Obake Noroi (The Horror Game)

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ABSTRACT

Obake Noroi (The Horror Game) is an immersive VR horror experience that blends Japanese folklore with cutting-edge virtual reality technology to evoke intense emotional reactions of fear, suspense, and dread. Set in a cursed, abandoned village, players encounter the "Obake" — vengeful spirits bound by ancient rituals — and navigate an environment thick with atmospheric tension. This project utilizes VR motion tracking, 3D spatial audio, dynamic lighting, and realistic environmental storytelling to create an emotionally charged and interactive gameplay experience. Designed with Unity3D and Unreal Engine, Obake Noroi focuses on building innovative mechanics like object manipulation, environmental puzzles, and AI-driven enemy encounters that fully exploit the capabilities of VR platforms . The game not only pushes the boundaries of VR horror but also aims to set new standards in player immersion and psychological horror storytelling.

Keyword : - *Virtual Reality (VR) Horror Game, Obake (Spirit), Noroi (Curse), Immersive Gameplay, VR Motion Controls, VR Game Development, Atmospheric Fear*.

1 . INTRODUCTION

The horror genre has long held a unique power over audiences, captivating them with its masterful invocation of fear and suspense. This genre's allure lies in its ability to draw vi ewers into a world where the unknown and the terrifying become palpable, stimulating a primal response of thrill and anticipation. Virtual Reality (VR) technology takes this immersive experience to an unprecedented level. By allowing players to enter and explore a meticulously crafted, terrifying environment, VR transforms passive viewership into active participation. Players are no longer mere spectators but are fully immersed in the spinechilling world, feeling the dread and excitement as if they were truly there.

2 . PROBLEM STATEMENT

Even though Virtual Reality (VR) technology has advanced significantly, many horror games still don’t take full advantage of its immersive features. Most VR horror titles rely on basic mechanics like predictable jump scares or scripted events, which don’t fully tap into the emotional depth and interactivity VR can provide. This results in a more passive experience for players, where they don’t feel truly connected to the game or its environment. Ultimately, this reduces the level of fear and suspense, leaving players wanting more from their VR horror experience. Our project is designed to bridge this gap by offering a VR horror game that fully embraces the immersive capabilities of VR. We aim to make players feel like active participants in the terrifying world, heightening their emotional involvement and creating a more impactful, fear-driven experience.

3 . LITERATURE REVIEW

Tobias Arnell [1] has mentioned the role of level design and horror game design theories in shaping player behavior and emotional reactions in a horror game environment. Using a custom designed game called "The House," the research aimed to analyze how specific level design elements, like navigation patterns, affected the overall fear experience. Ten participants played the game and were later interviewed using stimulated recall to capture their emotional responses. Interestingly, the results revealed that level design on its own did not significantly impact the participants' fear levels. However, the implementation of well-established horror design techniques, such as the use of tension, atmosphere, and jump scares, effectively heightened the horror experience. The study concludes that a combination of horror theories and level design elements enhances the immersive fear response in players, emphasizing the need for a multidimensional approach to horror game design.

Angela Tinwell, Mark Grimshaw [2] published to focus on the uncanny valley phenomenon and its contribution to fear in virtual characters, examining how human-like qualities in motion and sound create eeriness. The researchers asked 100 participants to evaluate 13 video clips featuring virtual characters and one human, assessing factors such as the characters' vocal and facial synchronization, motion, and overall human-likeness. The results showed a strong correlation between how eerily human-like a character appeared and the fear it evoked, particularly when facial expressions and voice were out of sync with lip movements. Characters perceived as less synchronized were rated as more frightening. This research highlights the importance of subtle character design elements in evoking fear, suggesting that game designers can enhance the fear factor in survival horror games by manipulating the uncanny effect through character rendering and vocalization. The findings offer a foundation for future experiments aimed at refining a conceptual framework for fear-inducing elements in character design..

Khunnasut Ratthakhet [3] published as a Master of Arts thesis, "Turn-based Terror: An Investigation of Horror Game Design - Theories That Can Make Even Turn-Based Games Truly Scary", written by Ratthakhet Khunnasut, delves into the complexities of creating fear in turn-based games. Mentioned in the context of University of Applied Sciences Darmstadt's Animation and Game Direction program, the thesis was submitted on 12th October 2023 under the supervision of Prof. Boris Kunkel and Prof. Noa Kafka. The study investigates why turn-based horror games struggle to generate the same level of fear as real-time games and explores design techniques to overcome these challenges. Khunnasut developed a turn-based horror game titled "Gallowing Hill" as a case study, gathering player feedback through biometric data, interviews, and surveys to validate his findings**.**

Pratham Trikha, Deeksha Khosla, Manali, Ammu Ria, Tushar Dadwal, Harjeet Kaur [4] published research focusing on improvements in horror game development, examining technological advancements and evolving game design that have shaped more immersive and emotionally impactful horror experiences. The study explores how new technologies, such as virtual reality (VR), enhanced graphics, and realistic audio, have contributed to creating eerie atmospheres that heighten player fear. Additionally, the authors analyzed the shift in game design choices, such as pacing, level design, and player agency, showing how these elements create deeper engagement and tension. The research highlights how branching narratives, player decisions, and psychological themes have evolved horror games beyond traditional jump scares, offering players more personalized and thought-provoking experiences. This study provides insights for game developers on how to leverage advancements to create memorable horror gameplay source.

Christopher Folorunso, Jonathan Weinel, and Nuno Otero [5] published a study that examines the evolution of horror game design, particularly comparing modern and retro 3D games. They explore how limitations in technology during the 90s forced developers to rely on atmospheric tension, sound design, and storytelling to create fear in games like Resident Evil and Silent Hill. These technological constraints, such as limited graphics and pre-rendered environments, allowed players to fill in the gaps with their imagination, enhancing the fear experience. The research highlights that pre-rendered environments and sound design were critical to building suspense, as seen in the iconic "door-opening" sequences in Resident Evil, which amplified player anticipation and fear. The authors also discuss how modern indie horror games, such as Amnesia: The Dark Descent and Neverending Nightmares, shift the focus from direct combat to psychological fear through atmospheric depth and narrative. The study suggests that modern horror games evoke a deeper psychological impact by using enemies as manifestations of fear rather than obstacles to be defeated, illustrating the shift from survival horror mechanics to more immersive, narrative-driven experiences. The findings offer valuable insights for game designers aiming to blend retro and modern horror elements to heighten player fear.

4 . METHODOLOGY

The methodology for developing *Obake Noroi (The Horror Game)* follows a structured approach beginning with planning and research into VR technologies, horror design theories, and user requirements. In the design phase, the team creates immersive environments, eerie characters, and interactive mechanics using tools like Unity3D, Blender, and ZBrush. Implementation involves integrating VR motion controls, 3D spatial audio, and dynamic lighting to enhance immersion, alongside scripting gameplay logic and AI behavior. Testing is conducted using VR hardware and emulators to ensure performance, minimize motion sickness, and refine player experience. Finally, the optimized game is deployed across multiple VR platforms with version control and user feedback incorporated throughout development.

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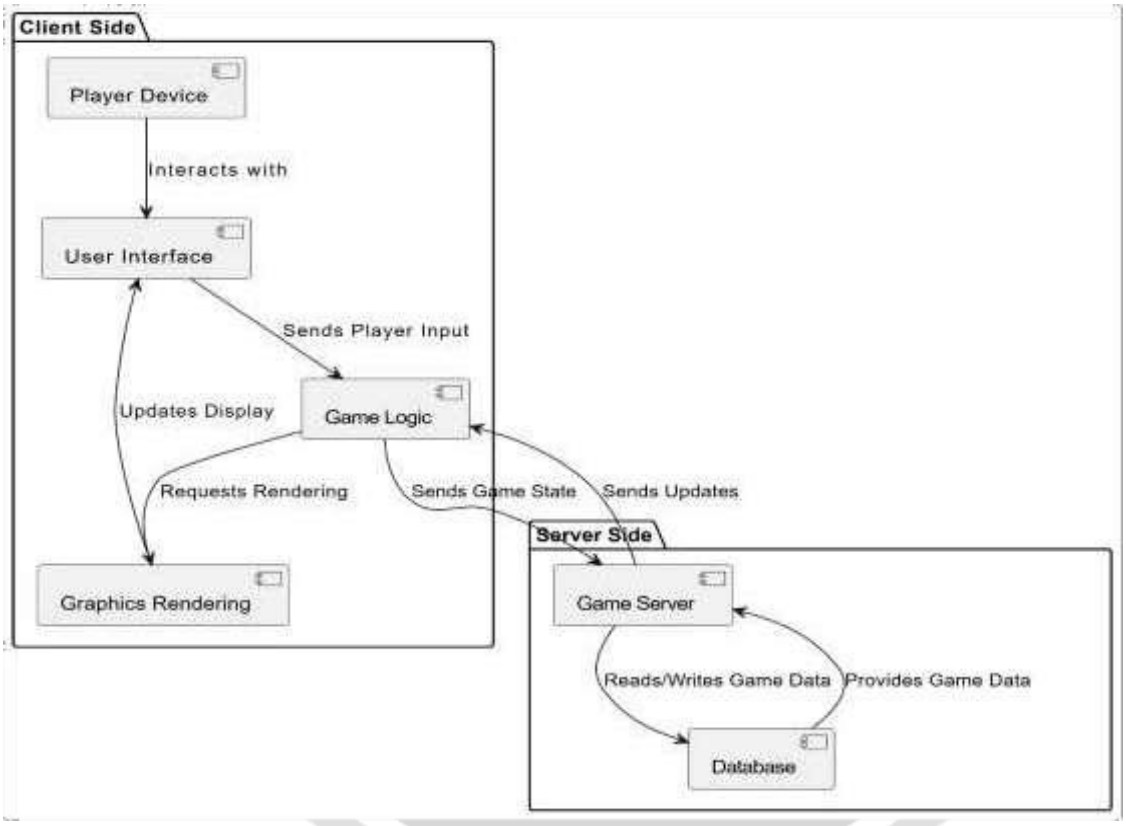

Fig 1 : System Architecture Diagram

5.CONCLUSION

The project "Obake Noroi" represents a significant advancement in the realm of VR horror gaming, aiming to provide players with an unparalleled immersive experience. By leveraging cutting-edge technology and innovative gameplay mechanics, the game not only captures the essence of fear but also actively engages players in a dynamic environment where their actions directly influence the unfolding narrative. Through the careful design of interconnected modules such as user interface, voice command processing, environmental interaction, and AI behavior the project addresses key challenges faced by traditional horror games, particularly in the context of VR. The integration of 3D spatial audio, dynamic visuals, and real-time feedback enhances the psychological horror elements, making each playthrough unique and deeply engaging

6. REFERENCES

[1] Angela and Grimshaw Survival Horror Game - an Uncanny Modality, Digital Commons CitationTinwell, Angela and Grimshaw, Mark. "Survival horror games - an uncanny modality."Games Computing and Creative Technologies: Conference Papers (Peer-Reviewed). Paper 11. (2009)

[2] Nikola Stojanovic Horror Game Design - What instills fear in the Player. El Nasr, S.M., Milam, D., 2010. Analysis of Level Design 'Push & Pull' within 21 games Categories and Subject Descriptors Patterns in Games. Foundations of Digital Games. [Online] Monterey, USA, 19-21 June 2010

[3] Pratham Trikha, Deeksha Khosla, Manali, Ammu Ria, Tushar Dadwal, and Harjeet Kaur A Research on Improvements in Horror Game Development. Lovely Professional University, Phagwara, India (2019)

[4] Khunnasut Ratthakhet Turn-based Terror: An Investigation of Horror Game Design - Theories That Can Make Even Turn-Based Games Truly Scary. Master's thesis, University of Applied Sciences Darmstadt, (October 2023)

[5] Christopher Folorunso, Jonathan Weinel, and Nuno Otero Horror in Modern and Retro 3D Games Folorunso et al. Published by BCS Learning and Development Ltd. Proceedings of EVA London (2024) [6] Konstantinos Ntokos "Level of Fear" Tool for Horror Game Design, Computer Game Development and Education:An International Journal (CGDEIJ) Vol.1, No.1 (2023)