JAMES DAY

Games Programmer

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PERSONAL STATEMENT

A talented game programmer with strong skills in C++, Unity, Unreal Engine, DirectX, and OpenGL. Currently pursuing Computer Games Programming degree at Staffordshire University, achieving a first-class grade in Year 1. Quick learner, always eager to embrace emerging technologies and best practices in game development. Seeking a placement opportunity to contribute to engaging game projects while refining my game development and programming expertise in a professional setting.

RELEVANT PROJECTS

Tanks *(C# — MonoGame, 2024)*

- Engineered a real-time multiplayer tank battle game with support for multiple game modes, including team-based and free-for-all battles.
- Implemented support for multiple active lobbies and a real-time spectating system.
- Developed predictive server-client communication to ensure smooth and responsive multiplayer gameplay.

3D ECS Physics Engine *(C++, 2025)*

- Developed a custom Entity Component System (ECS) engine using an archetype-based approach, optimized for cache efficiency.
- Built an impulse-based solver based around the ECS engine that uses multiple iterations to increase stability.
- Integrated DirectX 11 rendering to visualize the physics engine with ImGui for debugging.

Tank Infiltration *(Unreal Engine 5, 2023)*

- Developed a top-down PvE tank combat game featuring AI-driven enemy units with different behavior.
- Implemented a variety of player-controlled weapons, each with distinct mechanics and abilities.

DirectX Rendering Framework *(C++ — DX11, 2024)*

- Designed and implemented a framework using the DirectX 11 3D API featuring physically based rendering (PBR) with Cook-Torrance BRDF.
- Developed a lighting system supporting directional, point, and spot lights.
- Integrated terrain generation from heightmaps with instanced rendering for wind-affected grass.

Mountain Descent *(C++ — SDL 2, 2024)*

- Created a 2D side-scrolling sledding game where players navigate down a dynamically generated mountain.
- Prepared a pitch deck for the game idea and created a Gantt chart to structure development milestones and stay on schedule.
- Compiled and ported the game to an Evercade console for handheld playability.

KEY SKILLS

Programming Languages
C++, C#, Python, SQL, Lua

Game Engines
Unity, Unreal Engine 5

Frameworks
MonoGame, SDL 2, OpenGL, DirectX 11 & 12

Version Control
Git, Github

Web Technologies
HTML, CSS, JavaScript

Soft Skills
Problem-solving, Teamwork

HOBBIES & INTERESTS

Piano
I have played piano since the age of 7 and have reached grade 6.

Composition
I have composed various tracks which I have released on SoundCloud, one of which got over 20 thousand plays.

UI/UX Design
I enjoy designing both website and game UI/UX. This can be seen in quite a few of my projects primarily Astro Forge and Tanks.

EDUCATION

University of Staffordshire, *(2023 - Present)*
Computer Games Programming BSc (Hons). Achieved a first in year 1.

Battle Abbey School, *(2018 - 2023)*
9 GCSEs and 3 A levels comprising of: A in Computer Science and Mathematics and a C in Economics.