

1001 Nights: AI-native narrative game driven by large language models

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INTRODUCTION

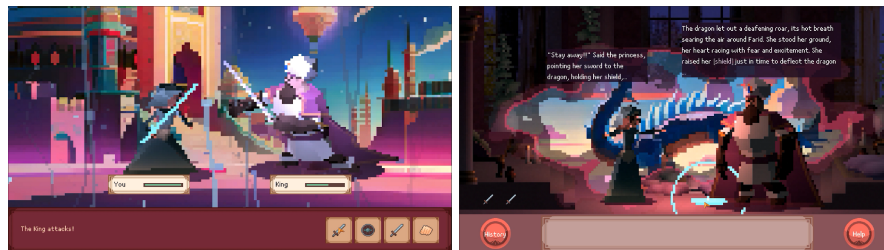


Figure 1: Game Screenshots

Language has the power to shape our reality. What if it could also mould the virtual worlds we inhabit? 1001 Nights is a narrative game inspired by Wittgenstein's assertion: "The limits of my language mean the limits of my world.". In this game, Shahrzad, the protagonist, can transform spoken stories from other people into tangible in-game elements. When keywords like 'sword', 'knife', or 'shield' are spoken, they materialize in the game world.

Powered by generative AI, "1001 Nights" is divided into storytelling and battle phases. During storytelling, players control Shahrzad, strategically guiding an AI King to narrate tales with keywords, which in turn generate weapons. As these weapons are collected, the world in the story begins to invade the game's reality, a transformation visualized using large language model (LLM) GPT-4 and the text-to-image model Stable Diffusion. Once four weapons are collected, players transition to the battle phase, where they use their collected arsenal to confront the King. The end goal is to rewrite Shahrzad's fate, diverging from the traditional folklore.

This game blurs the lines between reality and fiction. Shahrzad seeks to reshape her destiny, challenging patriarchal norms. Players, in tandem with AI, redefine the game's boundaries, crafting stories that surpass authorial constraints. Here, language

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doesn't just describe the world; it creates it, a phenomenon amplified by generative AI.

Figure 2: Screenshot and game installation

INSTALLATION

During the exhibition, besides the basic PC with a keyboard and mouse, the game installation also includes a mini printer. When the keyword is triggered, the corresponding story will be printed out. This mechanism matches with the game's concept: turning stories to live.

VIDEO DOCUMENTATION

<https://youtu.be/4cBI5GEclc>

This game has been exhibited at 2023 Gamescom and longlisted in the 2022 Lumen Prize.

PUBLICATIONS

Sun, Y., Li, Z., Fang, K., Lee, C. H., and Asadipour, A. 2023. "Language as Reality: A Co-Creative Storytelling Game Experience in 1001 Nights using Generative AI." In Proceedings of the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE-23). <https://ojs.aaai.org/index.php/AIIDE/article/view/27539>. Also available at arXiv.

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