

MEF UNIVERSITY

Department Of Computer Enginnering
Programming Studio

Augmented Reality

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Date:21 May 2019

Abstract

In this Project we designed a 3D Augmented Reality Android/IOS Role Play Game(RPG) which has turn-based combat and cinematic combat attributes by the help of Unity, Vuforia Augmented Reality and C#. This paper contains the implementation of Augmented Reality on Unity and the description of the Project.

Problem Definition and Solution

People are looking for a new life, a fresh start. To make it happen programmers and artists find a new way of starting life once again the Augmented Reality(AR). By the help of AR we can see the things that are not real, just created by someone. The RPG typed games have a story, a different life inside of it, in other words, RPG and AR support each other. So, to reach the AR world computer games is the most sensible option.

Our Work and Work Sharing

This game has six different parts:

- City and Shop Designs
- Arena Designs
- Level Designs
- Communication System
- User Interface(UI Design)

City and Shop Designs:

By downloading texture assets from the Unity Asset Store we designed a City hall, a Forge and a Tavern, City hall is for reaching the Arena(for battles), Forge is to improve our hero's properties and the Tavern is to get the prize after winning the arena. You can see that places in Figure 3, Figure 4 and Figure 5.

Arena Designs:

By downloading texture assets from the Unity Asset Store we designed Desert arena as you can see in Figure 1, Cemetery arena as you can see in Figure 2, Dungeon arena as you can see in Figure 3.

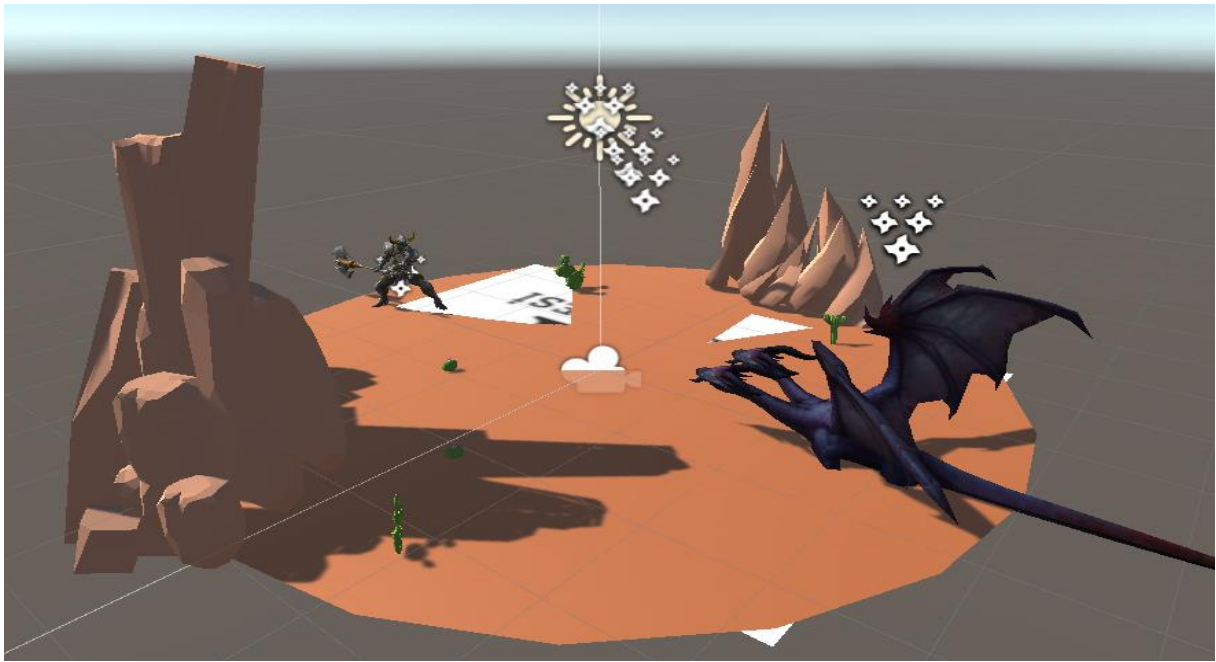


Figure 1: Desert Arena



Figure 2: Cemetery Arena

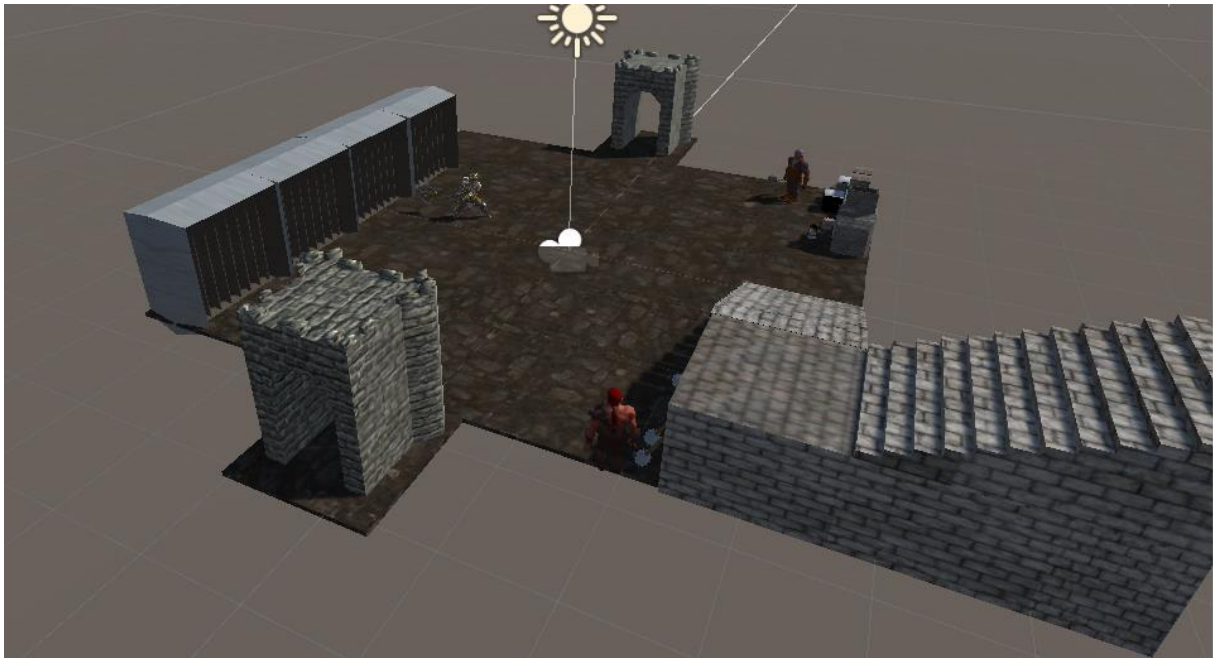


Figure 3: Dungeon Arena

Level Designs:

There are two different level designs one of them is Cinematic combat and the other one is Turn-based combat

- *Cinematic Combat:*

On the first two levels, our hero and the enemies attack each other directly out of our control but we can start and stop the fight to see from different angles.

- *Turn-Based Combat:*

On the third and fourth levels, we are controlling our hero by clicking the buttons, we can use spells and normal attacks, every different attack makes different damages. There are process bars to make ready our hero and the enemy to attack after process bar fills we can select our attack after that system automatically adds our hero to attack queue.

Communication System:

At the start of each fight, it is like there is a spat between our hero and the enemy. By pressing the “Continue button” we can see the next text.

UI Design:

For the Character selection page, we need a User Interface as you can see in Figure 4, by using that we can select GreyMoore or Tinuviel heroes. We have 30 points to spend in there and by that points, we can increase our hero’s strength, vitality, intelligence or toughness after we spent our points by clicking Done we can save our hero and start the game.



Figure 4: Character Selection Screen

On the forge screen, we can improve our hero's abilities by spending our money after that by clicking back to city button we can turn back to the city as you can see in Figure 5.



Figure 5: Forge Screen

On the tavern screen, we can get our money if we win the arena by clicking “Get Rewards button” and we can turn back to the city by clicking “Back To City button” as you can see in Figure 6.



Figure 6: Tavern Scene

On the City Scene, we can go to Arena, Tavern or the Forge as you can see in Figure 7.



Figure 7: City Scene

After every fight, win and lose screens appears as you can see in Figure 8 and Figure 9.



Figure 8: Lose Scene



Figure 9: Win Scene

The Contribution of Project

In this project we learned how to implement Augmented Reality into Unity, C# programming, game design in Unity, User Interface design in Unity, in other words this project adds us a lot of different things.