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**Kalp Shah**  
<https://kalpu-24.github.io/>

Github: Kalpu-24  
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Aspiring Game Developer with strong skills in UE5 and C++. Seeking entry-level roles in game development or interactive media.

## Education

Gujarat, India	Uka Tarsadia University	2022-2026
B.Tech. in Computer Science and Engineering.		
Gujarat, India	Sanskar Bharti Vidhyalaya	2020-2022
Higher Secondary Education (11th–12th), Science Stream		

## Projects

### AuraRPG

Role: Solo Developer | Platform: Windows

Code: <https://github.com/Kalpu-24/Aura-RPG>

- Designed and implemented a fully modular, scalable top-down RPG game using Unreal Engine 5 and the Gameplay Ability System (GAS), combining both C++ and Blueprint scripting following best practices from AAA game architecture.
- Built robust gameplay systems like attributes, abilities, leveling mechanics, combat, UI, and AI, focusing on modularity and performance.
- Developed a complete character stat system, with primary attributes (Strength, Intelligence, Resilience, Vigor) and derived secondary stats (Armor, Block Chance, Crit Chance, Health Regen, etc.), using custom GAS AttributeSets and replication-aware gameplay effects.
- Pioneered offensive and passive spells, mana and health systems, cooldowns, and visual feedback through custom Niagara particle effects, floating combat text, and status effect indicators.
- Engineered an expandable spell tree and attribute upgrade menus, using MVVM architecture and Unreal's new ViewModel system, supporting keyboard input remapping for active abilities.
- Integrated enemy AI behavior using Behavior Trees, EQS (Environment Query System), and class-specific logic for melee, ranged, and magic users. Enemies could summon minions, cast spells, and react dynamically to combat events.
- Enabled persistent save/load systems, level transitions, and HUD updates, with XP progression, level-up effects, and skill point distribution built into the game loop.
- Gained in-depth experience with advanced topics: custom ability tasks, gameplay effect contexts, net serialization and asset management
- Technologies: Unreal Engine 5, C++, Blueprint, Gameplay Ability System (GAS)

### SnakeWall

Role: Solo Developer | Platform: Android

PlayStore: <https://play.google.com/store/apps/details?id=kalp.snake.wall> • Code: <https://github.com/Kalpu-24/SnakeWall>

- Designed, developed, and published an innovative Android live wallpaper game that reimagines the classic Snake gameplay as an animated, interactive background.
- Created real-time canvas drawing and efficient state management to support continuous background gameplay without impacting system performance or battery life.
- Integrated customization features such as toggleable grid display, variable speeds and color presets.
- Ensured seamless interaction with the Android lifecycle (e.g., pause, resume, background/foreground states), delivering a glitch-free visual experience across various device resolutions and Android versions.
- Optimized rendering loops to maintain fluid performance
- Designed the UI using native XML layouts, focusing on minimalist design and intuitive controls for settings and customization.
- Published on Google Play and GitHub, reaching 1.96k+ downloads (reaching 2000) and earning 22+ stars, demonstrating user engagement and developer interest.
- Technologies: Java, Android SDK, Canvas API, XML

## Certifications

**Udemy: Unreal Engine 5 - Gameplay Ability System – Top Down RPG** 2025

Completed an in-depth course focused on implementing GAS architecture in Unreal Engine 5 using perfect mix of C++ and Blueprints

## Technical Skills

- Languages: C/C++, SQL, Blueprints, XML
- Tools: Unreal Engine 5, Niagara, Behavior Trees, EQS, Git, Gameplay Ability System (GAS), Canvas API, SQLite