GlassMessaging

Supporting Messaging Needs During Daily Activities Using OST-HMDs

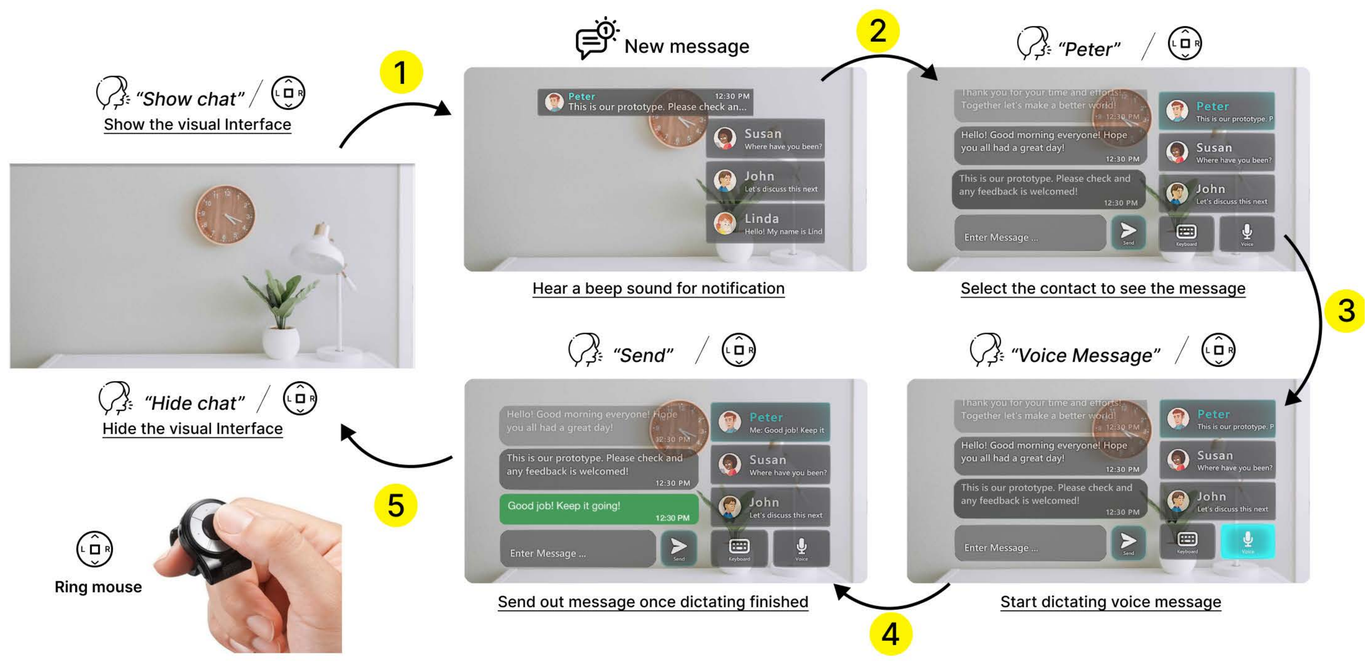
Nuwan Janaka, Jie Gao, Lin Zhu, Shengdong Zhao, Lan Lyu, Peisen Xu, Maximilian Nabokow, Silang Wang, and Yanch Ong

NUS-HCI Lab, National University of Singapore

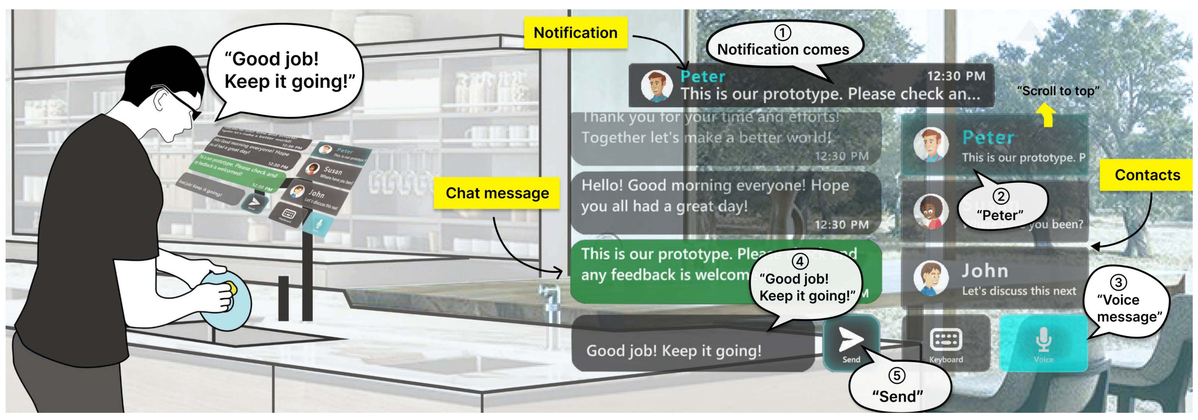
INTRODUCTION

The act of communicating with others during routine daily tasks is both common and intuitive for individuals. However, the hands and eyes-engaged nature of present digital messaging applications makes it difficult to message someone amidst such activities. We introduce ***GlassMessaging***, a messaging application designed for **Optical See-Through Head-Mounted Displays** (OST-HMDs, OHMD, AR smart glasses). It facilitates messaging through both voice and gesture inputs, catering to situations where hands and eyes are preoccupied. *GlassMessaging* was iteratively developed through a formative study identifying current messaging behaviors and challenges in common multitasking with messaging scenarios.

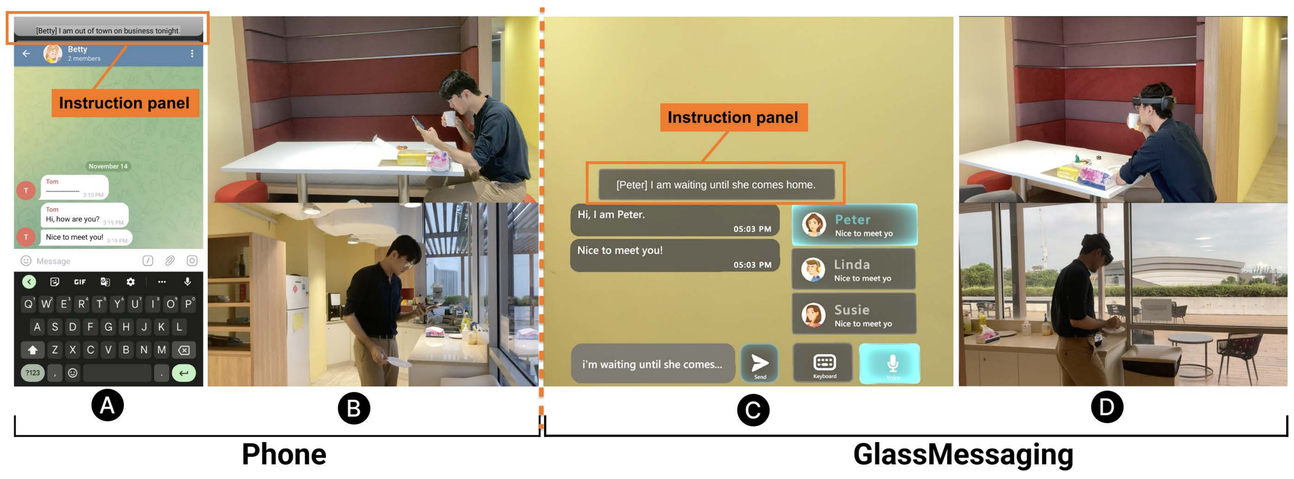
INTERACTIONS & COMPARATIVE STUDY



Steps for sending a message after receiving a notification.

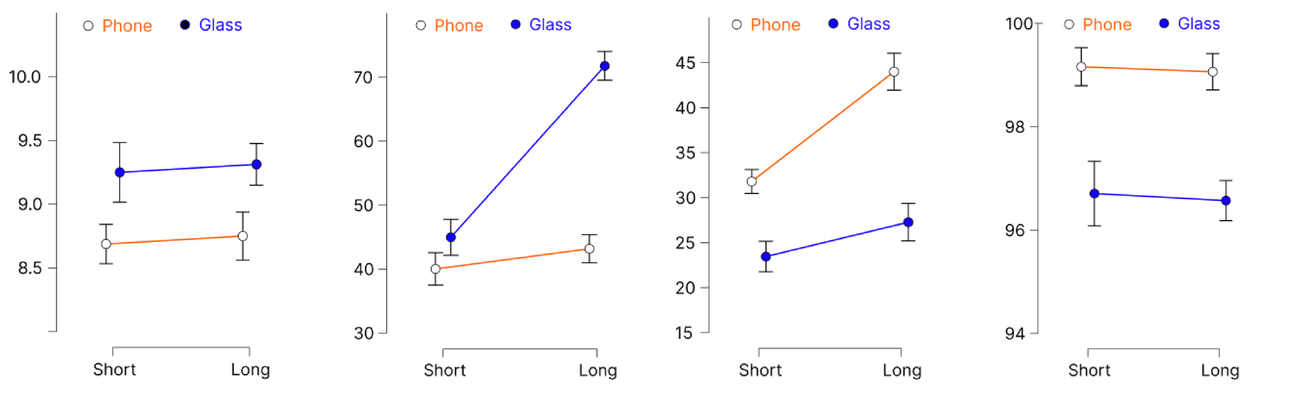


Interactions in GlassMessaging.



Apparatus including the Instruction Panel. (A) Telegram app with the Instruction Panel; (B) A participant uses Phone to perform messaging while eating (top) and cleaning (bottom); (C) GlassMessaging interface; (D) A participant uses GlassMessaging to perform messaging task while eating (top) and cleaning (bottom).

- **Primary Task**: Walk to eat snacks in the kitchen
- **Secondary task**: Text message to a given contact
  - Message length (Short, Long)



TAKEAWAYS

- *GlassMessaging* allows more messaging opportunities, faster responses, and increased texting speed due to its hands-free, wearable nature, and coordinated multi-modal input.
  - Text editing support is needed to increase accuracy.
- Voice input is more natural with OST-HMD than on Phone for messaging.
- *GlassMessaging* has the potential to improve social connections.

We **envision** messaging on OST-HMDs as the forth-coming communication frontier, acting as a valuable adjunct to mobile phones during multitasking and driven forward by technological progress. To realize this vision, it is essential to re-conceptualize communication interfaces that align with OST-HMD affordance and to devise strategies to overcome potential situational challenges (e.g., privacy and social concerns with voice).

https://github.com/NUS-HCILab/GlassMessaging

www.nus-hci.org

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