

3D Retaliation Gaming

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Abstract - Unity is a new and interactive platform which is mainly used for developing interactive 3D games. There is lot of scope in gaming industry those days and these gaming industries are growing four times faster than other industries. Unity 5 is the new edition of Unity, best development platform for creating 3D games and interactive experiences. Unity supports mainly two languages that are JavaScript and C#. Latest version of Unity can be used for creating any type of games which can be played via first person controller or third person controller. Using graphics and coding we intend to make an interactive 3D game. The player can interact with different objects in the virtual world. There will also be some computer-generated BOT's which will act as an obstacle to the player. The user has to overcome the obstacles in order to complete the level.

Key words: C#, Unity, JavaScript, Mono develop, Dev-Assets, Visual Studio.

1. INTRODUCTION

Gaming sector today is growing four times faster than other industries and with each game earning millions of dollars. With this boost in gaming sector these has also been advancement of gaming developing software with Unity being the latest and one of the most advanced software for development of PC games.^[1] Unity is the new edition of the best development platform for creating 2D/3D games and interactive experiences Unity brings you awesome new power. Improved efficiency makes the hard work smoother and more fun, and with the industry's most comprehensive multiplatform support. Unity supports JavaScript and C# for programming and implementing the graphics of game.

2. LITERATURE SURVEY

The main aim of our game is to make an interactive 3D game which will attract the user and provide entertainment. We mainly focus on internal and external factors of the game. Means what are the requirements of Unity to be used such as hardware requirement. Also, what are the settings and controls of Unity? The languages used etc. The external factors like data objects used, User interface and the overall working of unity Engine. We require some tools and assets from the standard library of Unity in order to set graphics and to set design layout.

3. WORKING OF PROPOSED SYSTEM

3.1. Proposed System:

The system will have first person shooter character interacting with the virtual environment. The character will have a weapon in his hands which can be used to eliminate or overcome the obstacles and enemies. The weapon can be switched using the weapons wheel. These are the basic system of shoot and proceed, as soon as level completes the user will be forwarded to the next level.^[4]

3.2. Mono-Develop:

Mono develop is an open source integrated development environment for Linux, OSX, Windows. Its primary focus is development of projects that use Mono. ^[2] Mono Develop integrates features similar to the Visual studio, such as automatic code completion, source control, a graphical user interface and Web designer. It integrates a GUI designer called Stetic. It supports C++, C#, Java and visual basic.

3.3. Unity Game Engine:

Unity is a cross-platform game engine developed by Unity Technologist and used to develop games for PC, consoles, mobiles and websites. It has fifteen platforms. Within a project, developers have control over delivery to mobile devices, web browsers, desktops and consoles.

3.4. USE CASE DIAGRAM



3.5. WORKING

When you start the game firstly the menu will be displayed in which there are some options like Setting,

Load game, Start, Exit etc. Settings are used to set the controls. After that you have to start the game. The first level is a simple level in which user has to kill or overcome the certain enemies. The user can use weapons to eliminate the enemies. After completing the first level user will be forwarded to next level with increased difficulty. Also, user can heal himself by using health if he gets damaged by the enemy, health and ammo is available in the map. In-between if user wants to exit the match, he can save the current scene and can exit after that if he wants to continue, he can select "Load game" option in the menu. This is the overall working of the game.^[3]

4. COMPONENTS REQUIRED

- C#
- Visual Studio
- Unity Game Engine
- Personal Computer
- Mono-Develop

5. FUTURE WORK

5.1. Module for multiple players using Unity Networking:

In this module multiple players can simultaneously interact with the virtual environment and compete with one another.^[5]

5.2. Module to make communication between players:

In this module the multiple players interacting with the virtual environment can communicate with one another in order to improve co-ordination.^[5]

6. FEATURES

1. Graphics of the game is 60 FPS which displays 120 images per second.
2. Game will produce different sounds in different states which makes the game more interactive.
3. For better performance we used Unity Game Engine to develop video games for PC.

7. ADVANTAGES

1. The game can improve motor skills and spatial awareness.
2. These games can help to reduce stress.
3. The game can enhance problem-solving skills and improves creativity.

8. APPLICATIONS

1. User can play this game at anyplace with any requirement.
2. It has big application in Gaming industry.

9. CONCLUSION

Retaliation 3D is a single player survival-based game which was designed using Unity Game Engine. Our project is our video game working perfectly fine created for standalone computers. It has speed that we targeted for that is screen does not flicker, stick moves correctly and movements of images are pretty smooth. One of the major distinct characteristics of our project is it requires minimal hardware. So, this system provides graphics and minimal hardware requirements.

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