Matt Ware

Website mattware.dev | **Email** m@ttwa.re | **LinkedIn** mattbware | **GitHub** mattiebw

Skilled and enthusiastic games programmer on the second year of a BSc (Hons) in Games Technology. With a strong foundation in C++ and C#, and experience in commercial engines such as Unreal, Unity, and Godot, which has been proven across many academic and personal game projects, I can deliver high-quality results across many aspects of games programming. I am seeking an industry placement to develop my technical skills further and contribute to interesting game projects.

Languages/APIs: C++/C (+Debugging) | C# | Python | Java | OpenGL | SDL/GLFW | Steamworks | HTML/CSS/JS

Tools/Techs: Unreal Engine | Unity | Godot | JetBrains Suite | VS 2022/Code | Git/GitHub/CI | Teams/Slack/Office | CMD/Shell

Education

BSc (Hons) Computer Games Technology (TIGA Accredited)

University of Portsmouth (September 2023 - July 2027)

- Achieved a **first-class** across my first year, demonstrating a strong understanding of the topics covered.
- Developed over 5 projects in one year with Unreal and Godot, both solo and as part of a group.
- Developed a high level of competency in C++ and C# by creating multiple projects in Unreal Engine, Unity, and Godot
- Learned low-level techniques, such as memory management with pointers, through C++ projects in Unreal Engine and with PS5 Dev Kits and SDKs.
- Learned mathematical concepts core to game development, such as vectors, matrices, quaternions, and basic physics simulations.
- Submitted all coursework to a high standard and on time, demonstrating strong organizational skills and attention to detail.
- Researched academic sources and produced highly marked reports.
- Solidified knowledge of the fundamentals of game art, and learned the basics of toolsets such as 3DS Max, for better communication with artists.

UAL Level 3 Extended Diploma in Games Development

Fareham College (September 2021 - July 2023)

- Achieved the maximum grade for the course, a **triple distinction**.
- Furthered knowledge of C++ and programming in general, including an understanding of paradigms such as object-oriented, event-driven, and data-driven.
- Experimented with advanced topics such as procedural generation, mesh generation, binary serialisation, and custom scripting languages.
- Worked on 4 game projects, both solo and in teams, in GameMaker and Unreal Engine.
- Learned the basics of various art packages, such as Blender and Substance Painter.

Projects & Experience

Pirate Survivors 2024 Unreal C++ Multiplayer Group

- Used Unreal Engine and C++ to create a multiplayer survivors-like.
- Worked with designers to create systems to rapidly iterate on weapon types and upgrades with properties and blueprint code.
- Used Unreal Engine's reflection system to create dynamic upgrades that can upgrade any property on a player or weapon.
- Created a custom system to replicate thousands of XP objects smoothly.
- Created a lobbying interface that leveraged the Steamworks API.
- Implemented multiple multiplayer-aware AI behaviours.

PAPI 2024 C++ Multiplayer Group

- Helped write a multiplayer 2D game in C++ from the ground up.
- Implemented multiplayer features with Steamworks, including encoding and decoding binary messages, and creating a basic C++ reflection system.
- Wrote a renderer in OpenGL, featuring batched rendering, instanced tilemap rendering, and MSDF text rendering.
- Debugged and fixed issues such as memory corruption.
- Held weekly stand-ups to track progress with teammates, help resolve roadblocks, and assign tasks.

Echoes of Serenity 2024 Game Jam C#

- Created a 2D procedurally generated survival game solo in 4 days with Raylib and C#.
- Used a data-driven approach to rapidly add new tiles and items.
- Created an easy-to-use UI system on top of Raylib.
- Shared ideas with and tested the games of fellow developers during the week-long jam.

Ecoscape 2023 Unreal C++ Group

- Used Unreal Engine's procedural mesh API to create dynamic terrain, fences, and other visualisations.
- Used custom data assets to easily create new items, including editor tools to automatically generate icons, significantly increasing productivity.
- Integrated external libraries (FastNoiseLite) into an Unreal C++ project.
- Created many AI behaviours and animation graphs for different animals.

Chemicode 2023 Unreal C++

- Created a custom drag-and-drop visual scripting UI and virtual machine in C++ to facilitate a unique gameplay mechanic for a chemistry puzzler.
- Created data models to easily implement interactions between different chemicals.
- Stuck to deadlines and hosted playtests to gather information on what should be changed.

Additional Projects

- **Quake loader**: Loads Quake 1 PAKs, BSPs, and some entities into Unreal Engine. Procedurally generates meshes from BSP data.
- **Minecraft mods**: Created multiple Minecraft mods in Java and published for thousands of downloads.
- **Game jam games**: Created multiple more games during game jams, both solo and in teams, in Unreal and Unity, often placing within the top 10%.

Hobbies & Interests

- Playing games - there's no better way to find inspiration for mechanics and implementations.
- Low level technologies - I have an interest in engine programming, and am in the process of learning Vulkan.
- Film & Photography - film is a massive inspiration for me, and I specifically enjoy cinematography. I'd like to get further into photography and videography.
- Long walks - Great for relaxing and turning over problems in my head.
- Experimenting with new and developing technology - for example, XR. I'd like to make a VR game in my spare time.