Contact

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Top Skills

Gameplay Architecture
Unreal Engine 5
C++ (Modern C++17/20)

Languages

English
Hindi

Mayank Manjul

Principal Gameplay Engineer • Lead Game Developer | Unreal Engine 5 (Modern C++)| Unity | Gameplay Architecture, Multiplayer Replication, Optimization | Founder, Unity Developers India
Bengaluru, Karnataka, India

Summary

Lead Game Developer and Principal Gameplay Engineer with 12+ years of experience architecting high-performance runtime systems and large-scale gameplay frameworks across PC, console, and mobile platforms. Specialized in modern C++ (C++17/20) within Unreal Engine 5 alongside a strong foundation in enterprise-scale Unity development.My work sits at the intersection of low-level systems engineering and creative game design. I specialize in designing modular StateTree architectures, decoupled component-based character locomotion, server-authoritative network replication, and scalable gameplay tag pipelines. Beyond runtime architecture, I lead multi-disciplinary engineering pods, author technical design documentation (TDD), mentor developers, and drive rigorous optimization standards using Unreal Insights and deep profiling tools to eliminate frame hitches, streamline tick groups, and optimize CPU/GPU overhead.CORE TECHNICAL & LEADERSHIP COMPETENCIES:• Game Engines & Languages: Unreal Engine 5 (UE5), UE4, Unity | Modern C++ (C++17/20), C#, TypeScript• Gameplay Architecture: Component-Based Locomotion, StateTree Systems, Gameplay Tags, FSM, Dependency Injection (Zenject, StrangeIoC)• Multiplayer & Networking: Server-Authoritative Replication, Client-Side Prediction, Lag Mitigation, Photon, PlayFab• Performance & Profiling: Unreal Insights, Memory Profiling, Tick Group & Draw Call Optimization, Frame Hitch Elimination• Engineering Leadership: Sprint Planning & Roadmapping, Technical Design Documentation (TDD), Perforce/Git Governance, Pod MentorshipCommitted to advancing the broader game development ecosystem, I also founded "Unity Developers, India" — a nationwide community facilitating technical knowledge sharing, mentorship, and talent growth.

Experience

LightFury Games

2 years 6 months

Senior Gameplay Programmer Level 4

July 2026 - Present (4 months)

Bengaluru, Karnataka, India

Spearheading core gameplay architecture and low-level C++ system foundations for the flagship Unreal Engine 5 production title, Project Titan. Own end-to-end technical strategy, architectural governance, and cross-functional alignment between engineering and creative design.

Key Deliverables & Responsibilities:

• Architected and executed the end-to-end refactor of the core player character locomotion and interaction framework, decoupling complex dependencies to maximize modularity and performance across disciplines.

• Authored key technical design documentation (TDD / TITAN-7884) establishing architectural paradigms, modularity benchmarks, and modern C++ engineering best practices for the studio.

• Defined technical roadmaps and sprint milestones, aligning gameplay engineering execution with production timelines and game design objectives.

• Established engine-level profiling benchmarks and performance budgets across tick execution, memory allocation, and CPU/GPU utilization for the title.

• Led cross-discipline technical reviews and served as primary escalation point for complex architectural bottlenecks and runtime edge cases.

• Mentored and coached senior and mid-level gameplay engineers, driving code review rigor and elevating modern C++ and UE5 engineering standards.

Senior Gameplay Programmer 3

May 2024 - July 2026 (2 years 3 months)

Bengaluru, Karnataka, India

Engineered core gameplay systems and low-level runtime mechanics in modern C++ for flagship Unreal Engine 5 production title, Project Titan.

Key Deliverables & Responsibilities:

• Implemented modular StateTree and gameplay tag architectures to manage complex character states, animation triggers, and ability behaviors with minimal runtime overhead.

• Designed and integrated server-authoritative network replication routines, delivering smooth client-side prediction, responsive lag mitigation, and reliable delegate bindings.

• Conducted deep CPU and GPU performance profiling using Unreal Insights, systematically eliminating frame hitches, optimizing tick groups, and enforcing strict memory allocation standards.

• Governed Perforce stream integration, changelist formatting, and branch hygiene across multi-disciplinary engineering features.
• Mentored mid-level programmers in modern C++ design patterns and Unreal Engine runtime best practices.

M56 Technologies Pvt Ltd

Lead Game Developer

January 2023 - May 2024 (1 year 5 months)
Bengaluru, Karnataka, India

Directed technical architecture and engineering execution for real-time multiplayer titles, establishing engineering paradigms and technical design standards.
Key Deliverables & Responsibilities:
• Engineered decoupled game loops using IoC/dependency injection frameworks (Zenject) and event-driven architecture, accelerating feature iteration speed across the team.
• Mentored an engineering pod of 8+ developers, balancing sprint workloads, removing technical roadblocks, and ensuring strict code review and quality standards.
• Established scalable client-server communication pipelines for low-latency multiplayer gameplay.

BYJU'S

3 years 3 months

Lead Engineer

January 2021 - January 2023 (2 years 1 month)
Bengaluru, Karnataka, India

Served as Technical Lead for flagship gamified educational software, including Disney • BYJU'S Early Learn, steering technical roadmaps and architectural scalability for millions of concurrent global users.
Key Deliverables & Responsibilities:
• Honored with the "Employee of the Year" Award (2021–2022) for engineering excellence, proactive technical leadership, and rapid milestone delivery.
• Architected reusable gameplay frameworks, asset delivery pipelines, and dynamic content download modules, reducing initial app install sizes by over 35%.
• Led sprint execution, technical architecture reviews, and system design, bridging technical alignment between engineering, art, audio, and product disciplines.

• Defined performance budgets and profiling workflows across low-end to high-end mobile devices, ensuring smooth frame rates and optimized memory consumption.
• Mentored and scaled an engineering pod of game developers, conducting code reviews and enforcing clean architecture standards.

Senior Game Developer
November 2019 - December 2020 (1 year 2 months)
Bengaluru, Karnataka, India

Engineered core interactive gameplay modules, gamified learning loops, and animation systems for premier multi-platform mobile learning titles.
Key Deliverables & Responsibilities:
• Developed modular, reusable gameplay mechanics and interactive mini-games utilizing Unity (C#) and component-based design patterns.
• Integrated responsive UI/UX systems, asset bundles, and state-driven game loops to support dynamic content updates.
• Diagnosed runtime bottlenecks, memory leaks, and draw-call spikes using Unity Profiler, significantly improving load times on mobile platforms.
• Collaborated closely with game designers and educational content teams to translate pedagogical concepts into intuitive, playful user experiences.

Apra Labs
Senior Game Developer
February 2019 - November 2019 (10 months)

JetSynthesys Pvt. Limited
Senior Game Developer
July 2017 - February 2019 (1 year 8 months)
Pune, Maharashtra, India

Core engineering contributor on premier sports titles, including the chart-topping cricket game 'Sachin Saga Cricket Champions'.
Key Deliverables & Responsibilities:
• Architected core physics-driven gameplay loops, including trajectory calculation, batting timing mechanics, and fielding AI routines.
• Engineered realistic ragdoll physics and blend animation transitions for dynamic athlete interactions.

Aquimo Sports LLC
Senior Game Developer
January 2016 - July 2017 (1 year 7 months)

Robosoft Technologies
Game Developer / Senior Developer
February 2014 - January 2016 (2 years)

GameAnax (IndiaNIC)
Game Developer
January 2013 - February 2014 (1 year 2 months)

Education

University of Wales
Bachelor of Arts, Game Development · (July 2009 - July 2012)