One More Time

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Figure 1: The rural environment surrounding the trauma site.

Abstract

One More Time is a first-person narrative game that translates the experience of Post-Traumatic Stress Disorder (PTSD) and the principles of Cognitive Behavioral Therapy (CBT) into interactive play. Through memory-loop mechanics and environmental puzzle-solving, the game guides players from irrational self-blame toward evidence-based self-forgiveness.

CCS Concepts

• **Applied computing** → **Arts and humanities**; **Media arts**;

Keywords

Mental Health, Video Games, Narrative-Driven Storytelling

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1 Introduction

Post-Traumatic Stress Disorder (PTSD) is a condition characterised by flashbacks, avoidance and distorted self-blame that form a self-reinforcing cycle of psychological distress. Around 3.9% of the global population is affected [1], yet stigma discourages help-seeking and access to evidence-based treatments such as Cognitive Behavioral Therapy (CBT) remains limited. There is therefore a need for accessible media that can foster understanding of PTSD and demonstrate the principles of cognitive restructuring to broad audiences.

We present *One More Time*, a first-person narrative game that addresses this gap. The work places players inside the experience of a young woman returning to her childhood home, where she must confront the traumatic memory of her brother's accidental death, which she has reframed as her own fault. Through a memory-loop mechanic grounded in CBT, the game translates the process of challenging maladaptive beliefs into participatory play, progressing from repetitive flashback loops to environmental puzzle-solving that reveals the accident's true causes and enables self-forgiveness.

In Section 2 we position our work against prior trauma-focused games. Section 3 presents our mapping of PTSD symptoms and CBT restructuring onto mechanics. We then cover design and Unreal Engine implementation in Section 4, report alpha-testing findings in Section 5, and reflect on trade-offs in Section 6, before closing in Section 7 with implications for accessible mental-health media.

2 Related Work

Interactive media have increasingly been used to portray mental health. *Hellblade: Senua's Sacrifice* [2], developed with clinical psychologists, turns CBT tools such as reality-testing and cognitive reframing into playable mechanics, allowing players to actively engage with therapeutic processes rather than passively observe symptoms. *What Remains of Edith Finch* [3] employs environmental storytelling within a family home, using object-triggered vignettes to reconstruct fragmented memories, a structural model that directly informs our own narrative framework. *GRIS* [4] demonstrates how chromatic shifts can communicate internal psychological states without exposition, an approach we adopt to mark the protagonist's progression from grief to clarity. Research by Smethurst and Craps [5] has shown that interactive storytelling fosters empathy by making players complicit in narrative outcomes, supporting the case for games as a medium for trauma engagement.

Our work differs in its explicit staging of CBT's cognitive restructuring cycle: the memory loops embody the maladaptive thought pattern, and the puzzle phase performs the clinical intervention of dismantling a specific distorted belief with objective evidence.

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3 Methods

The game addresses PTSD by translating three core symptoms into interactive mechanics. Flashbacks are realised through forced memory-loop sequences; avoidance is embodied in the protagonist's reluctance to enter the old house; and negative cognitions manifest as a persistent internal voice reinforcing self-blame. These symptoms map onto the Ehlers and Clark cognitive model [6], which holds that PTSD persists when trauma is processed in a way that maintains an ongoing sense of threat. The therapeutic dimension follows CBT's cognitive restructuring process: the puzzle section requires players to examine environmental evidence that progressively dismantles the protagonist's irrational belief that she caused her brother's death, mirroring the clinical practice of replacing automatic negative thoughts with balanced, evidence-based interpretations. Our design was grounded in conceptual investigation through questionnaires and interviews with PTSD survivors, followed by iterative prototyping and user testing.

4 Design and Development

In Section 4.1 we set out the artistic principles that translate our therapeutic framework into player experience, then in Section 4.2 we provide details of the Unreal Engine implementation that realises them.

4.1 Design

Two artistic principles shape the game's design. Emotional design ensures that every visual, auditory and interactive element evokes a specific psychological state rather than serving as entertainment. Environmental storytelling allows the space itself to carry the narrative, so that players discover meaning through exploration rather than exposition.

A first-person perspective collapses the distance between player and protagonist, making the trauma feel internal. A desaturated colour palette establishes grief from the outset and warmer hues gradually return as the protagonist moves toward self-forgiveness. The swing, the site of the brother's fatal accident, serves as the central visual motif, anchoring every narrative loop to a single charged object. Mundane objects and ambient sounds act as sensory triggers informed by primary research showing that everyday items are the most common PTSD triggers.

The experience unfolds in two phases. In the first, three memory loops force the player to relive the accident, each ending in failure and reinforcing irrational guilt. In the second, the player enters the old house and examines fragmented clues that systematically contradict the protagonist's distorted beliefs, enacting cognitive restructuring through environmental puzzle-solving.

4.2 Development

The game was developed in Unreal Engine, selected for its native Lumen and Nanite support, which provide the high-fidelity environmental rendering essential to atmospheric storytelling. The Blueprint system enabled rapid prototyping of narrative mechanics without extensive C++ development. Player controls follow standard first-person conventions with spatial audio feedback for movement and environmental interactions, as shown in Figure 2.

The memory-loop cinematics were produced using an AI-driven animation pipeline, generating motion through start-to-end frame synthesis from rendered stills. Character modelling used AI-assisted mesh generation followed by Mixamo rigging, with manual corrections for Unreal Engine compatibility.

Figure 2: The Unreal Engine development environment.

5 Evaluation

Alpha testing collected feedback on emotional resonance, interaction clarity and narrative pacing. Participants reported that the memory-loop sequences effectively conveyed the repetitive, intrusive nature of PTSD flashbacks, while the puzzle section was identified as a turning point where active investigation replaced passive suffering. The environmental storytelling, carried by cool-toned lighting and object-triggered monologues, contributed strongly to immersion. Based on feedback, pacing was adjusted to balance narrative tension with exploratory freedom. The progression from irrational self-blame to evidence-based reattribution mirrors the therapeutic arc, and tester responses indicate that this structure fostered both emotional engagement and a clearer understanding of how distorted beliefs can be challenged.

6 Reflection

The primary challenge was balancing technical execution with psychological depth. Integrating CBT principles into level design demonstrated that game mechanics can serve as active tools for cognitive restructuring. The AI-driven animation pipeline allowed the project to bypass manual keyframing constraints, showing that emerging technologies can enhance emotional storytelling in independent development. A limitation is the embedded narrative, which constrains player agency; future work could introduce branching paths reflecting different CBT strategies, offering a more nuanced representation of recovery.

7 Conclusion

One More Time demonstrates that interactive media can translate both the experience of PTSD and the therapeutic principles of CBT into participatory play. By mapping traumatic recall onto memory-loop mechanics and cognitive restructuring onto environmental puzzle-solving, the game offers an accessible entry point for understanding how distorted beliefs form and how they can be challenged.

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