GEORGE ERFESOGLOU

Director of Software | Unity/Unreal | SDKs/Plugins | C#/C++
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PROFESSIONAL SUMMARY

Versatile, hands on engineer who designs, implements, and ships full-stack runtime systems. From native and hardware facing layers up through Unity and Unreal Engine integrations. Known for owning ambiguous problems end to end, building durable SDKs, and turning experimental tech and prototypes into production ready platforms. Comfortable stepping outside any single domain to get products ready.

SELECTED HIGHLIGHTS

- Owned end to end Unity and Unreal Engine integrations for a BLE controlled hardware device, from transport layers and SDK APIs to release ready builds.
- Shipped a cross-platform Unreal Engine plugin across Win64, macOS, Android, and iOS, including native BLE backends and packaging/build wiring.
- Architected a unified cross-platform SDK with shared transport and lifecycle semantics, exposed through both Unity (C#) and Unreal Engine (C++) bindings with platform-specific backends behind compile time guards.
- Built a Windows-native serial transport DLL in C++ and integrated it into Unity via P/Invoke to improve IL2CPP/.NET Standard compatibility and reduce maintenance.
- Built the scent-enabled VR demo that won AWE 2022 (Auggie Awards) Best in Show VR.

TECHNICAL SKILLS

Engines: Unity (C#), Unreal Engine (UE4/UE5, C++/Blueprint), Slate/Editor tooling, UBT/Build.cs packaging
Languages: C#, C++, Java, .NET Working knowledge: JavaScript, Swift/Objective-C
Platforms: Windows, Android, iOS, macOS, Linux (Raspberry Pi)
Interop/Native: P/Invoke, C ABI design, Win32 serial (overlapped I/O), WinRT, CoreBluetooth, JNI
Networking/Protocols: BLE GATT, serial protocols, WebSockets, UDP logging/telemetry
Tools: Git, Perforce, Visual Studio, Rider, Xcode, Android tooling, build automation

EXPERIENCE

OVR | Houston, TX / Remote | Jan 2021 - Present
Director of Software

- Sole software owner for Omara device integrations: partnered with hardware, firmware and product stakeholders to define command protocols and troubleshoot end to end issues.
- Built and shipped Unity (C#/.NET) and Unreal Engine (UE4/UE5, C++) SDKs/plugins enabling real-time scent triggering and device control, optimized for predictable runtime behavior and developer ergonomics.
- Implemented a unified transport layer with platform specific backends (Windows WinRT/C++, Android JNI + Java GATT, iOS/macOS CoreBluetooth) plus Serial/BLE fallback behind shared APIs and compile-time guards.
- Engineered lifecycle reliability: discovery/scan, permission gating, connect/disconnect, reconnect handling, single-device arbitration, and game-thread/main-thread dispatch for callback safety; hardened teardown paths to prevent null-state crashes.
- Validated releases via hardware-in-the-loop testing across Windows/Android/iOS and community beta feedback, used request/response tracing and diagnostics to reproduce and resolve firmware/platform edge cases.
- Delivered show-floor demos (AWE 2022, CES 2023, PAX 2026), including a scent-enabled VR meditation app and companion client streaming live session state over WebSockets.
- Co-developed and shipped Aroma Affect and Minecraft/Fabric integrations mapping gameplay events to device output and visualization.

National Oilwell Varco (NOV) | Houston, TX | 2018 - Jan 2021
Software Developer (Unreal / Unity)

- Developed a simulation library of 10+ NOV equipment and components using Unreal Engine 4 to validate industrial control logic before on equipment testing.
- Reduced commissioning risk and avoided costly rework by enabling pre-commissioning validation in simulation (multi-million cost avoidance).
- Built a Unity-based mobile application supporting OTC use cases and simulator driven training/education workflows.

FuelTECH / FuelFX | Houston, TX | 2016 - 2017
Software Developer

- Built AR/VR desktop and mobile applications using Unity, Unreal Engine 4, and Xamarin; shipped production apps to Google Play and the Apple App Store.
- Delivered applications spanning education, training, and simulation with end to end implementation from UI to device/application logic.

Bezier Games, Inc. (Ted Alspach) | Houston, TX | 2015 - 2016
Contract Software Developer

- Ported One Night Ultimate Werewolf companion app from Android to PC/Mac/Web in Unity (C#/.NET); built UI, settings, and timed narration sequences.

SELECTED TECHNICAL WORK

Unreal Engine cross-platform device plugin (C++ / BLE / Serial)

- Architected native BLE integrations per platform (WinRT/C++, Android JNI + Java GATT, iOS/macOS native bridges) behind a unified Unreal C++ interface.
- Implemented robust real-time messaging with background I/O workers, heartbeats, and thread safe dispatch using Unreal Task Graph patterns to avoid blocking gameplay.
- Built editor and packaging integration: Slate BLE device browser, quick-connect actions, Details panel customizations, and cross-platform build wiring in Build.cs (DLL/dylib/framework handling, Android/iOS).

Windows native serial transport for Unity (C++ / P/Invoke)

- Built a Win32 overlapped I/O DLL (CreateFileW, ReadFile/WriteFile) with a stable C ABI (opaque handles, caller-owned buffers, explicit timeouts, last-error retrieval); static-linked CRT (/MT) to remove VC++ redistributable dependency.
- Implemented safe close/cancel semantics for in-flight I/O (CancelIoEx + bounded waits) to avoid rare shutdown hangs; added robust native loading checks and Windows only PluginImporter gating.

Cross-platform Unity device SDK (C# / BLE / messaging / tooling)

- Built a reliable device messaging pipeline: framing/parsing, response correlation, timeouts/retries, and ready-state backpressure to prevent command loss and handle transient disconnects.
- Delivered authoring/debug tools: reusable odor-volume components with falloff curves, data-driven scent definitions (ScriptableObjects), and custom Odor Assets.

Minecraft / Fabric mod + WebSocket bridge

- Built a Fabric 1.20.4 mod bridging gameplay to an external scent/visualization client over WebSockets; designed orchestration (priority tiers, cooldowns, normalization) and gameplay UX (HUD/title effects + shader-driven controls).

SELECTED PROJECTS & CONTRIBUTIONS

- Physical Boids (Fab / Unreal Marketplace): Published a physics-based flocking AI plugin for Unreal Engine.
- Unreal Engine contribution: Credited in Unreal Engine 4.21 release notes for upstream fixes.
- Get In It Games (GIIG): Built UE5 interactive experiences for a custom floor grid system, including game modes and scoring for large format installations.
- HonorGG (side project): Built a Linux (Raspberry Pi) input capture pipeline and migrated compute backend from a Windows D3D11 path to CUDA kernels to enable portable GPU analysis.

EDUCATION

University of Houston Downtown - B.S. Computer Science, Dec 2015 - Cum Laude