Raghav Suriyashekar

Unity Gameplay & Systems Developer | Shader Programmer | Mobile Optimization
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PROFESSIONAL PROFILE

Unity gameplay and shader developer with 3+ years building production systems for the WCC cricket franchise (**110M+ downloads**) on Android and iOS, specializing in gameplay architecture, GPU-instanced rendering and mobile performance. Shipped a procedural crowd system that brought full stadium crowds to 1.2M previously excluded low-end devices, and led a PS5 port to feature-complete. MSc Distinction, sole recipient of Kingston University's **Best Postgraduate Project** award, and presenter at **SIGGRAPH Asia 2025** for Aural Fields, a real-time ray-traced audio system.

CORE SKILLS & TECHNOLOGIES

Engines	Unity, Unreal Engine
Languages	C#, C++, HLSL / Shader Programming
Gameplay	Gameplay Systems and Architecture, Custom Physics, Inverse Kinematics, Procedural Generation
Rendering	GPU Instancing, Per-Instance Properties, Vertex Animation Textures, Shader Programming, Shader Graph, Ray-Tracing
Performance	Mobile Optimization, Unity Profiler, Frame Debugger
Tools & Pipeline	Editor Scripting, Tools Development, Git, Jira, Agile / Scrum
Leadership	Team Management, Code Review, Cross-Discipline Collaboration, Stakeholder Reporting

WORK EXPERIENCE

Fountainhead Games Pvt. Ltd. | *Consultant, Engineering* July 2024 – Present

- **Crowd System v2 (WCC4, unreleased):** Re-architected the shipped WCC3 crowd system with a more organic Bezier layout algorithm, finer designer control over placement and density, and support for a wider range of crowd animations.
- **Inverse Kinematics Framework (WCC4, unreleased):** Built a custom IK framework for bat-ball contact, addressing a recurring complaint in WCC2 and WCC3 player feedback and adding shot variety from existing animations with no new animation assets.

Nextwave Multimedia Pvt. Ltd. | *Gameplay & Tools Developer* May 2022 – May 2024

- **Procedural Crowd System (WCC3, shipped):** Replaced hand-placed crowd geometry with Bezier-driven procedural placement and GPU-instanced sprite crowds of 10,000–15,000 units in ~20 batched draw calls. Unlocked full crowds for 1.2M devices previously restricted to low graphics tiers, at 30+ FPS on 10-year-old hardware, and cut art-team crowd iteration across 50 stadiums from 2 days to ~10 minutes.
- **CricStars PS5 Port:** Led the PS5 port to feature-complete before the project was cancelled for business reasons. Designed the control scheme chosen over two designer-proposed alternatives after testing with 30–40 internal playtesters, integrated with bowling (spin and swing) and fielder AI.
- **Gesture Input System (football title, launched):** Built the touch input system translating 2D screen gestures into collision-aware 3D world-space ball paths via a custom gesture-to-3D algorithm.
- **3D Crowd Renderer (R&D):** Prototyped a GPU-instanced crowd driven by vertex animation textures as a higher-fidelity alternative to the 2D system; profiled at 30–50 FPS across the supported device range.
- **GPU-Instanced Shadow System (R&D):** Built a mesh-based shadow system using GPU instancing and per-instance properties, profiled and tuned with Unity Profiler and Frame Debugger.
- **Team Lead:** Led an intern who built the goalkeeper and goal-detection systems from scratch under my guidance; ran code reviews and acted as engineering liaison to art, networking and design.
- **QA Automation Suite:** Built automated level playthroughs with structured issue flagging and a time-scaled replay system for bug reproduction, cutting QA turnaround from 4–5 hours to under 30 minutes (85%+).
- **Level Layout Tool:** Built an editor placement tool that cut level layout time from 2–3 hours to under 30 minutes (75%), shortening the design–playtest loop.

EDUCATION

Kingston University, London, UK — MSc Game Development (Programming), **Distinction** 2025

SRM Institute of Science and Technology, India — BTech Computer Science, **8.31 CGPA** 2021

PUBLICATIONS & AWARDS

Aural Fields: Real-Time Ray-Traced Audio Solution — MSc Thesis, Kingston University (2025)

- Accepted and presented at **SIGGRAPH Asia 2025**, Hong Kong — one of 3 papers selected in the 3D Audio category.
- Sole recipient of the **Best Postgraduate Project** award across the Kingston University Digital Media cohort (September 2025).