TunTun Diary: Exploring AI-Generated Storytelling and Virtual Companionship for Nightmare Relief

Zixin Wang
University Of Michigan
Ann Arbor, MI, USA
zixinw@umich.edu

Shan Luo
China Academy of Art
China
luoshan3398@qq.com

Siyu Tian
China Academy of Art
Hangzhou, China
siyu_serena_tian@qq.com

Yunxi Cai
China Academy of Art
Hangzhou, China
3134531718@qq.com

Long Ling
Tongji University
Shanghai, China
lucyling0224@gmail.com

Muhan Xu
University of the Arts London
London, UK
m.xu0920221@arts.ac.uk

Jiaxing Yu
Zhejiang University
Hangzhou, China
yujx@zju.edu.cn

Guanting Lu
Zhejiang University
Hangzhou, China
3210105631@zju.edu.cn

Jiajing Zhu
China Academy of Art
Hangzhou, China
20211098@caa.edu.cn

Liping Luo
Zhejiang Sci-Tech University
Hangzhou, China
18868632196@163.com

Figure 1: *TunTun Diary*'s interactive workflow for transforming nightmares into therapeutic narratives.

Abstract

Nightmares disrupt sleep and heighten daytime anxiety, yet therapeutic support is often hard to access due to limited clinician availability, cost, and clinical framing. We propose *TunTun Diary*, a mobile game in which an alien puppy named TunTun "eats" players' nightmares and returns gentle, comic-style retellings. The system uses generative AI to reinterpret users' nightmare descriptions into positive narratives. Through simple text-based dream input and playful pet interactions, players form an emotional bond with TunTun as a safe and supportive companion for coping with negative dreams. In a preliminary deployment with 20 young adults, participants reported emotional relief and increased comfort after engaging with TunTun's transformed dream comics, often describing the experience as both soothing and playful. These findings

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highlight how integrating therapy-inspired reframing with interactive storytelling and virtual companionship can lower barriers to everyday emotional support. By illustrating a novel application of AI-based visual storytelling in game contexts, TunTun Diary opens opportunities for future research at the intersection of visual computing, affective interaction, and game design.

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1 Introduction

Nightmares are a prevalent sleep disturbance that impair mental health and daily functioning [Germain 2013; Levin and Nielsen 2007]. Among existing treatments, Imagery Rehearsal Therapy (IRT) has proven especially effective [Krakow and Zadra 2006]. Patients rewrite a nightmare with a safer ending and rehearse this version while awake. Evidence shows that IRT significantly reduces both nightmare frequency and distress over time [Yücel et al. 2020]. Yet it often requires guided sessions and structured practice in clinical contexts, which many users find demanding and challenging to sustain in daily life.

Recent work has begun exploring how technology can support or complement nightmare interventions. DreamDirector is a therapist-aided system that uses generative AI to create therapeutic visual stories [Zhao et al. 2025]. Similarly, Dreamory transforms users' emotional experiences into personalized bedtime stories using large language models, offering a self-directed approach to emotional reframing outside of formal therapy [Tian et al. 2025]. Interactive storytelling systems and narrative games have also helped people reinterpret difficult experiences and support well-being [Vindigni 2023]. Together, these works illustrate the potential of reframing negative experiences through narrative and AI-driven tools; yet, few are designed as casual, playful applications that seamlessly integrate into everyday life.

To address this gap, we introduce *TunTun Diary*, a self-guided mobile game that makes nightmare rescripting accessible and enjoyable. *TunTun Diary* features a cute alien puppy character (*TunTun*) who "feeds" on nightmares and converts them into heartwarming, comic-style stories. The combination of pet companionship and narrative reframing lowers the barrier to engaging with distressing dreams by framing the activity as a safe, friendly interaction rather than a clinical task. The design builds on findings that virtual companions can alleviate loneliness and provide emotional support in digital settings [Chen et al. 2025; Lisetti et al. 2013]. By combining AI-assisted storytelling with casual pet simulation, *TunTun Diary* offers an approachable form of emotional support that is both playful and empathetic, while remaining grounded in therapeutic principles. Our contributions are twofold. First, we demonstrate how interactive storytelling and casual pet-game mechanics can translate therapeutic approaches such as imagery rehearsal into accessible everyday practices. Second, we provide empirical evidence on how playful companion systems influence users' emotional responses to nightmares, with implications for the design of digital tools that support emotional well-being.

2 Methods

APP Interaction Design. *TunTun Diary* was designed as a diary-like application that allows users to record their dreams immediately after waking up. Nightmare sufferers can freely express themselves by chatting with the in-app character *TunTun*, entering details about their dreams, emotions, and various anxieties. *TunTun* then compiles and rewrites the dream content into a comforting dream comic in which the *TunTun* character actively participates. This comic is returned to the user to help ease their negative emotions. Beyond its core function of nightmare relief, the app also includes features such as dream journaling and playful exploratory elements, encouraging users to build a sense of trust and connection with *TunTun*. These features support richer dream expression and promote ongoing emotional healing through dream-based interactions.

AI Story Images Generation. TunTun Diary employs a multi-stage AI pipeline to transform user-submitted nightmare descriptions into positive visual narratives. The system processes the user's textual dream input through three stages: 1) Applying a large language model (LLM) to rewrite the user input into a positive story that features the character *TunTun*; 2) Generating a four-panel comic script based on the positive story rewritten by LLM; 3) Generating comic panels through two self-trained LoRA text-to-image models: one model ensures character consistency for *TunTun*, while the other creates dreamlike background scenes. In the end, the user receives a heartwarming and emotionally uplifting four-panel comic illustrated by AI.

3 User Study

We conducted a two-week deployment with 20 participants (ages 18-35) who experienced recurrent nightmares. Participants were instructed to use *TunTun Diary* after a nightmare and subsequently provide feedback through open-ended questionnaires and semi-structured interviews about its impact and effectiveness. A thematic analysis of the qualitative data revealed two primary themes. First, the intervention provided immediate emotional relief, with participants frequently reporting that the AI-generated comic successfully reframed their negative experience and reduced post-nightmare distress. Second, a strong sense of trust and companionship emerged, as users grew to rely on *TunTun Diary* and expressed deep appreciation for the supportive in-game interactions and design.

4 Conclusion

We presented *TunTun Diary*, a mobile game that blends interactive storytelling, virtual companionship, and therapy-inspired design for nightmare relief. Our preliminary study suggests that casual, playful systems can lower barriers to emotional reframing, offering immediate comfort and fostering positive engagement with difficult experiences. Future work will focus on larger-scale evaluations, integration with wearable sleep tracking devices, and collaborations with clinical practitioners to refine the safety and therapeutic value of this approach. We applied AI-based visual generation interaction methods to the treatment of nightmares, integrating game character nurturing and psychological therapy. This offers new application possibilities for the fields of visual interaction and Human-Computer Interaction.

References

Zhi-Hong Chen, Hui-Lin Hsu, Chi-Fang Huang, Chang-Yen Liao, and Chih-Yueh Chou. 2025. Pet-like learning companions: past research and future directions. *Research & Practice in Technology Enhanced Learning* 20 (2025).

Anne Germain. 2013. Sleep disturbances as the hallmark of PTSD: where are we now? *American Journal of Psychiatry* 170, 4 (2013), 372–382.

Barry Krakow and Antonio Zadra. 2006. Clinical management of chronic nightmares: imagery rehearsal therapy. *Behavioral sleep medicine* 4, 1 (2006), 45–70.

Ross Levin and Tore A Nielsen. 2007. Disturbed dreaming, posttraumatic stress disorder, and affect distress: a review and neurocognitive model. *Psychological bulletin* 133, 3 (2007), 482.

Christine Lisetti, Reza Amini, Ugan Yasavur, and Naphtali Rishe. 2013. I can help you change! an empathic virtual agent delivers behavior change health interventions. *ACM Transactions on Management Information Systems (TMIS)* 4, 4 (2013), 1–28.

Runyan Tian, Jiamu Tang, and Zhuying Li. 2025. Dreamory: AI-Powered Bedtime Storytelling for Emotional Reframing Before In-Sleep Memory Consolidation. In *Proceedings of the Extended Abstracts of the CHI Conference on Human Factors in Computing Systems*. 1–8.

Giovanni Vindigni. 2023. Exploring digital therapeutics: game-based and ehealth interventions in mental health care: potential, challenges, and policy implications. *J. Biomed. Eng. Med. Imaging* 10, 3 (2023).

Dilan E Yücel, Arnold AP van Emmerik, Camille Souama, and Jaap Lancee. 2020. Comparative efficacy of imagery rehearsal therapy and prazosin in the treatment of trauma-related nightmares in adults: A meta-analysis of randomized controlled trials. *Sleep Medicine Reviews* 50 (2020), 101248.

Yijun Zhao, Zhengke Li, Yicheng Wang, Xueyan Cai, Xiaojing Zhou, Yifan Yan, Kecheng Jin, Shiying Ding, Yilin Shao, Jiacheng Cao, et al. 2025. DreamDirector: Designing a Generative AI System to Aid Therapists in Treating Clients' Nightmares. In *Proceedings of the 30th International Conference on Intelligent User Interfaces*. 553–578.