

Horror in Modern and Retro 3D Games

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1. INTRODUCTION

Retro games are technological marvels. Programmers and artists of the late 90s and early 2000s had the unique task of creating aesthetically and visually pleasing games art and design while needing to stay within the strict budgets and allowances of the game engines of that period, these taking the form of limited geometry per object, less complex lighting and rendering power as well as small room for simulation such as hordes of even flocks of birds. These restrictions were mostly based on the game engines features, as well as the target platforms such as consoles or PCs. All of the games from the time had to deal with these restrictions until a new engines and technologies were developed.

These limitations, far from hindering creativity, created an environment where storytelling, character development, and atmospheric tension became key to delivering a truly terrifying experience. Unlike today's high-definition worlds, the low-definition textures and objects of retro horror games were less about visual fidelity and more about creating a canvas for the player's imagination to fill in the gaps.

This research explores the evolution of horror games from their pixelated past to the present day. In recent times, various horror titles have sought to revisit the styles of retro horror games, however this project questions whether modern games' attempts to evoke nostalgia through direct scares and visual filters maintains the appeal of original 90s horror games like *Resident Evil* (Capcom 1996), *Parasite Eve* (Square 1998) or *Silent Hill* (Team Silent 1999). Exploring this area, this project combines elements of retro and modern horror games in order to produce a game demo product.

2. HORROR THEMES IN VIDEO GAMES

At the heart of classic horror games was the survival aspect—players were engaged in a battle of wits and resources against the unknown. The limited graphics of the time meant that much of the fear and suspense came from the stories told within these pixelated realms and the characters that inhabited them.

Facing the technological confines of the PlayStation hardware in the mid-90s, the development team behind *Resident Evil* had to navigate significant challenges to create the game. Shinji Mikami, the game's director, said:

It was incredibly difficult to produce the game for the PlayStation hardware back then... Initially it was intended to be a full 3D production, but we had to give up on that idea and modify Biohazard (*Resident Evil*) to use pre-rendering: if we hadn't done that, it would have been impossible to properly realise my plans for the game. (Games Radar 2021)

This shift to pre-rendered environments, while enhancing graphical fidelity, required a compromise on "operability," making character movement and interaction more cumbersome due to the need to reduce polygon counts for characters.

Mikami and his team leaned into the atmospheric and psychological aspects of horror, utilising the game's environment, sound design, and narrative elements to build tension and fear. For example, the decision to use pre-rendered backgrounds allowed for a greater level of detail and atmospheric depth, setting a chilling stage for the horror that unfolds. The infamous "door-opening" sequences, a direct result of navigational and graphical limitations (Games Radar 2021), became iconic moments of suspense, amplifying players' anticipation and fear of what lay on the other side. The survival

mechanics in retro horror games like *Resident Evil* can be seen as early examples of how game design and technological constraints combined to evoke a psychological impact on players.

Furthermore, Habel and Kooyman (2014) discuss 'agency mechanics' in survival horror video games, which is particularly relevant to the development and gameplay of *Resident Evil*. The choices made by Mikami and his team, such as the use of pre-rendered backgrounds and the "door-opening" sequences, can be understood as deliberate design decisions that manipulate player agency to enhance the horror experience. This limitation of player control and the consequential amplification of suspense and fear are key elements that define the survival horror genre and were done on a technological budget. As highlighted by Thon (2019), modern indie developers have drawn inspiration from the survival mechanics and atmosphere-driven storytelling of retro horror games. Indie games often use similar methods but with the creative freedom provided by advances in technology like faster rendering techniques and better engines.

3. HORROR DESIGN AND ITS EVOLUTION IN GAMES

Older horror games capitalized on primal fears—darkness, the unknown, and survival—using limited graphics and sound to weave a tapestry of dread. The gameplay in these titles was centred around navigating fears through resource management, puzzle-solving, and combat. However, as noted by Habel and Kooyman (2014), the agency mechanics in survival horror games played a crucial role in this engagement, where the manipulation of player agency heightened the horror experience. These mechanics often revolved around directly confronting threats or strategically managing limited resources to survive another encounter.

In contrast, modern retro-inspired horror games shift the focus towards psychological experiences, aiming to disturb the player or isolate them. This shift is not just through narrative and themes but through the deliberate use of atmosphere created by visual shaders and sound design. Thon (2019) discusses how recent indie horror games explore the aesthetics of horror through a selection of indie titles, showcasing how these games invite players to "play with fear" in various ways. The use of atmosphere, narrative depth, and the psychological portrayal of enemies in games like *Amnesia: The Dark Descent* (Frictional Games 2010) and *Neverending Nightmares* (Infinitap Games 2014) illustrates this evolution towards a more immersive horror experience.

Many modern titles forgo traditional combat in favour of exploration and evasion, placing a greater emphasis on narrative and atmosphere rather than minute-to-minute gameplay. This evolution is reflected in the design of enemy encounters, which are not necessarily meant for the player to overcome but to enhance the sense of vulnerability and terror. As Perron (2004) articulates, the psychological impact of horror game mechanics extends beyond the physical threat of enemies, engaging players in a deeper, more disturbing level of horror through the anticipation of encounters and the manipulation of their expectations.

The portrayal of enemies in modern horror games as unstoppable forces or manifestations of psychological themes, rather than mere obstacles to be killed, represents a significant shift in horror game design. This approach aims to evoke a sense of unease and terror that lingers with the player, making the horror experience more profound and personal.

By examining the evolution of horror design in games, from the survival-focused mechanics of retro titles to the atmospheric and psychological depth of modern indie games, it becomes evident that the genre has undergone a significant transformation. This evolution reflects a broader understanding of horror as a genre capable of exploring complex themes and emotions, leveraging game mechanics, narrative, and atmosphere to create experiences that resonate deeply with players.

4. THE PRODUCT PROTOTYPE

The product prototype is a horror game that will present a range of enemies, each reflecting different periods in horror gaming history. Figures 1 and 2 show screenshots from the latest development build. The goal is to analyse and replicate the essential aspects that make these enemies effective in inducing fear, thereby acknowledging the progression of horror within video games.



Figure 1. Screenshot from the product prototype.



Figure 2. Screenshot from the product prototype.

Influenced by early horror games like *Resident Evil*, the game will reintroduce enemies known for their relentless pursuit and grotesque. This aims to challenge players by revisiting the concept of being pursued, a common feature in the early horror genre.

For more modern indie horror games, enemies in this game will also represent psychological fears, tying directly into the narrative's themes of isolation. Following Thon's (2019) insights, these enemies will contribute to the story's depth, embodying the protagonist's internal struggles and enhancing the game's psychological impact.

Incorporating elements of modern atmospheric horror, certain enemies will be designed to evoke fear through implication rather than direct confrontation with the player. This design is intended to play on the fear of the unknown, using sound and light for threats that may not always be visible.

5. SUMMARY

This research will attempt to examine the transformation of horror game design, using this to inform the design of a new game prototype. By analysing the survival roots of retro horror games and the psychological narrative focus of modern titles, the proposed product prototype aims to combine the primal fears and survival elements of retro horror with the atmospheric psychological horror of today's games.

6. REFERENCES

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