

ICCCA2025 – International Conference on Computer Science, Communication
& Artificial Intelligence
May 31, 2025, Tokyo, Japan

Speculative Interaction for Future IoT: Integrating ChatGPT and First-Thing Narrative Design

¹Wan-Chen Lee^{*,}, ²Zi-Ru Chen, ³Ta-Chi Liu, ⁴Chia-Hsuan Hsieh, ⁵Rung-Huei Liang**

¹ Department of Visual Communication Design, Southern Taiwan University of Science and Technology, Tainan, Taiwan*
Department of Design, National Taiwan University of Science and Technology, Taipei, Taiwan**

²Department of Visual Communication Design, Southern Taiwan University of Science and Technology, Tainan, Taiwan

³Department of Creative Product Design, Southern Taiwan University of Science and Technology, Tainan, Taiwan

⁴Ceramic Art Association of Tainan City, Tainan, Taiwan

⁵Department of Design, National Taiwan University of Science and Technology, Taipei, Taiwan

E-mail: ¹chenlee@stust.edu.tw, ²zrchen@stust.edu.tw, ³dachiliu@stust.edu.tw,
⁴shiuan93121@gmail.com, ⁵liang@mail.ntust.edu.tw

Abstract

As the Internet of Things (IoT) continues to evolve into increasingly intelligent and context-aware systems, design education must go beyond conventional user-centered approaches to help students imagine alternative forms of interaction. This study explores how integrating ChatGPT into first-thing narrative design—an approach in which students write from the first-thing perspective of imagined smart objects—can support speculative thinking and foster creativity. Conducted as part of a design workshop, students collaborated with ChatGPT to co-develop fictional narratives featuring IoT devices that act as sentient agents in future everyday life. These stories became the basis for conceptual development, including illustrated interaction scenes, scenario videos, and interactive prototypes that express the objects' imagined roles and behaviors. The findings suggest that AI-assisted storytelling enhanced students' ability to generate original, emotionally resonant, and context-specific design concepts. Writing from the thing's point of view encouraged learners to consider agency, emotion, and non-human perspectives in their interaction models. Through these creative exercises, students engaged in critical reflection on how emerging technologies might reshape everyday experiences. The inclusion of ChatGPT not only supported narrative development but also functioned as a generative collaborator that helping to expand the boundaries of interaction ideation. This paper presents an interdisciplinary educational model that combines speculative design, narrative thinking, and AI co-creation. It offers a practical framework for teaching future-oriented design through collaborative storytelling and thing-centered imagination. The originality of this research lies in demonstrating how AI can be used as a narrative collaborator to stimulate critical creativity and in promoting a shift from user-centric to thing-centric perspectives in the context of future IoT interaction design.

Keywords:

Internet of Things, Speculative Interaction, Narrative Design, AI Co-Creation, First-Thing Perspective