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A Survival Horror Game RIDE OUT

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***Abstract:** In the Field of Software Engineering, Gaming is the fastest growing field and even more rapidly growing sector of game development the coming years are difficult to predict. Survival horror video games (SHVGs) are among the fastest-growing genres for independent video game developers. With horrific cinematic elements and fear-inducing characteristics, survival horror video games create a terrifying experience for users within a virtual environment. There are various game engines where we are able to create such amazing games such as in Unity3d, Unreal Engine, Game Maker, Godot, and more provide access to the identical technologies and tools available to large game developers. Unity3D Game Engine is an integrated development tool which is used to create interactive contents like video games, architectural visualization and real-time 3D animations.*
This paper studies about the Horror Survival game 'RIDE OUT' which we attempt to build for people to experience the horror and thrill within the virtual environment and hence the way it's designed with horrific cinematic elements and fear-inducing characteristics. For the survival horror game, the plan goes: everything from building a scene and lighting, ending with battle mechanics and the design of game menus, create graphical effects, control the physical behavior of objects or even implement a custom AI system for characters in the game and much more.
***Keywords:** survival horror video game, game development, AI, fear, game design, gameplay.*

I. INTRODUCTION

Stephen Edwin King, an American author of horror, supernatural fiction novels, aka "King of Horror" says, "Horror movies often work better when we have a stake in the game. The more we care about the characters, the more human they are to us, the more appealing they are to us and the more effective the horror tends to be." For the stakes to be high, for you to actually care about the character, you have to get to know them. To understand their strengths and weaknesses. Like movies, the same fear and thrill can be made by game designers too. Game designers know exactly how to evoke the emotional responses that will create the experience which they want the gamers to have. And when it comes to Survival Horror games (the subject of this paper), the developers know how the gamers shape their journey to horror world. [1]

As with all video games, gamers expect the experience to be satisfying, challenging, and entertaining but unlike most gaming genres, SHVGs must delicately design a narrative to terrify, challenge, and excite the gamers. So, we give our attempt in developing a survival horror video game 'RIDE OUT'. Ride out – to succeed in surviving or getting through (something dangerous or harmful that cannot be stopped or avoided). [2]

As the name suggests, the player must survive and get through and fight some of the dangerous obstacles and enemies in the game.

II. HISTORY OF GAMING

In 1950 and 1960, computer scientists began designing of simple games on minicomputers and mainframes. ***Spacewar*** was developed by MIT student in 1962 as one of the first video games. In early 70s, the first consumer video game was released. Magnavox odyssey is the first home video game console. Computer Space and Pong are the first arcade videogames.

By the mid-1970s, low-cost programmable microprocessors replaced the discrete transistor-transistor logic circuitry of the early hardware and the first ROM cartridge-based home consoles arrived including the Atari Video Computer System (VCS). The 1983 video game crash in the United States was characterized by a flood of too many games, often of poor or cloned qualities, and the sector saw competition from inexpensive personal computers and new types of games being developed for them. The crash prompted Japan's video game industry to take leadership of the market, which had only suffered minor impacts from the crash. Nintendo released its Nintendo Entertainment System in the United States in 1985, helping to rebound the failing video games sector. The latter part of the 1980s and early 1990s included video games driven by improvements and standardization in personal computers, and the console war competition between Nintendo and Sega as they fought for market share in the United States. The first major handheld video game consoles appeared in the 1990s, led by Nintendo's Game Boy platform. [3]

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In the early 1990s, advancements in microprocessor technology brought two major technology shifts including the introduction of optical media via CD-ROMs, and real-time 3D polygonal graphic rendering. Both aspects were readily incorporated into personal computers and creating a market for graphics cards, including Sony's fledgling PlayStation console line, pushing Sega out of the console hardware market while diminishing Nintendo's role. By the late 1990s, the Internet also gained widespread consumer use, and video games began incorporating online elements. Microsoft entered the console hardware market in the early 2000s with its Xbox line, fearing that Sony's PlayStation positioned as both a game console and entertainment device would displace personal computers. While Sony and Microsoft continued to develop hardware of comparable top-end console features, Nintendo opted to focus on innovative gameplay, and developed the Wii with motion-sensing controls, which helped to draw in non-traditional players and helped to resecure Nintendo's position in the industry; Nintendo followed this same model in the release of the Nintendo Switch. [4]

From 2000-2010, everybody witnessed the shift of demographics as mobile gaming on smart phones displaced handheld consoles and casual gaming had become larger sector of the market. The software and hardware continued to improve in video game sector with HD support at high fps and introduced virtual as well as augmented reality -based games.

III. RESEARCH METHODOLOGY

The first step is to identify the interests of people for collecting the data. This research includes gathering primary data and secondary data which includes observations, questionnaires, research papers, social media and other resources.

The software we will be using is Unity GameEngine.

IV. LITERATURE SURVEY

Video games are immensely popular among people with annual market worth over $175 billion and no less than 3 billion players worldwide. With high-speed internet, gamers can play multiplayer games and meet new people online with same interests leading to growing this community around this hobby. Through papers we referred, we tried to cover all the relevant information and topics which helped us for this project.

IMMERSION: In the realm of video games, *immersion* is defined as either the process of becoming engaged in the gaming environment or the transference of psychological consciousness from reality to the gaming environment (Brockmyer et. al.,2007). In addition, immersion acts as a state of being present within the game (Wirth et al., 2007). Video game researchers study immersion to better understand player engagement, pleasure, and experience during gameplay.

1) *Evaluating player immersion in SURVIVAL HORROR VIDEO GAME DESIGN submitted to the MELODIE GRIFFIN BALL STATE UNIVERSITY MUNCIE, INDIANA (MAY 2019)*

This study seeks to understand how perspective and narrative affect player immersion in survival horror video games by performing a comparative study of player experience during gameplay with and without virtual reality enhancement. By evaluating how players interact with the gameplay experience, this study identifies how differing player perspective provokes or affects player immersion. Based on these findings, this study recommends a less restrictive game structure that limits the use of narrative cutscenes, provides more than one way to complete game challenges/objectives, and allows for virtual reality enhancement options.

2) *Video games, extremism and Terrorism:*

Skoczylis, S.A.and J., Andrews, S.

Skoczylis, (2021.)

This survey conveys about some major concerns and effects about gaming. How some game genres can affect people. Also , there are games in the market which includes political messaging for example; The political use of gaming is used across the ideological spectrum, too; Hezbollah famously released a series of video games upending the narratives of the War on Terror, tasking the player to undertake bombing missions in Israel. Players can imagine themselves as active participants, increasing their identification with the organization.

3) *Anon, Literature review in games and Learning*

Accueil – TeLearn John Kirriemuir, Ceangal

Angela McFarlane, University of Bristol. (2021)

This survey highlights the key areas of research in the field, in particular the increasing interest in pleasurable learning, learning through doing and learning through collaboration, that games seem to offer.

4) Research paper proposal – methods of creating fear in survival horror games. Introduction To Game Studies (2011)

This paper studies about the methods of creating fear in survival horror games. Methods mentioned:

a) The most standard and staple method is the element of surprise, where monster and enemies jump out at the player as he or she traverses through the game, or the game environment changes in a sudden and unexpected way. The fear created using this method is abrupt, though mostly temporary and vanishes once the player is able to move past the initial panic.

b) The more subtle and difficult method is to create a sense of dread, to make a game environment where the character is at once scared to move on yet scared to stay put. Through a combination of lighting, sound and audio, visuals, and smart use of disruptive gameplay, survival horror games like *Silent Hill* and Electronic Art's *Dead Space* series managed to instil player fear into the most mundane of objects.

V. SCOPE OF PROJECT

1) Serve players a better gaming experience.

2) We wish to make the players feel better as far as visuals are concerned and give them a story to live.

3) In future, given the time and skill-set, we may try and improve the game objectives and graphics, storyline for a much better experience.

VI. TECHNOLOGIES USED

A. *Unity Game Engine*

Unity 3d is a game engine an integrated development tool used to develop interactive contents like video games, architectural visualization and real-time 3D animations.

B. *Visual Studio Code*

Visual Studio Code is a source-code editor which is made by Microsoft for Windows, Linux and macOS. Its features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git.

C. *Unity Hub*

The Unity Hub is a standalone application for accessing the Unity ecosystem. This is used for things like managing your Unity projects, installing Editor versions, licensing and installing add-on components.

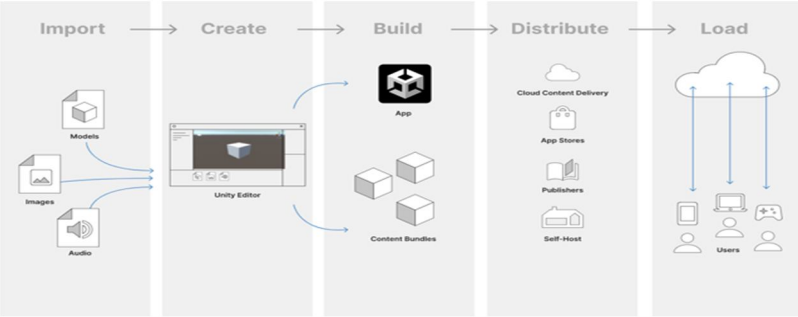


Fig 1. Project workflow.

D. *Screenshots of our Project*



Fig 2. Terrain overview



Fig 3. Before post processing



Fig 4. After post processing



Fig 5. Night vision



Fig 6. Enemy

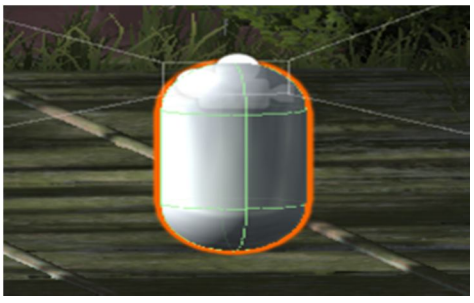


Fig 7. FPS Controller



Fig 8. Inventory Panel



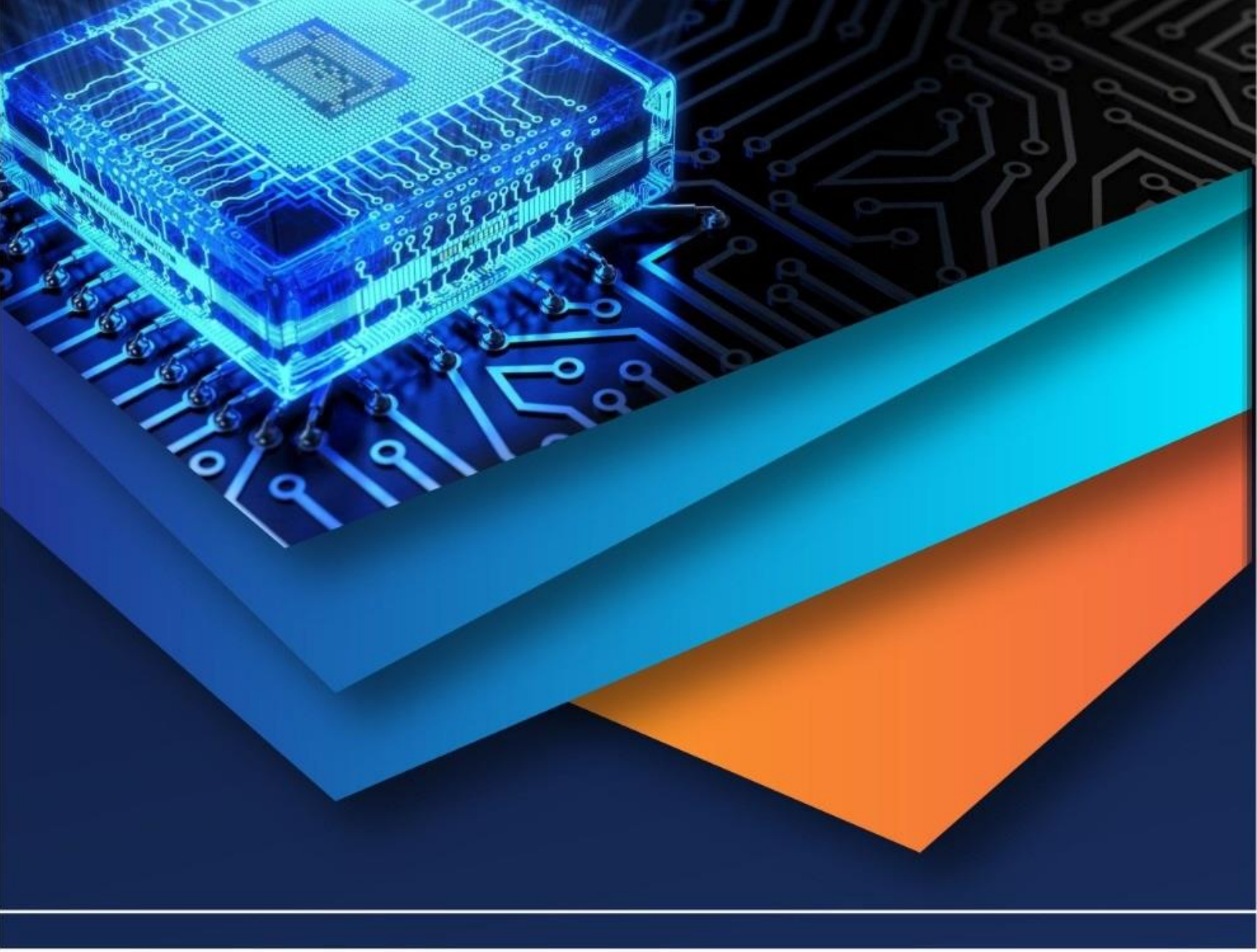
Fig 9. Options Menu

VII. CONCLUSION

We conclude that this paper helped us gain more knowledge about videos games and survival horror genre by researching. The impact it can have on people (in both good and negative ways) also how people enjoy playing these video games which can help in reducing stress and confront their fears. The methods to make the horror video games more effective which gives a feeling of satisfaction of completing tasks and surviving through the game.

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