams