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RV UNIVERSITY, BENGALURU-59

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

War Zone - Last Tank Standing

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1. Introduction

War-Zone is a 3D multiplayer tank combat game developed in Unity 3D. It offers intense local two-player battles across four themed environments—Forest, Desert, Snow, and Halloween. The game features physics-based tank movement, chargeable projectile firing, and realistic explosion effects, all enhanced by a dynamic third-person camera system.

2. Player Mission

The goal of WAR-ZONE is to create a fun 3D multiplayer game where players control tanks and try to defeat each other. Players aim, move, and fire powerful shots to reduce their opponent's health. The game is played in rounds, and the first player to win 3 rounds, becomes the overall winner. The game encourages skill, timing, and strategy.

3. Game Architecture

- Front end - User Interface
- Back end - C# Scripts
- Size - 692 MB

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4. User interface

a. User Friendly Menus

Simple and clear menu layouts allow players to easily navigate through options, start games, and access help without confusion.

b. Guided Gameplay and Dynamic Camera

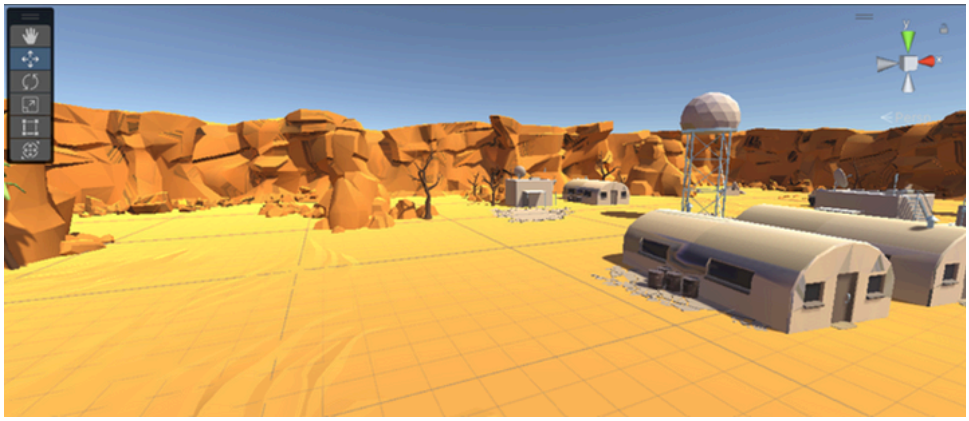
An interactive “Cacti Friend” character assists players by providing clear instructions and helpful tips to learn the controls quickly, while the dynamic third-person camera automatically adjusts its angle and zoom to keep both tanks visible, ensuring smooth and immersive gameplay.

c. Responsive HUD

The heads-up display shows critical information such as tank health, projectile charge level, and current round, keeping players informed in real-time.

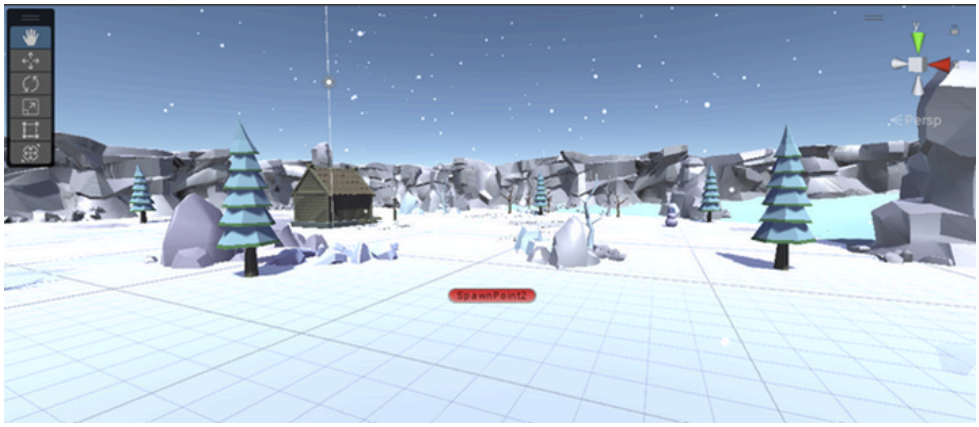
5. Environments

a. Desert Scene



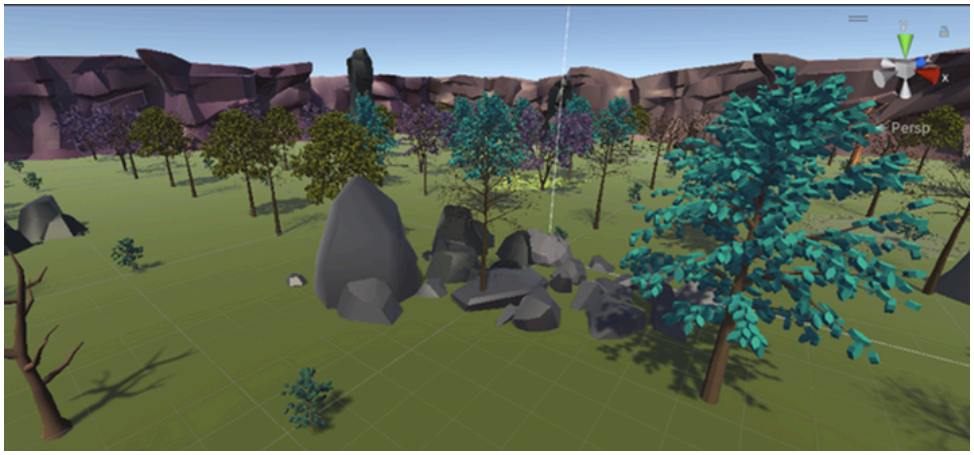
Features sandy textures and scattered rock formations for cover.

b. Snow Scene



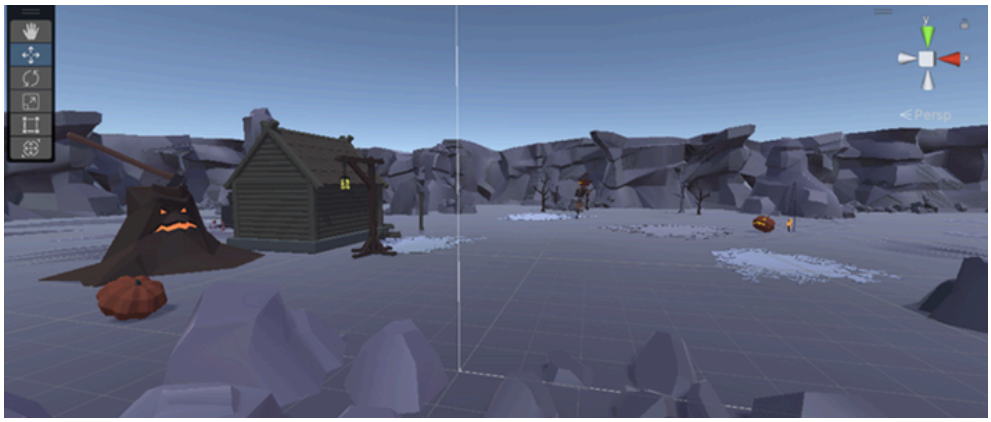
Snow-covered terrain with icy visual effects creates a chilled battlefield. Continuous snowfall adds atmospheric depth and enhances immersion.

c. Forest Scene



Lush greenery and wooden obstacles create a natural, camouflaged battlefield

d. Halloween Scene



Dark, spooky theme with glowing pumpkins and eerie lighting.Unique obstacles like tombstones and themed props enhance the Halloween atmosphere.

6. Backend - C# Scripts

a. Manager Script

#GameManager - Controls the overall game flow, including round transitions, player wins, and tank spawning logic.

b. Shell Script

#ShellExplosion - Handles explosion physics, calculates area damage, and triggers visual/audio effects upon impact.

c. Camera Script

#CameraControl - Dynamically adjusts the camera to ensure both tanks remain in view during gameplay.

d. Tank Script

#TankMovement- Manages tank movement using physics for realistic driving and turning.

#TankShooting - Enables charge-based projectile firing, customized per scene.

#TankHealth - Tracks tank health, updates UI health bar, and handles destruction on zero health.

e. User Interface

#UIController - Controls menu navigation, scene transitions, pause/resume functions, and user interactions.