RAHUL CHANDRA

GAMEPLAY PROGRAMMER

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PROFESSIONAL SUMMARY

Experienced Gameplay Programmer with over 3 years working in C++, Unreal Engine, C#, and Unity. Skilled in building gameplay mechanics, custom tools, and writing optimised, cross-platform code. Strong understanding of player movement, AI, physics, animations, and UI integration. Successfully shipped games, improved player engagement, and added multiplayer features to create fun, interactive experiences across different platforms.

- **Languages:** C++, C#, Python, Vex
- **Game Engines and Frameworks:** Unity Engine, Unreal Engine, SDL2, SFML, Raylib
- **Technical Skills:** 3D Math, AI, Multiplayer, DSA, Design Patterns, Code Optimization, Tools Development, Pipeline Development, Debugging, Github

WORK EXPERIENCE 3+ Years

Unreal/Unity Developer | Freelance *Remote(UK) | Nov 2023 - Present*

- I worked on several freelance projects as a Unity and Unreal Engine game developer while pursuing my master's degree at Bournemouth University.
- Worked on procedural animation for character movement and interaction systems.

Sr. Unity Developer | BeGames Ltd. (MVG Studios) *London, UK | Jan 2022 - Sep 2023*

- Developed games that reached No.1 on the UK app store and collaborated with the award-winning band 'The Wombats.' Additionally, developed two games for prominent music industry figures.
- Shipped titles including *The Wombats: Official Game*, *Mavin All-Stars*, *TikkyTokkyDropGame*.
- Collaborated with the art team to design and implement a new UI system using the DO-Tween plugin, improving game performance by 15%.
- Implemented Unity Ads, In-App Purchases, and Leaderboards, boosting monetisation and user engagement by 25%, and integrated the Facebook SDK for app metrics.
- Created *Custom Unity Editor Tools*, automating project folder creation, enhancing Unity project organisation and reducing setup time by 20%.
- Optimised game code and reduced load times by 30%, leading to a decrease in player drop-off rates and an increase in daily active users.

Unity Augmented Reality Dev. (Unity SDE) | HoloWorld *Mysore, India | June 2021 - Feb 2022*

- Developed educational Augmented Reality projects using AR Foundation for science and math experiments in government schools in India.
- Collaborated with educators to ensure curriculum alignment, leading to a 25% increase in student engagement through user testing.

Jr. Unity Developer | Piper Play Studio *Bengaluru, India | Jan 2021 - June 2021*

- Rapidly prototyped new game ideas, including hyper-casual projects like *Type Climber*, resulting in a 30% faster iteration cycle and aligning with emerging trends.
- Utilised Scriptable Objects for efficient data management, and JSON for saving/loading game states, increasing development speed by 15% and reducing memory usage by 10%.

RELEVANT PROJECTS

[LINK] **Stealth, Parkour and Climbing Mechanics:** *Unreal Engine | C++ | Blueprints*

- Utilised the CharacterMovementComponent for smooth, responsive character movement, with custom C++ classes for handling complex interaction scenarios.
- Developed a procedural walk/run animation system with precise control over individual bones, using Control Rig and custom logic to achieve lifelike animations essential for stealth gameplay.

- Integrated stealth mechanics inspired by commercial games like *Hitman*, incorporating a playable map with alarm systems, obstacles, interactable objects, and enemies.
- Built a traversal system that enabled dynamic parkour-style navigation, using procedural animation techniques and gameplay tags to manage stealth states, interactions, and character abilities.

[LINK] **Vehicle Mechanics:** *Unreal Engine | C++ | Blueprints*
- Developed a Chaos vehicle system with Wheel Suspension entirely in C++, ensuring realistic vehicle dynamics.
- Implemented a Smoke Exhaust system using Niagara, and a Vehicle Skid system for enhanced gameplay realism.
- Integrated a Nitrous system, Speedometer, and Rear Mirror system using C++ and Unreal's UI.

[LINK] **AAA Gameplay Mechanics from Commerical Games:** *Unreal Engine | C++ | Blueprints*
- **Spellbreak-Inspired Magic Combat:** Utilized C++ to generate a procedural environment, enhancing the game world with dynamic elements and procedural terrain generation. Developed custom spell VFX(using Houdini) in C++ for real-time effects.
- **Spectre Divide Teleportation:** Implemented teleportation mechanics using C++, with custom functions to manage precise teleportation points and cooldown logic, allowing for rapid player movement and tactical repositioning.
- **Combat System (RPG-style):** Created a melee combat system in C++, with features like attack combos, defence, and special abilities.
- **Batman / Superhero Mechanics: (Grappling Hook):** Developed a grappling hook system in C++, enabling players to traverse vertically and interact with the environment dynamically.
- **Half-Life / FPS Gunplay Mechanics:** Designed smooth first-person shooting mechanics with weapon handling, ammo management, and interactive physics objects.
- **Horror Game Systems:** Developed jump scares, dynamic lighting, and enemy AI to create atmospheric tension and fear in horror-themed gameplay.
- **AI Game Mechanics:** Built AI behaviors such as patrols, vision cones, and reactive states based on proximity, noise, and visual cues.

[LINK] **Procedural Maze Generator Tool(C++, NCCA library and Qt) -** *C++, PyQt*
- A program that allows the user to generate a maze procedurally using different algorithms. The chosen algorithm affects the maze's branching complexity, path length, and solution difficulty.

EDUCATION

Masters of Science (MSc) | Computer Animation & Visual Effects
Bournemouth University *Bournemouth, England | Sept 2023 - Aug 2024*

***Modules**: Animation Software Engineering, CGI Techniques, CGI Tools, Pipeline and TD, Rendering, Simulation*
***Grade**: Distinction*

Bachelor of Technology | Computer Science Engineering in Graphics and Gaming
University of Petroleum and Energy Studies *Dehradun, India | 2017 - 2021*

***Modules:** Data Structures and Algorithms, Python, OOPs, Introduction to Graphics and Animation, Game Programming, Computer Graphics, Augmented and Virtual Reality Development*
***Grade**: 3.5 GPA or 2:1*

CERTIFICATION

AI Algorithms for Gaming | LinkedIn *Sep 2020*
Certification in AI algorithms for game development, focusing on pathfinding, decision trees, and behavior trees for NPCs.