Callum Dourneen

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Personal Profile

A motivated and adaptable software developer with a solid foundation in programming, gained through game development and software training. Developed expertise in **C++, C#, and game engines like Unity and Unreal Engine** during university. Currently expanding my skills in **software development** through training at **Just IT**, learning industry best practices, API integration, and full-stack development. **Passionate about problem-solving, continuous learning, and applying my technical expertise in a professional software development environment.**

Key Skills

Technical Skills:

Programming Languages: C++, C#, Python, SQL, JavaScript, HTML, CSS
Frameworks & Tools: Unity, Unreal Engine, OpenGL, SDL
Software Development: API Integration, Web Development, Database Managment, Object-Oriented Programming (OOP)
Version Control: Git

Soft Skills:

Problem-Solving | Teamwork | Time Management | Adaptability | Attention to Detail

Training and Education

01/2025-Present   Just IT Training Ltd,
Digital Skills Bootcamp: Software Development
An eight-week intensive bootcamp covering the fundamentals of Software Development.
- Developed a solid foundation in **HTML, CSS, JavaScript and SQL.**
- Built a **functional web-based product** applying modern development principles.
- Gained experience integrating and utilizing **API integration** to enhance application functionality.

09/2022-08/2024   Birimingham City University, Birmingham
BSc Video Game Development – First Class
Developed expertise in **game programming**, **engine development, AI, and low-level graphics programming.**
Core Modules & Projects:

First Year - Group Project (Unity Vehicular Combat Game)
  - Developed the **UI and HUD elements** for a Twisted Metal-inspired game including **damage numbers, crosshairs, health bars, speedometers, menus, and game score counters**.
  - Gained proficiency in **Unity UI systems** and user interface design for games.
Second Year - SDL Platformer
  - Created a **platformer game in SDL (Simple Direct Media Layer)** using **C/C++**.
  - Implemented *A pathfinding algorithm** for AI-controlled enemies with ranged attacks.
  - Designed an **obstacle detection and collision system** to enhance player movement realism.
Second Year - OpenGL First-Person Shooter
  - Developed a **3D first-person shooter using OpenGL**, focusing on **shader programming** and real-time rendering.
  - Built a custom rendering pipeline and experimented with **low-level graphics programming**.
- **Final Year Project:**
Taxi Simulator (Unreal Engine 5)
  - Designed and developed a **taxi simulation game** with advanced **AI-driven mechanics**.

- o Implemented **traffic control systems, vehicle upgrades, and AI taxi fleets**.
    - o Built a **dynamic economy and hiring system**, allowing players to **manage employees, buy vehicles, and assign drivers**.
- Strengthened skills in **Unreal Engine 5 development**, AI systems, and gameplay programming.

Languages & Technologies: C++, C#, SDL, OpenGL, Unity, Unreal Engine

09/2020-09/2022 **John Henry Newman Catholic College, Birmingham**
Btec: Information Technology (Distinction), Creative Digital Media Production (Distinction), Sports (Distinction)

Interests, Hobbies and Achievements

- **Game Development:** Created **Frolic Frog (Unity)** – an infinite jumper game featuring **endless gameplay, a shop system, and obstacle generation**, highlighting skills in **game mechanics, UI design, and player engagement**.

- **Football:** Actively play **competitive football**, developing **teamwork, leadership, and strategic thinking** skills.

- **Technology & Learning:** Passionate about **AI, networking, and real-time game physics**, always exploring new development techniques through online courses and projects.

- **Problem-Solving & Strategy Games:** Enjoy playing and analysing **strategy and puzzle games**, applying logic and algorithmic thinking to game design.

- **Achievement:** Earned a **First-Class degree in Video Game Development**, demonstrating dedication and technical expertise.

References available upon request