# JAMES DAY

## Graduate Games Programmer - C++

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**Portfolio & showreel** jamesdaygames.com **GitHub** github.com/Jambient **LinkedIn** linkedin.com/in/james-day-dev

## PROFILE

Winner of TIGA's Most Outstanding Graduate of the Year: Programmer 2026. A strong C++ programmer with knowledge of engine, rendering, cross-platform, and gameplay systems. Industry experience at Wargaming working on UE5 gameplay systems and tools.

## EXPERIENCE

**Software Engineering Intern** at **Wargaming** Jun – Aug 2025 · Guildford, UK

10-week internship on an unannounced project · Unreal Engine 5, C++, Perforce, Jira

- Prototyped vehicle physics and a proximity-based system for sharing information between players.
- Built a location-based damage system using per-section values defined on the mesh.
- Created a Slate editor tool for designers to tune a custom asset type and preview it in the tools viewport.

## PROJECTS

**SDF Modelling Engine** – lets users build 3D models by combining signed distance field primitives Case study

Solo dissertation, 1st place at GradEx 2026 · C++, DirectX 11, HLSL, Dear ImGui

- Wrote a scene compiler that flattens the SDF tree into GPU buffers for a stack-based HLSL ray-marcher.
- Built a docking editor with a drag-and-drop scene hierarchy, transform gizmos, properties panel and save/load.
- Rendered with soft shadows, ambient occlusion and triplanar texturing.

**Quack Engine** – cross-platform 2D game engine for Windows and PS5 Case study

Team of 5, 2026 · C++, DirectX 11, PS5 graphics API

- Owned rendering and the asset pipeline, plus the virtual file system and build setup.
- Designed a Rendering Hardware Interface over DirectX 11 and PS5, batching sprites and MSDF text.
- Wrote an offline asset build tool producing PAK archive files which are loaded into a runtime asset manager.

**ECS Physics Engine** – 3D rigid-body physics with stacking and tearable cloth Case study

Solo, 2025 · C++, DirectX 11, Dear ImGui

- Wrote my own archetype-based ECS with type-erased columns, bitset signatures and variadic queries.
- Implemented a dynamic AABB tree broadphase, 15-axis SAT contacts and a sequential-impulse solver.

## TECHNICAL SKILLS

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|---|---|
| **Languages** | C++, C#, HLSL, Python, Lua |
| **Systems** | Engine architecture, ECS / data-oriented design, multithreading, 3D maths, physics |
| **Graphics** | DirectX 11 & 12, DXR, OpenGL, PS5 graphics API |
| **Engines & tools** | Unreal Engine 5, Unity, Perforce, Git |

## EDUCATION & AWARDS

**TIGA Most Outstanding Graduate of the Year: Programmer** · UK Games Education Awards 2026

**1st Place, Games Programming** · University of Staffordshire GradEx 2026

**BSc (Hons) Computer Games Programming, First Class** · University of Staffordshire 2023 – 2026

**A Levels: Computer Science (A), Mathematics (A)** · Battle Abbey School 2018 – 2023

## INTERESTS

Piano (since age 7), music production with 20,000+ plays on SoundCloud, UI/UX design and playing games.