Stephen Cherlapally

Senior Unreal Engine Developer | Gameplay Programmer
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Professional Summary

Senior Unreal Engine Developer with over 7 years of experience in UE4/UE5, specializing in C++ gameplay systems, Gameplay Ability System (GAS), multiplayer networking, and scalable engine architecture. Experienced in prototyping and implementing player-focused mechanics for competitive multiplayer titles while maintaining high code quality and performance standards.

Combines strong gameplay programming expertise with deep engine-level knowledge, including rendering systems, runtime modifications, secure plugin architecture, and large-scale tool development.

Technical Skills

Engine: Unreal Engine 4 & 5
Languages: C++ (Primary), C#, Java
Gameplay Systems: Gameplay Ability System (GAS), Character Systems, Area-of-Effect Systems, Combat Mechanics
Networking: UE Replication, RPCs, Server-Authoritative Architecture, Multiplayer Optimization
Blueprints: Gameplay Blueprints, Animation Blueprints, State Machines, Montages
Rendering & Tools: Runtime Rendering Pipelines, 360 Capture Systems, Gaussian Splat Preparation
Workflow: Git, Code Reviews, Debugging & Profiling Tools, Cross-Team Collaboration

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Professional Experience

Senior Unreal Developer – EmperiaVR

London, UK (Remote) | 03/2023 – Present

• Architected and maintained the Creator Tools Plugin, a production-grade Unreal toolkit for automated 360 content generation and enterprise deployment.
• Designed and authored three advanced 360 rendering systems: 6 Faces, 6 Faces Split, and 32 Faces Split pipelines for scalable high-resolution panorama generation.
• Developed capture pipelines integrating COLMAP workflows and point cloud generation to prepare datasets suitable for Gaussian Splat training.
• Developed a Walmart Realm–specific variant tailored for large-scale online virtual tour shopping experiences. Implemented engine-level modifications to migrate parts of the rendering pipeline to runtime execution, enabling real-time interactive environments.
• Optimized memory management for large environments and dynamic content loading to ensure performance stability within large-scale retail deployments.
• Integrated Unreal Engine's Procedural Content Generation (PCG) system to enable scalable yet deterministic scene creation.
• Designed and implemented a separate C++ static library encapsulating API keys and core rendering/stitching command logic, integrating it with the Unreal C++ plugin to protect sensitive logic when distributing the plugin externally.
• Architected an automated dependency setup system that downloads and configures FFmpeg binaries and required upscaling models on first launch, ensuring seamless environment initialization and reducing manual setup for end users.
• Managed GitHub repository lifecycle, branching strategies, and multi-version Unreal compatibility validation.
• Maintained high code quality standards across a distributed team and multiple production environments.

Software Engineer – PTW International

Hyderabad, India | 06/2021 – 02/2023

Project: Bomber Heads (3v3 Online Multiplayer Action Game)

• Implemented core gameplay systems for a competitive 3v3 multiplayer title using Unreal Engine 4.
• Designed and integrated a full Gameplay Ability System (GAS) framework including custom abilities, attribute sets, gameplay effects, cooldown systems, and input-driven activation.
• Developed replicated Area-of-Effect (AoE) systems for bomb explosions and ability-based attacks with server-authoritative damage application and gameplay effect propagation.
• Built complete character gameplay systems including movement mechanics, bomb placement logic, health and damage systems, respawn flows, and ability-driven combat interactions.
• Implemented Unreal Multiplayer Networking using replication strategies and RPC flows to ensure consistent client-server synchronization.
• Optimized multiplayer bandwidth using selective replication and custom bit-mask encoding strategies.
• Developed and maintained Animation Blueprints, blend spaces, state machines, and montage-driven ability execution synchronized across server and clients.
• Collaborated closely with designers to prototype and iterate on gameplay mechanics based on playtesting feedback and balance requirements.
• Debugged gameplay and replication issues using Unreal's networking profiling and diagnostic tools.

Unreal Developer – People Tech Group

Hyderabad, India | 08/2020 – 06/2021

• Developed 3D HMI systems for General Motors' Hummer EV using Unreal Engine.
• Engineered triangulation-based mesh generation from point cloud data for Ultra Cruise simulation workflows.
• Optimized Android builds using PSO caching and shader-based HDRI reflection techniques.

Game Developer – Loop Reality Pvt Ltd

Hyderabad, India | 06/2017 – 08/2020

• Developed multiplayer VR systems and interactive gameplay experiences across Desktop VR and mobile platforms.

- Built gameplay-driven data collection systems measuring cognitive and behavioral traits.
- Delivered cross-platform VR experiences for Oculus Go, Android, and iOS.

Education

B.Tech – Computer Science & Engineering
Sphoorthy Engineering College | 2013 – 2017