

Implementation of Virtual Reality Using First Person Shooter Game

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Abstract- In today's scenario, Virtual Reality which can be referred to as immersive multimedia or computer simulated life, replicates an environment that simulates physical presence in places in the real world or imagined worlds and lets the user interact in that world. Virtual Reality artificially creates sensory experiences, which can include sight, hearing, touch, smell, and taste. Virtual reality gaming is where a person can experience being in three dimensional environments and interact with that environment during game. Based on Virtual Reality (VR) technology, we provide a more interesting and convenient way for people to play virtual reality game on Google Cardboard. In this project, we propose 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 specific marker. The players can view the virtual scenario through the lenses of Google Cardboard player moves the device to control the game. The experiment result shows that the proposed game system can work effectively and provide winner result to the player.

Keywords- Virtual Reality, First Person Shooter, Unity, Gaming, Smartphone.

I. INTRODUCTION

The use of Virtual Reality (VR) has been popular over the past few years. One of the most popular disciplines for VR is simulation. VR simulation is a simulation of 3D objects and 3D environment that is used for engaging learning experience. VR simulation has been implemented in many platforms, such as, education, medical, marine, training, and military. Virtual reality gaming (VR gaming) is the integration of game visual and audio content with the user's environment in real time. Virtual Reality means feeling an imaginary (virtual) world, rather than the real one. The imaginary world is a simulation running in a computer. The sense data is fed by some system to our brain. Virtual reality games require specialized VR headsets like Google's Cardboard, Oculus rift, HTC vive, etc. which can be wear by user on head to get into the virtualized environment. VR games are typically played on devices like smartphones, tablets and portable gaming systems.

II. LITERATURE REVIEW

FPS games in VR have gained a lot of attention and are the most popular ones. Many agree that playing FPS games in virtual reality is a much more intense and satisfying experience to a non-VR shooter. Being able to get into the horrified condition and surrounded by zombies in an intense condition is a superb experience like no other. Now you can literally get into the battlefield and feel the action all around you, hear the bullets fly by above your head and feel the intensity of the such condition in an immersive way you haven't felt before. The simulation is in a first person view. The player can do simple interaction with the environment, such as hitting with bullets, walking. User is asked to wear head mounted device like VR Headset on which user can see the virtual environment. After that user has to see surrounding by moving head left and right. Whenever user get attacked by zombies then he has to attack on to that zombies by using gun. Gun contains an auto-fire Mechanism so that when you look from scope of the gun and if there is zombie there then it will automatically starts firing bullets on it.

II. PROBLEM STATEMENT

Simple gaming Experience:

The player has to sit on a same place continuously to get the gaming experience. We have mainly pointed on a standalonegaming. However, sitting and looking continuously to monitor causes stress in body.

Virtual Gaming Experience:

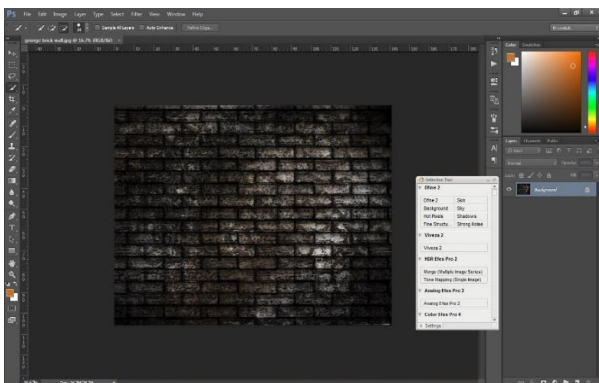
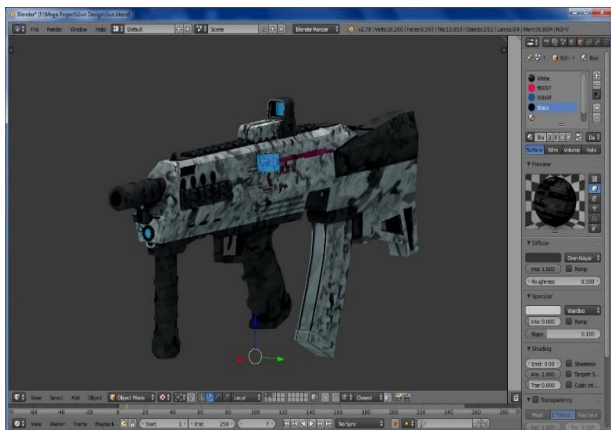
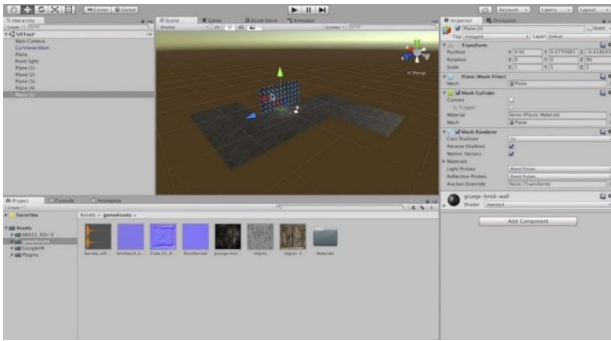
It uses a technology that superimposes a computer generated image on a user's view thus providing a different realistic world. Upon seeing it, user also feels attracted and interacted to the virtual world.

IV. PROPOSED SYSTEM

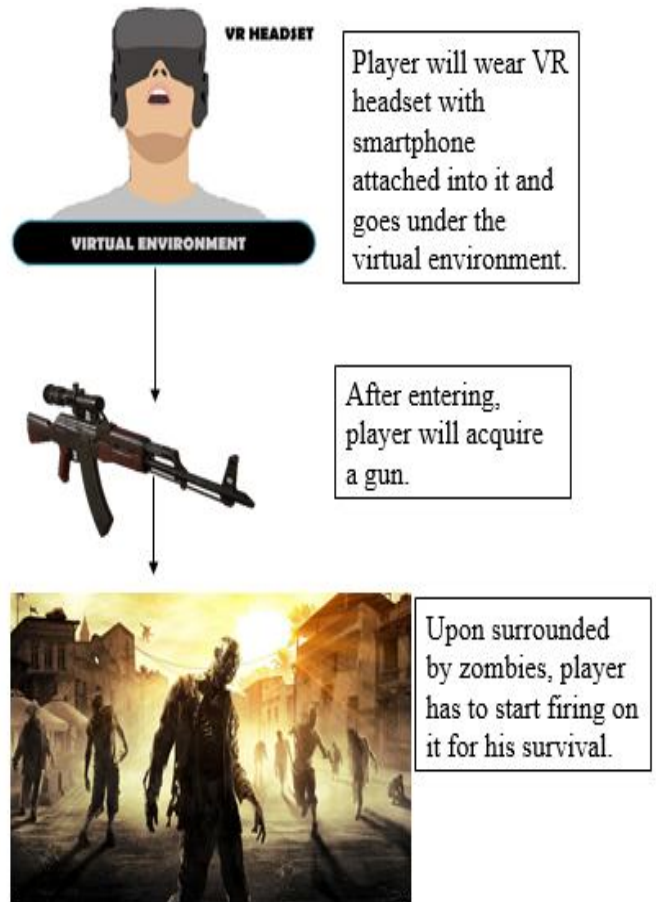
We have used head mounted display based VR technology. A head mounted display is used which fully immerses the user in a virtual world. User is asked to wear head mounted device like VR Headset on which user can see the virtual

environment. After that user has to see surrounding by moving head left and right. Whenever user get attacked by zombies then he has to attack on to that zombies by using gun. Gun contains an auto-fire Mechanism so that when you look from scope of the gun and if there is zombie there then it will automatically starts firing bullets on it.

Screenshot of Result:



V.WORKFLOW DIAGRAM



VI. TECHNOLOGIES USED

Windows OS:

Windows 10 Operating System is selected for development for a number of reasons. Windows

Operating System is familiar with each and every user. There is a huge community of Windows developers providing useful libraries for the development of the application and most important of all, Windows is backed by Microsoft.

C Sharp:

C Sharp is widely-used to create games using the Unity game engine, which is the most popular game engine today. More than a third of top games are made with Unity, and there are approximately 770 million active users of games created using the Unity engine. Unity is also used for VR, with 90% of all Samsung Gear and 53% of all Oculus Rift VR games developed using Unity.

Unity:

Unity, the world's leading cross-platform real-time game engine, is used to create half of the world's games. Unity gives users the ability to create games in both 2D and 3D, and the engine offers a primary scripting API in C#, for both the Unity editor in the form of plugins, and games themselves, as well as drag and drop functionality.

Adobe Photoshop:

Adobe Photoshop is a raster graphics editor which is used for editing, refining and texturing images. It can edit and compose raster images in multiple layers and supports masks, alpha compositing and several color models. There are variety of tools with multiple image-editing functions are available. Brushes are applied onto textures to create old walls, dirty floors and flesh melting zombies.

VI. CONCLUSION

Hence in Unity, we have developed first person shooter game which shots zombie using gun with auto fire mechanism which results in survival of player. This gives an interactive gaming experience to the user.

VII.ACKNOWLEDGMENT

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