Shamli Sanju Sahani

Gameplay & UI Programmer (C++ / Unreal / Unity)

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Pune, India

PROFESSIONAL SUMMARY

Gameplay & Systems Programmer with **3+ years of commercial experience** and an **MSc in Game Development** (UK). Specialist in bridging the gap between backend **Gameplay Systems** and frontend **UI Architecture**. Proficient in **Modern C++** (Smart Pointers, Lambdas) and **Event-Driven patterns** (Multicast Delegates) to decouple game logic from UI. Proven track record of optimizing performance (CPU/GPU profiling) for both high-fidelity PC titles and constrained mobile hardware.

TECHNICAL SKILLS

Programming Languages: — C++ (Modern Standards), C#, HLSL (Basic), Python.

Unreal Engine 5: — **Slate & UMG Architecture**, **Session Management**, Replication, **Profiling (Unreal Insights)**, UGameUserSettings.

Core Engineering: — **Smart Pointers** (TSharedPtr / TWeakPtr), **Lambdas**, Event-Driven Architecture, Memory Management.

Unity: — DOTS, Addressables, C# Job System, Profiling & Garbage Collection Optimization.

Tools: — Git & GitHub Actions (CI/CD), Jira, Visual Studio, Rider.

ENGINEERING SHOWCASE

Wall-Run System & Physics, *Unreal Engine 5 (C++)*

- **Engine Architecture:** Extended UCharacterMovementComponent to implement a custom PhysCustom movement mode, reverse-engineering the standard falling state to integrate wall-running logic.
- **Math & Stability:** Solved critical collision embedding bugs by utilizing **FVector::VectorPlaneProject**, ensuring velocity was safely projected along surface normals to prevent engine crashes.
- **Game Feel:** Implemented a **Dynamic Gravity Ramp** using clamped delta-time calculations, ensuring traversal felt weighted and physically consistent rather than "floaty."

MSc Team Project: Ascension, *Unreal Engine 5 (UMG & Blueprints)*

- **Multiplayer Front-End:** Architected the complete lobby system, implementing **Session Management logic** (Host/Join, Server Browser, Auto-Find) to handle networked player connections.
- **Settings Architecture:** Engineered a granular Video/Audio options menu (Texture Quality, V-Sync, Anti-Aliasing) mapped directly to UGameUserSettings for persistent configuration.
- **UI/Gameplay Binding:** Utilized **Event Dispatchers** to update gameplay variables (Camera Sensitivity, SFX Volume) in real-time without tight coupling between widgets and player controllers.

PROFESSIONAL EXPERIENCE

Game Developer (Remote), *Gracy Woods Games* 04/2024 – 09/2024

- **UI & Data Binding:** Engineered a reactive UI layer for GenAI interactions, utilizing **Lambda expressions** and asynchronous callbacks to prevent UI freezing during API data fetches.
- **Optimization & Profiling:** Conducted profiling sessions using **Unreal Insights / Unity Profiler**, reducing frame-time spikes by 30% through strict texture memory management and draw-call reduction.
- **Shader & Visuals:** Optimized character rendering materials and **shaders** for mobile performance, ensuring visual fidelity within strict GPU budgets.
- **Cross-Platform Architecture:** Decoupled gameplay logic from the view layer (UI), ensuring systems scaled seamlessly across PC (Mouse/Keyboard) and Mobile (Touch) inputs.

Lead Gameplay Programmer & Ops (Remote), 07/2022 – 04/2024
MHG Technologies (Hunter Games)

- **Unity Architecture:** Directed the full technical lifecycle for multiple hyper-casual titles using **Unity (C#)**, owning system architecture from prototype to release.
- **Memory Management:** Eliminated runtime instantiation lag by engineering a robust **Object Pooling system**, significantly reducing **Garbage Collection (GC)** overhead on low-end devices.
- **Event-Driven Systems:** Implemented a **C# Event / Observer pattern** for the central game loop, allowing UI HUDs to update strictly on gameplay events rather than using expensive Update() checks.
- **LiveOps:** Managed the technical pipeline for content updates, ensuring 100% crash-free stability across 3 major version releases.

Gameplay Programmer, *MHG Technologies (Hunter Games) (Remote)* 01/2022 – 06/2022

- **Full Cycle Development:** Delivered a complete Unity title from concept to Gold Master, implementing core physics mechanics and final UI polish within strict deadlines.
- **SDK Architecture:** Integrated critical third-party SDKs (Analytics, Ads, Auth), implementing defensive programming patterns to prevent main-thread blocking or crashes during data syncing.
- **Data Reliability:** Engineered the local save system and cloud sync usage, ensuring 100% data integrity for player progression upon launch.

Game Developer Intern (Remote), *MHG Technologies (Hunter Games)* 07/2021 – 12/2021

- **Prototyped core gameplay mechanics** for hyper-casual concepts, rapidly iterating on controls and game feel based on design feedback.
- **Integrated external plugins and APIs** to extend engine functionality, supporting the senior team in feature implementation and testing.

EDUCATION

MSc Computer Games Development, *Manchester Metropolitan University* 09/2024 – 09/2025
Grade: Merit Manchester, United Kingdom

BSc in Computer Science, *Vishwakarma University* 2019 – 2022
Grade: 'O' / Outstanding (First Class with Distinction) Pune, India