

# Melody in the Mist: A UX Study of AI Voice Assistant in KTV Shower System



Shower scenario

### Special Focus

- Voice Interaction & Cognitive Load
- AI Recommendation, Trust and Personalization
- User Autonomy & Algorithm Acceptance

This thesis places a special focus on evaluating how AI voice assistants enhance user experience in a KTV-style shower context. In particular, it investigates how voice interaction can reduce physical and cognitive effort, how explanation and personalization foster trust in AI recommendations, and how user autonomy through choice and control influences motivation and acceptance.

Through a combination of hands-free interaction and context-aware song suggestions, the study explores the unique UX challenges and opportunities of AI-powered leisure systems in emotionally expressive and physically constrained environments.

### Abstract

This study explores the user experience (UX) of a KTV-style shower system enhanced with an AI voice assistant, aiming to reduce the inconvenience of manually operating music devices in the shower.

User testing was conducted to examine the impact of voice control and various AI recommendation strategies on user experience, motivation, and acceptance. Participants interacted with both manual and voice-controlled systems, experiencing music recommendations with different levels of explanation.

The findings provide key insights into cognitive load, trust, personalization, and user autonomy, offering valuable design implications for developers of smart bathroom systems and voice assistants in everyday settings.



Interface of prototype



Prompt and cue card

### Result and Future Work

#### Key Findings:

Voice interaction was found to be more intuitive and enjoyable than manual control, especially in the shower context.

Explanations for AI-recommended songs increased users' willingness to try unfamiliar tracks, while offering choices between two songs further boosted motivation and satisfaction. After refining the interface, such as clearer prompts and larger buttons, error rates decreased and usability scores improved.

#### Future Work:

Future studies should test the system in real wet environments, add features like hum-to-search and mood-based queues, expand the participant pool, and reduce cognitive load using repeatable prompts or visual support.

