

Arnaud BEGUE



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Portfolio : arnaudbeguedev.fr



[GitHub Begounet](https://github.com/Begounet)

Gameplay & Tools Programmer

Unity / Unreal Engine 4 / C# / C++



Presentation

As an experienced Unity developer, I am keen on solid architecture creation, technical tools and immersive experiences. More than **13 years of experience** in video game development, prototypes and VR applications, from conception to optimization. Strong expertise in C# with Unity and Unreal Engine. Experienced in working collaboratively on complex projects with a careful attention to code quality and performances. A versatile and autonomous professional with a strong ability to adapt quickly to diverse tasks.

Professional Experiences

Iconik

May 2024 - August 2026

- **[Unity/C#]** Beat them up prototype.
 - **Gameplay:** input buffer, generic input actions, architecture/flow, gameplay (3C + attack system).
 - **Tools:** custom attack editor for 2D gameplay in 3D world, quick access to play easily in a specific game state.
 - **Project setup:** Gitlab CI/CD runner + custom Unity build tool, coding style policy, etc.
 - Unit testing for core algorithms
- **[Unity/C#]** Little Nightmares VR, in collaboration with Bandai Namco.
 - **Gameplay:** mainly rework, improvement and fixes
 - **Optimization:**
 - CPU Profiling (Unity Profiler / Visual Studio) / GPU profiling ([RenderDoc](#))
 - CPU optimization : sceneloading (custom progressive loading system and Addressables optimization), aiming for zero allocation with object pooling and using of structs.
 - GPU optimization: optimization of lightmap sizes, baking durations, draw call counts, art assets sizes, mesh skinning steps and animations.
 - **Tools:** lighting batch baking system for [Bakery](#) and a few more
 - Multiplatform integrations (mock, Steam, Meta Quest 3, PS5): port, analytics & achievements.
 - Unit testing for core algorithms
- **[Unity/C#]** VR game prototype. Game **architecture**, **gameplay** and optimization.
 - Gameplay: sword fighting and core mechanisms, different enemy types and choreographed behaviour, and more.
 - AI: Unity AI Agent + [NodeCanvas Behaviour Tree](#)
 - Optimization: GPU profiling, objects/animation culling by distance, [Sector](#) integration and level chunk splitting.
 - Unit testing for core algorithms
- **[Unity/C#]** VR multiplayer military shooting simulation demo with **BNG** & **Netcode**. ProTubeVR fake gun integration.
- **[Unity/C#]** VR game prototype based on runtime mesh modification (**Mesh API / Jobs**).

Apperture

October 2019 – November 2023

- **[Unity/C#]** Development on a video game prototype, working on **architecture**, 3C implementation, quests & dialogues system, menu and dev. **Mentoring**.
- Creation of a course and workshop about **GPU Profiling & Optimization on Unity**.
- **[Unity/C#]** Development of a speech training application on **VR** with Meta Quest 2, from **architecture**, application logic, documentation, editor tools, **unit testing**, database management with Sqlite to **rendering profiling & optimization**, back office network communication.
- **[Unity/C#]** Multiple mobile apps for medical (mainly medical training and drug information)
 - Producer/Client communication, needs analysis, customer support and events setups.
 - Network (old Netcode, RPC calls, self-made network library)
 - Architecture, UI/audio integration
- **[Unity/C#]** Tools development
 - AdvancedUnityEvent: light but powerful version of UnityEvent
 - Mini-net: network library allowing easy setup of admin and multiple clients communication.
 - QuickBuild: tool to facilitate network testing (by running standalone with different configurations).
 - ChainBehaviours: library of small components interacting with each other from the Inspector.
 - State Log: allow easy reading of logs from executables (folding entire groups of logs).
 - Unity Calls Tracker: based on [Harmony](#), it allows to trace some Unity calls (like OnDestroy).

Persistent Studios

July 2015 – October 2019

- **[Custom UE4/C++/Blueprints]** Development of a shoot'em up published on **Steam**, **XboxOne** & **PS4**. The gameplay is 2D in a 3D world using **Box2D**. Developed from the prototype to the release on **architecture**, **gameplay**, **profiling & optimization**, **in-editor tools**, graph/sound integration, online leaderboards, debug & platform ports.
- **[Unity/C#]** **Gameplay** and story development for a "crouch melee fighting" video game prototype.
- **[UE4/Blueprints]** Creation of a rollercoaster in VR for a market hall event.
- **[Custom UE4/C++/Blueprints]** Creation of medical therapy tool for anorexics in **VR**, allowing patients to create their own avatars with centimeter precision.

DayDreamer

September 2013 – June 2015

- **[Unity/C#]** Prototype of a strategy mobile game (kind of advanced Battleship).
 - Architecture, tiled map generation, unit abilities, game flow
 - Facebook integration
- **[Unity/C#]** Released mobile game [Cubes Stacker Factory](#) (kind of Tricky Towers)
 - Architecture, gameplay, infinite background, stabilization validation
 - Score sharing on Facebook

Soft skills

With strong interpersonal and professional qualities, I stand out for my **clear communication**, **active listening**, and empathy, which foster effective teamwork.

Curious and **creative**, I enjoy **solving problems** in a **rigorous** and innovative way.

My critical thinking, **autonomy**, and **ability to learn quickly** allow me to adapt easily to new technical environments. Reliable and positive, I demonstrate **resilience and patience** when facing challenges, while taking initiative to continuously improve the projects I work on.

Skills

Programming Languages	Engines	Global Knowledge
C# C++ Languages	Unity3D Unreal Engine 4 (C++ & Blueprints)	Game Design Graphic Rendering (Shaders) Mathematics 3D
French (native) English (B2 - intermediate)	Xna/Monogame, PSM, Havok Vision Engine, SFML, Qt, Game Maker	Lighting Modeling, UV, Texturing, Skinning & Animation Unit Testing A/B and multivariate testing concepts