

ESCAPE ARENA

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Abstract- *In today's world, Virtual Reality which can be mentioned to as immersive multimedia or computer simulated life, duplicates an environment that simulates physical presence in places in the real world or unreal worlds and lets the user interact in that world. Virtual reality theatrically creates sensory experiences, which can include sight, hearing, touch, smell, and taste.*

Virtual reality gaming is a concept where a person can experiences being in three dimensional Environment and interact with that environment during a gameplay. Based on Virtual Reality (VR) technology, we provide a more interesting and suitable way for people to play virtual reality game on Google Cardboard.

In this project, we offer a Virtual Reality in Gaming for on Android platform through Google Card board (Wearable Device). The game is rendered when player aims using his/her eye sight at the precise marker.

The players can view the virtual set-up through the lenses of Google Cardboard. Player moves the device to control the gameplay. The experiment results show that the planned game system can work effectively and provide winner result to the player.

I. INTRODUCTION

For the First time we are going to build a VR Environment which will let you Experience First Person Zombie Shooter Game that is also combined with Maze. Player has to listen to the audio and go towards a particular exit point. On your way to find escape from the maze you will encounter some zombies which will try to block your way. You can knock out zombies or kill them based on your gaming skills. You can kill zombies in one shot by HEADSHOT. Once you will find an exit point it will teleport you to a different level. Based on your level you will encounter more powerful zombies and your way out of the maze will become more difficult. If Zombies will catch you will be respawned to level 1.

Our main aim is to build a game which works on smartphones as well as PC. This application also calculates the measurement for making perfect interior.

The concept of maze plus the first person zombie shooter is relatively new and our aim is to provide the best gameplay experience to the player who is playing the game.

And to provide the best graphical experience we can.

II. LITERATURE REVIEW

Since the first time the term "Virtual Reality" (VR) has been used back in the 60s, VR has evolved in different manners becoming more and more similar to the real world. Two different kinds of VR can be identified: non-immersive and immersive. The former is a computer-based environment that can simulate places in the real or imagined worlds; the latter takes the idea even further by giving the perception of being physically present in the non-physical world.

While non-immersive VR can be based on a standard computer, immersive VR is still evolving as the needed devices are becoming more user friendly and economically accessible. In the past, there was a major difficulty about using equipment such as a helmet with goggles, while now new devices are being developed to make usability better for the user.

VR, which is based on three basic principles: Immersion, Interaction, and User involvement with the environment and narrative, offers a very high potential in education by making learning more motivating and engaging. Up to now, the use of immersive-VR in educational games has been limited due to high prices of the devices and their limited usability.

Now new tools like the commercial "Oculus Rift", make it possible to access immersive-VR in lots of educational situations. This paper reports a survey on the scientific literature on the advantages and potentials in the use of Immersive Virtual Reality in Education in the last two years (2013-14).

It shows how VR in general, and immersive VR in particular, has been used mostly for adult training in special situations or for university students. It then focuses on the possible advantages and drawbacks of its use in education with reference to different classes of users like children and some

kinds of cognitive disabilities (with particular reference to the Down syndrome). It concludes outlining strategies that could be carried out to verify these ideas.

Most of the Player these days are on their Xbox or PS or PS3, busy battling it out with their Friends. It just not the players who are playing it anymore but also other people who are not games, but they are equally enjoying them. It's time to take these videos games seriously and look at it as a better option when it comes to choosing a career path.

Gaming is a part of the creative industry that provides numerous opportunities to those who are passionate about coding and animation their own imagination.

Game development is the process of creating a video game, where the Game Developer and his team undertakes the developmental tasks for creating a game through a software development process. Games are one of the best form of creative outlet that allows developers to develop ideas from scratch and take it to fruition.

Gaming industry is not an easy thing as it has raked in 23.5 billion USD in revenue, in 2015. This is 5% more than the 2014, according to the Entertainment Software Association. According to Joanne Hageman, president at the NPD Group, the gaming industry performed very good in 2015 that it has become a benchmark to measurement the popularity of Game Industry.

Developers are putting their faith in Unity 3D, and Unity 3D is the best when it comes to game development. Here are some answers by experts and experienced professionals, on the topic of game development with Unity 3D.

Now that Everyone is know, that Unity 3D is one of the top-ranking engines for Game Development, let's look at the reasons, Why Unity 3D is popular and what makes it a goto choose for game developers.

Key Features Include:

- Virtual Environment
- Multiplatform
- No Restrictions on Ammo
- Keyboard & Mouse Support
- Controller Support (Specially for Smartphones)
- First Person Shooter
- Zombie Assets
- Different Weapons
- Feel the Maze

III. METHODOLOGY

We are going to use following algorithms, tools and hardware to implement our project

- Unity 3D
- Blender
- Multiplayer Connection
- C# in Unity 3D
- Virtual Reality Handsets/ Google Cardboard

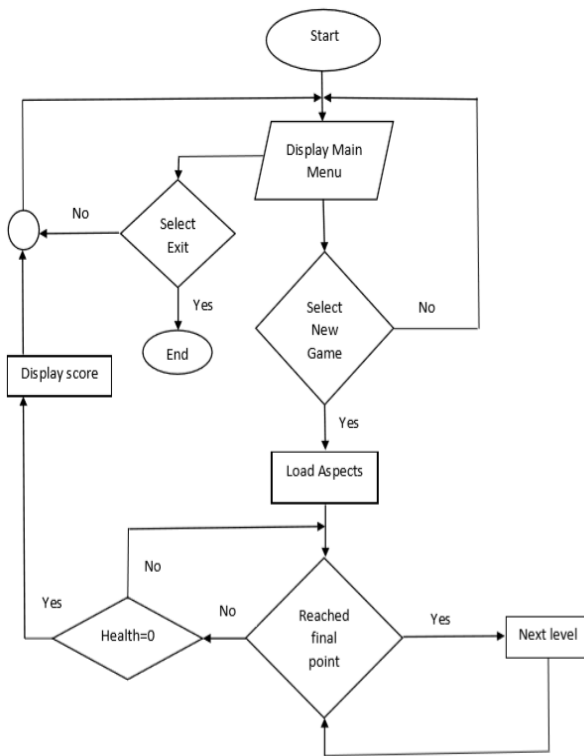
Unity 3d: We use Unity 3D Because Unity 3D is a commercially available multiplatform game engine used for the production of 2D and 3D video game as well as non-game interactive simulation and visualizations. Unity is one of the most popular game engines available due to its combination of power, flexibility and ease of use.

Blender: Blender is a professional, free and open-source 3D computer graphics software toolset used for creating animated films, visual effects, art, 3D printed models, interactive 3D applications and video games

Multiplayer Connection: Unity Multiplayer is the simplest way to create multiplayer games for Unity. It's fast to implement and highly customizable. Unity-provided servers are best, and servers ensure that your players can find and play with each other.

C# in Unity 3D: The language that's used in Unity is called C#. A C# script must be attached to a Game Object in the scene in order to be called by Unity. Scripts are written in a special language that Unity can understand. And, it's through this language that we can talk to the engine and give it our instructions.

Virtual Reality Handset: A virtual reality headset is a heads-up display (HUD) that allows users to interact with simulated environments and experience a first-person view (FPV). VR headsets replace the user Actual environment with virtual reality content, such as a movie, a game or a pre-recorded 360-degree VR environment that allows the user to turn and look around the Virtual World.



IV. SPACIAL FEATURE

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V. CONCLUSION

Escape arena is a game that takes VR experience to a new level. With the help of virtual reality technology, we can provide better gameplay experience with fairly optimized in-game graphics. The concept of this game is to get to the exit point of the maze with the help of a sound emitted from the exit point while the zombies are chasing you, this is in the case of solo mode. When in the multiplayer mode, the player is put in opposition of three more real time players to compete with them, the last man standing in the maze or the first person to reach the exit point wins the game. This is only possible with the help of Virtual Reality technology and 3D graphics which puts the gamer in a real world like environment.

The game itself was nearly feature complete. What it required most was graphical optimization, original artwork and more levels to make it a full-fledged game ready for release. The research report was a tremendous success. The results were

interesting and gave the team a good idea of what could be done to improve the growth effect.

Project management proved to be easy and productive for the entire team. Scrum was successfully used to manage the development of a small game with many unknown variables, something the team did not expect at the beginning. The backlog was completed at the estimated time, team work capacity lined up with original predictions and work progressed well ahead of schedule

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