

Aging and Disability

User perceptions and design requirements for conversational AI agents for food ordering: A qualitative co-design study A. J. Kim, J. Park, W. Hong, H. W. Ka, I.C. Moon, M. Choi. *Gerontechnology* 25(s)

Purpose Digital transformation and the COVID-19 pandemic have accelerated the deployment of kiosks—automated, self-service machines often equipped with touchscreens—across everyday settings such as restaurants and cafés. However, these unmanned kiosks often pose significant challenges for older adults and people who are blind [1]. As an interdisciplinary research team, we aim to develop a conversational AI agent that enables these users to order food and beverages without needing to interact directly with physical kiosks. From a co-design perspective, this study explores end users' perceptions, needs, concerns, and suggestions regarding the development of a conversational AI agent. **Method** A total of 17 participants were recruited using snowball sampling in Daejeon and Sejong, South Korea (6 older adults, 8 blind individuals, and 3 individuals with low vision; age range = 33-85 years old; 29.4% women). Four face-to-face focus group interviews were conducted using semi-structured questions. Participants were asked about their perceptions and experiences with kiosks, their daily use patterns of digital devices, their perceptions of AI agents, and their concerns and suggestions regarding the proposed conversational AI agent under development. Interviews were transcribed and analyzed thematically using ATLAS.ti software. Three researchers independently coded the data and collaboratively identified themes. **Results and Discussion** Thematic analysis yielded 41 codes across six themes: three reflecting benefits and three reflecting challenges. Benefits included (a) usage contexts maximizing effectiveness, (b) accessibility needs, and (c) enhanced convenience. Challenges centered on (a) conversational service design, (b) necessary functional features, and (c) technical concerns. Participants emphasized the need for simple, step-by-step conversational guidance, personalized menu recommendations, and straightforward hierarchical navigation, while also expressing strong concerns about security risks, voice-recognition accuracy, and privacy during payment. Older adults, in particular, voiced fears related to hacking and limitations of speech-based interaction, underscoring the importance of secure, intuitive, and inclusive design. By identifying user-driven requirements and concerns through an exploratory co-design approach, this study offers practical guidance for developing AI agents that can bridge accessibility gaps in automated service environments. These findings have broader implications for digital inclusion, suggesting that conversational AI can reduce cognitive and accessibility barriers and empower older adults and people with visual impairments to participate more confidently in an increasingly digital society.

References

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