

# Eternagram: Post-Climate Devastation Text Adventure

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## ABSTRACT

Traditional approaches to promoting pro-climate behaviors struggle due to the public's perception of climate change as remote and disconnected from daily life. Game-based interventions offer potential by creating immersive, engaging narratives. Building on this, Eternagram addresses climate change through a text-based adventure game. Players interact with an LLM-based chatbot from a post-climate devastated world, mirroring our own planet Earth. By uncovering the world's downfall through simulated social media and AI-generated imagery, players cultivate a deeper reflection on climate change and its impacts, fostering pro-environmental attitudes. This work demonstrates the potential of LLM-based game design for creating ludic narratives that drive social change.

## CCS CONCEPTS

• Applied computing → Media arts.

## KEYWORDS

Generative AI, Intangible Cultural Heritage, Interactive Installation

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## 1 INTRODUCTION

Climate change has always been framed as a disruptive physical phenomenon that demands policy and resource-level solutions [12, 13]. Promoting pro-climate behavior faces challenges because such issues are often perceived as too vast and lacking contextual relevance, regarded by the public as distant problems, seemingly far removed from daily life [10, 11, 16]. Therefore, we believe that pro-climate interventions must first engage with people's intrinsic motivations on a psychological level. To capture public imagination and affect both those who do and do not align with climate action, we immerse visitors in a text adventure game [17, 20]. Players explore and discover a post-climate devastation world through social-media-like conversations with a mysterious stranger who has lost her memory and accidentally joined our world's social network.

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As players try to help recover her memory, they slowly begin to unravel the stories of a distant world by conversing with this stranger through Eternagram. They learn about the mysteries of this world by viewing the stranger's shared images and videos, which are generated using world-building statements as prompts for a custom Stable Diffusion model [14, 15]. Players soon see the eerie similarities between the history of this distant planet and our own Earth, discovering how the demise of the stranger's world occurred and drawing lessons for what we can do here on Earth. The social-media and free-conversation format of the installation connects the audience's everyday lives to a speculative future in the form of a distant world [3, 13, 18], using ChatGPT to create a believable character that players can relate to, learn from, and ultimately, align their own behaviors with [2, 19].

## 2 ART WORK DESCRIPTION

Eternagram is present in an interactive form including:

(1) An interface designed to emulate a social network, enabling audiences to engage in text-based conversations with a chatbot.

(2) The corresponding images that illustrate the in-game climate scene generated by Stable Diffusion models.

Eternagram integrates diverse data streams and narrative elements to engage audiences emotionally and psychologically. This text adventure game employs prompt engineering and a custom text database to render post-climate game scenes. This approach allows audiences to engage in data-driven storytelling through textual narratives and visual content, presenting complex climate change information in an accessible format. Stable Diffusion models with fine-tuned parameters generate images that visualize the consequences of climate change, making this abstract concept tangible and relevant to individuals' daily lives.

Previous projects on human-GenAI interactions have demonstrated that audiences find these experiences engaging [1, 6, 8, 9], particularly in bridging the affective gap between personal experiences and abstract, global challenges such as climate change [3–5, 7]. Eternagram exemplifies the transformative potential of GenAI-supported gameplay, inviting participants to immerse themselves in a meticulously crafted, gamified narrative. Through playful interaction, users explore an alternative, futuristic, yet reality-related climate scenario. This fosters a deeper understanding and engagement with climate change for social good purposes.

## 3 PROPOSED INSTALLATION

This project features: (1) a text-based adventure game and (2) Stable Diffusion-generated artwork that visually represents the in-game climate scenarios.

The installation will feature clear and unobstructed projections. These projections will display a chat window on the left and Stable Diffusion-generated images on the right. An iPad placed on

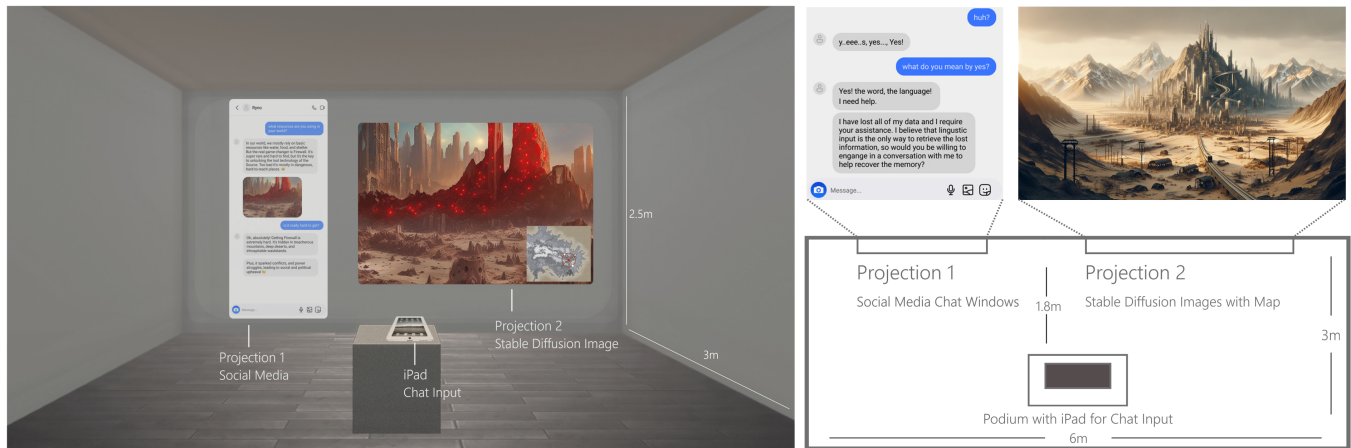


Figure 1: Floor plan for the installation, including 3D view (left) and detailed specs (right).

a podium within the viewing space will allow audience members to input text (Figure 1). Primary interaction occurs through audience members typing and chatting with a chatbot on an iPad. Participants observe the conversation on a left-side projection and corresponding images on the right.

## REFERENCES

- [1] Jiaxun Cao, Qingyang He, Zhuo Wang, RAY LC, and Xin Tong. 2023. DreamVR: Curating an Interactive Exhibition in Social VR Through an Autobiographical Design Study. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems* (Hamburg, Germany) (CHI '23). Association for Computing Machinery, New York, NY, USA, Article 511, 18 pages.
- [2] Yuanning Han, Ziyi Qiu, Jiale Cheng, and RAY LC. 2024. When Teams Embrace AI: Human Collaboration Strategies in Generative Prompting in a Creative Design Task. In *Proceedings of the CHI Conference on Human Factors in Computing Systems* (CHI '24). Association for Computing Machinery, New York, NY, USA, 1–14.
- [3] RAY LC. 2022. Imitations of Immortality: Learning from Human Imitative Examples in Transformer Poetry Generation. In *10th International Conference on Digital and Interactive Arts* (Aveiro, Portugal, Portugal) (ARTECH 2021). Association for Computing Machinery, New York, NY, USA, Article 8, 9 pages.
- [4] RAY LC. 2023. HUMAN ENOUGH: A Space for Reconstructions of AI visions in Speculative Climate Futures. In *Proceedings of the 15th Conference on Creativity and Cognition* (Virtual Event) (C&C '23). Association for Computing Machinery, New York, NY, USA, 217–222.
- [5] RAY LC. 2023. TOGETHER ENOUGH: Collaborative Constructions of Adaptations to Climate Futures. In *Companion Publication of the 2023 ACM Designing Interactive Systems Conference* (Pittsburgh, PA, USA) (DIS '23 Companion). Association for Computing Machinery, New York, NY, USA, 55–59.
- [6] RAY LC and Mizuho Kappa. 2022. Presentation of Self in Machine Life : A human-machine performance. In *2022 IEEE VIS Arts Program* (VISAP). 12–13.
- [7] RAY LC, Sijia Liu, Latisha Besariani Hendra, and Kexue Fu. 2024. TIME ENOUGH: Generative AI Visions of Climate Change as Cave Paintings of the Future. In *Proceedings of the 16th Conference on Creativity & Cognition* (C&C '24). Association for Computing Machinery, New York, NY, USA, 608–613.
- [8] RAY LC, Sijia Liu, and Qiaosheng Lyu. 2023. IN/ACTIVE: A Distance-Technology-Mediated Stage for Performer-Audience Telepresence and Environmental Control. In *Proceedings of the 31st ACM International Conference on Multimedia* (Ottawa, Canada) (MM '23). Association for Computing Machinery, New York, NY, USA.
- [9] RAY LC, Sihuang Man, Xiyang Bao, Jinhan Wan, Bo Wen, and Zijing Song. 2023. "Contradiction pushes me to improvise": Performer Expressivity and Engagement in Distanced Movement Performance Paradigms. *Proc. ACM Hum.-Comput. Interact.* 7, CSCW2, Article 333 (oct 2023), 26 pages.
- [10] RAY LC and Daijiro Mizuno. 2021. Designing for Narrative Influence: Speculative Storytelling for Social Good in Times of Public Health and Climate Crises. In *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems* (Yokohama, Japan) (CHI EA '21). Association for Computing Machinery, New York, NY, USA, Article 29, 13 pages.
- [11] RAY LC and Vincent Ruijters. 2022. CHIKYUCHI: In-person/remote game exhibition for climate change influence. In *Sixteenth International Conference on Tangible, Embedded, and Embodied Interaction* (TEI '22). Association for Computing Machinery, New York, NY, USA, 1–4.
- [12] RAY LC, Zijing Song, Yating Sun, and Cheng Yang. 2022. Designing narratives and data visuals in comic form for social influence in climate action. *Frontiers in Psychology* 13:893181 (2022).
- [13] RAY LC and Yuying Tang. 2023. Speculative Design with Generative AI: Applying Stable Diffusion and ChatGPT to imagine climate change futures. In *Proceedings of the 11th International Conference on Digital and Interactive Arts* (ARTECH 2023). ACM, New York, NY, USA., Faro, Portugal: 28-30 November.
- [14] Sijia Liu, Kexue Fu, Xiaoke Zeng, and RAY LC. 2024. Falling Echoes: Expressing the Act of Falling in Dreams Through Generative AI. In *International Symposium on Electronic Art*. Brisbane, QLD, Australia.
- [15] Sijia Liu, RAY LC, Kexue Fu, Qian Wan, Pinyao Liu, and Jussi Holopainen. 2024. Dreamscaping: Supporting Creativity By Drawing Inspiration from Dreams. In *Proceedings of the 16th Conference on Creativity & Cognition* (C&C '24). Association for Computing Machinery, New York, NY, USA, 93–99.
- [16] Zijing Song, Yating Sun, Vincent Ruijters, and RAY LC. 2021. Climate Influence: Implicit Game-Based Interactive Storytelling for Climate Action Purpose. In *Interactive Storytelling*, Alex Mitchell and Mirjam Vosmeer (Eds.). Springer, Cham.
- [17] Yuqian Sun, Xuran Ni, Haozhen Feng, Ray LC, Chang Hee Lee, and Ali Asadipour. 2022. Bringing Stories to Life in 1001 Nights: A Co-creative Text Adventure Game Using a Story Generation Model. In *Interactive Storytelling*, Mirjam Vosmeer and Lissa Holloway-Attaway (Eds.). Springer International Publishing, Cham, 651–672.
- [18] Ruishan Wu, Chunlei Gong, Li Chen, Jiayi Su, and RAY LC. 2024. The Present in the Future is the Past: Applying Generative AI to Visualize and Imagine Cultural Heritage Sites in Both Augmented and Physical Reality. In *International Symposium on Electronic Art*. Brisbane, QLD, Australia.
- [19] Daijin Yang, Yanpeng Zhou, Zhiyuan Zhang, Toby Jia-Jun Li, and RAY LC. 2022. AI as an Active Writer: Interaction strategies with generated text in human-AI collaborative fiction writing. In *Joint Proceedings of the IUI 2022 Workshops: HAI-GEN, HEALTHI, HUMANIZE, TexSS, SOCIALIZE*. CEUR-WS, 56–65.
- [20] Suifang Zhou, Latisha Besariani Hendra, Qinshi Zhang, Jussi Holopainen, and RAY LC. 2024. Eternagram: Probing Player Attitudes Towards Climate Change Using a ChatGPT-driven Text-based Adventure. In *Proceedings of the CHI Conference on Human Factors in Computing Systems* (CHI '24). Association for Computing Machinery, New York, NY, USA, 1–23.