



AR BASED GAME

*Experience horror
creatures in real life*

AR - FPS

OUR TEAM

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*Electronics and
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Mechanical

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Electrical



A full FPS game experience in
world around you.



Make the game objects
interact with the real world



Turn your world into a gaming
arena of zombies



To make Augmented Reality
familiar with the users

OBJECTIVE



INTRODUCTION

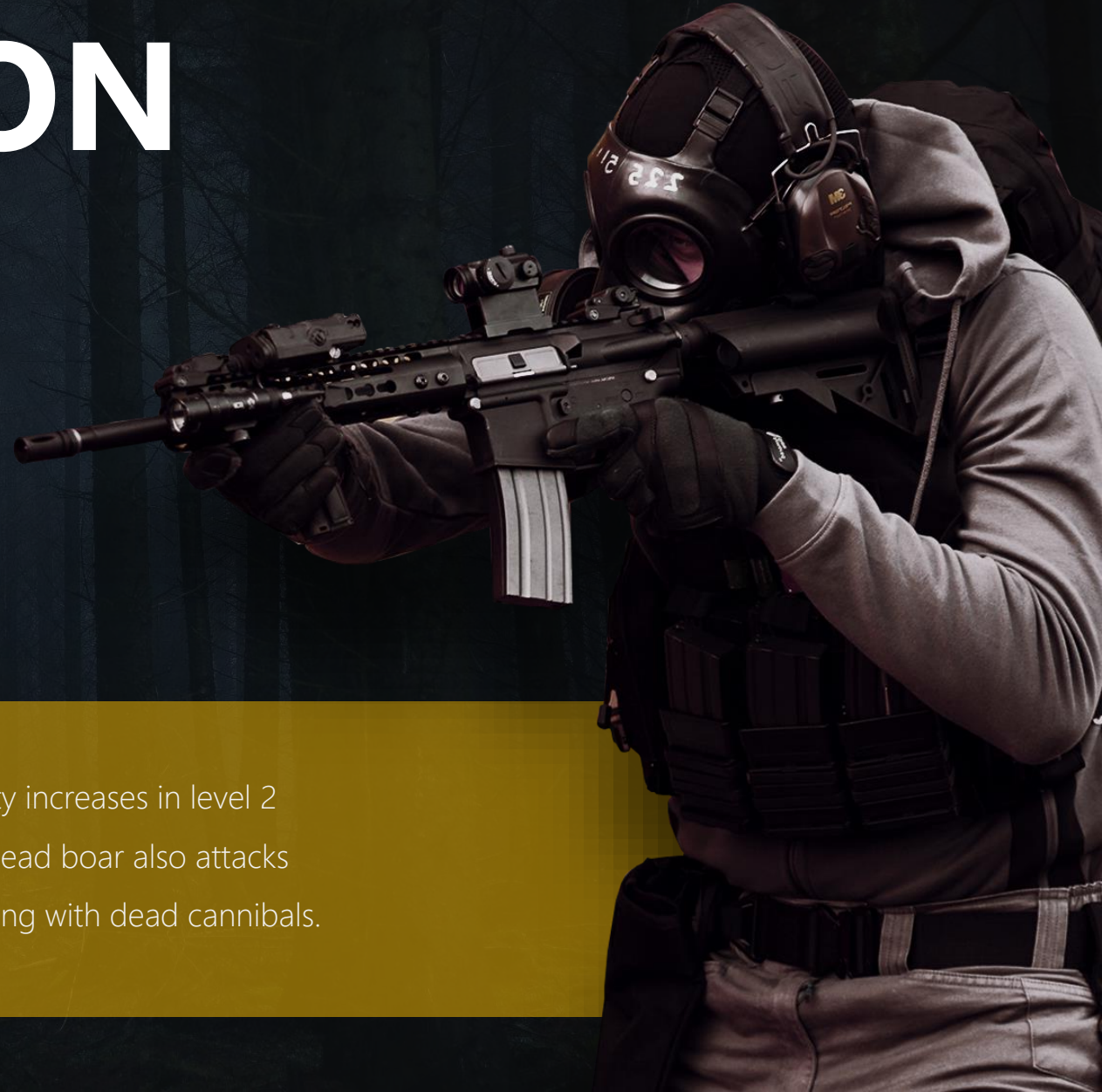
We used Augmented Reality Foundation Package of Unity3D to create an engaging Evil Game which uses our device camera to spawn enemies in our real world and we have to kill maximum of them using vintage weapons like bow and arrow, shotgun, axe and revolver.



Kill as many enemies as you can before they kill you.



Difficulty increases in level 2 when dead boar also attacks you along with dead cannibals.



PROBLEMS FACED

Since we were not familiar with the Game Development environment and also using AR was another challenge so we faced a lot of problems and bugs which took a lot of time to get resolved. Major ones include enemy spawning and script writing.

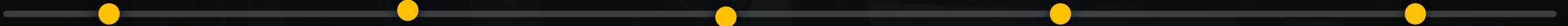
AR camera was not functioning initially which took a lot of time to get rectified.

Weapons and hands were not moving along with the camera.

Game objects were stuck with the screen which did not give an experience of that being in the real world.

Interaction of game objects with the real world was not up to the mark initially but was later improved.

Major issue was spawning enemies on the ground of the real world which did not look like getting spawned on the ground rather looked floating in the air.



Overview

- The main objective of the game is to kill as many enemies as you can before they kill you.
- You score 10 points for each enemy you kill.
- The game starts with level 1 and after scoring 150 points, you reach level 2 where you face new enemies.
- You have three lives before the game gets over.
- A health bar shows the health for each life.
- The weapons available are:
 - Axe
 - Revolver
 - Shotgun
 - Bow and Arrow
- You have no limit of time or ammo.
- In level 1, enemies (dead cannibals) are spawned every 6 seconds which run towards you once you come in their range and starts attacking you. After scoring 150 points, you reach level 2 where at every 5 seconds one of the enemies (dead boar or dead cannibal) are spawned. The game becomes more intense in level 2.
- For a better experience, we have introduced non interactive bats in the game which gives a creepy experience.

Overview

- The enemies have a detecting range of 7 meters. If we come in that range, or from outside the range if we shoot at the enemy using a revolver, shotgun or an arrow, it detects and chases us. The cannibal stops at 1.5 meters whereas the boar stops at 2 meters to attack us.
- If after the enemy starts attacking us, we move away from their attacking range i.e. 2 meters for cannibal and 2.5 meters for boar, they chase us again to come in the attacking range.
- To kill the enemies, we need to attack it 2 times, after the 2nd attack the enemies show a dead animation and lie flat on the ground. We have to attack it a third time after which the enemy disappears and we score points.
- We have added blood effects when hit both for the enemies and the player. For the player we showed blood marks on camera when the enemy hits us.
- The game starts with a main menu with options to play, adjust volume, about and quit.
- The gaming screen contains a health bar, number of lives indicator (hearts), weapon switching icons, score indicator, shoot button and a crosshair for aiming.
- Instructions for playing the game will be available at the top of the screen.



REQUIREMENTS

Device Compatibility

Android v 9.0 pie or newer
Minimum API level 28



Playing Arena

Preferred for playing in an open space
and flat ground for better experience



Good Lighting

For proper spawning of enemies, the
ground should be clearly visible. So this
game cannot be played in dark.



SPECIAL EFFECTS

ANIMATIONS

To give a realistic touch, we have added animations for drawing weapons, attacking enemies, enemies attacking, chasing and dead animations.

HORRIFYING BGM

An intense BGM has been used to make the game look scary and horrifying. Screaming and attacking sounds of enemies can be heard too.

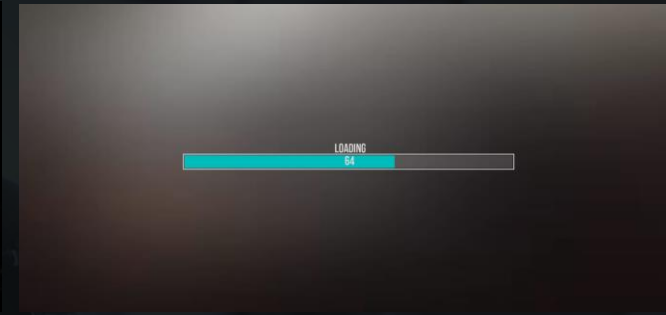
CREEPY BATS

The bats make a creepy sound and keep flying in air to give a horrifying experience.

Future Addons

- Weapons to be spawned in the world around us which have to be found to kill the enemies.
- Improve shooting effects
- Adding more weapons (like throwable axe) or attacking with fist.
- Reduce bugs and make the game more stable.
- Improve the graphics and animations.
- Customizable graphic settings.
- Introduce more game objects to make the game look more scary and attractive, creating portals in the game.
- Improving and making the UI look more attractive.
- Creating more levels with higher difficulty and more different types of enemies.
- Creating different modes of game like time bound or limited enemies.
- The blood effects on camera after getting hit gets removed by shaking the device.
- Detecting vertical planes which should act like a hindrance for movement of enemies.
- Other changes in damage value of weapons and enemies to be modified.
- Make it compatible for iOS too.

Screenshots and videos



Project links



[the-brawler/AR-Based-Game](https://github.com/the-brawler/AR-Based-Game)
(github.com)



<https://drive.google.com/drive/folders/1NdjlZpeUuY7cGokTRWRNxnCN5c9vDTZM?usp=sharing>

Resources

- <https://www.youtube.com/watch?v=Sqb-Ue7wpsI&t=17652s>
- www.mixamo.com
- <https://drive.google.com/drive/folders/1L2oJ8p5TppPiQD7Vw-KtCbtAPYDjI8l1?usp=sharing>
- <https://www.answers.unity.com/index.html>
- https://www.youtube.com/watch?v=Y2ewpLX6M_s

The background image is a firefighter's helmet and gear resting on a bed of straw. The image is split vertically down the middle. The left half is a solid yellow color, and the right half is a solid dark blue color. The text 'THANK' is written in white, bold, sans-serif capital letters across the yellow half, and 'YOU' is written in white, bold, sans-serif capital letters across the dark blue half.

THANK

YOU