Enhancing Communication Between Senior People And Their Family By TUI Product Design

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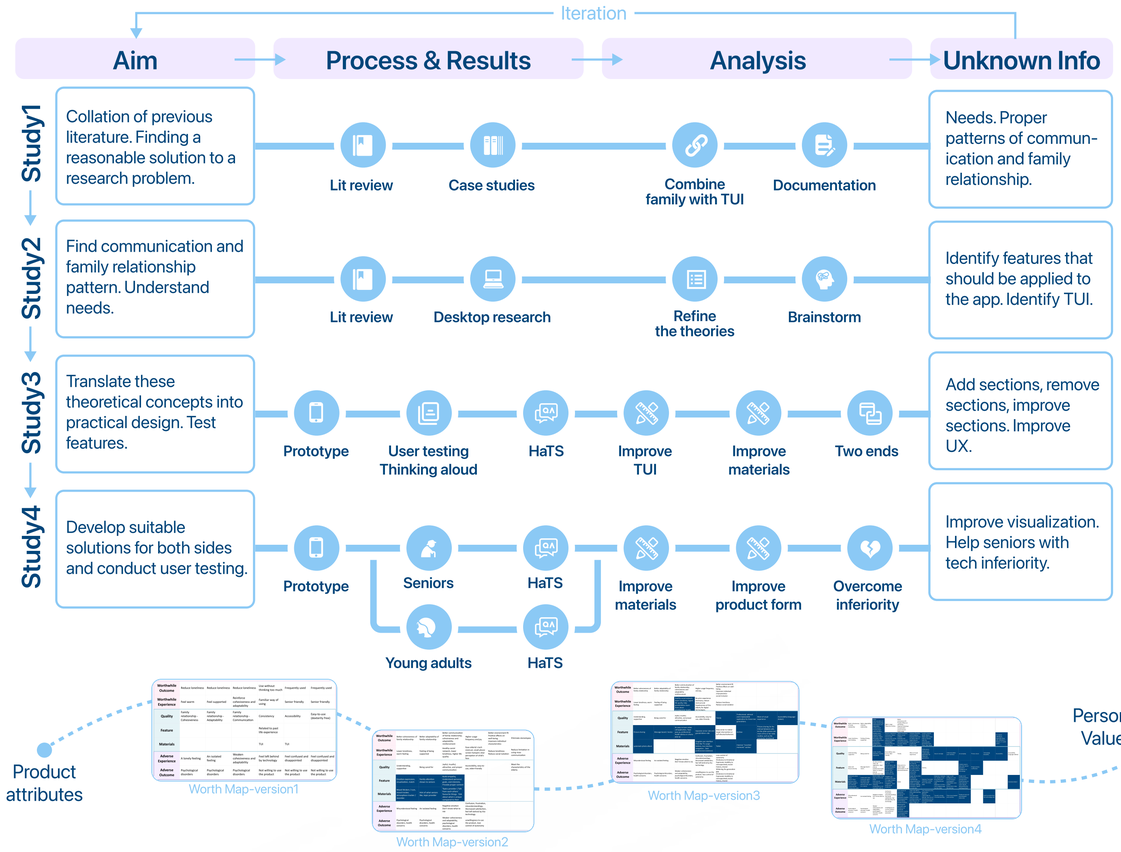
Abstract

This study examines the issue of reducing loneliness among older adults by facilitating joyful communication between grandparents and grandchildren in order to improve family relationships. The concept of **tangible user interface (TUI)** was incorporated into the design to build an easy-to-learn product interaction system for older adults in the context of **Information and Communication Technology (ICT)**. This paper adopts the **Research through Design (RtD)** and **Worth-Centred Design (WCD)** methodologies, using prototyping, user testing and **Happiness Tracking Survey (HaTS)** as the user research methods. The conclusions show that this design can improve the joy of online communication between grandparents and grandchildren in Chinese family.

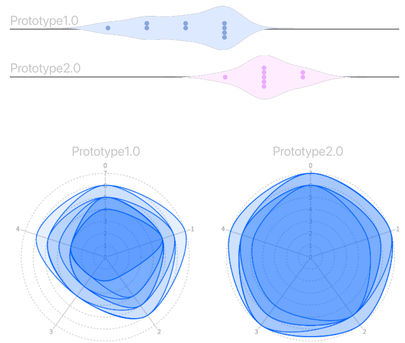
Introduction

Studies have shown that the degree of **family functioning** is negatively correlated with loneliness among the elderly. As a core element of family functioning, **communication** has an unignorable role in enhancing family relationships. (Zhou, Wang and Yu, 2016) Furthermore, many studies have neglected to investigate the specific recipients of communication at the other end of the ICT spectrum for older individuals, highlighting the need for explicit definitions that bear significance for practical design, especially **in the context of Chinese studies**. In order to balance the relationship between unskilled technology operation and effective communication among older adults, Tangible User Interface (TUI), was incorporated into the subsequent interaction design. This study adopted the research methodologies of Research through design (RtD) and Worth-Centred Design (WCD). Through **4 iterations** of the design process, the product system was shown to positively enhance online communication between grandparents and grandchildren in Chinese family.

Methodologies & Studies



Results & Conclusion



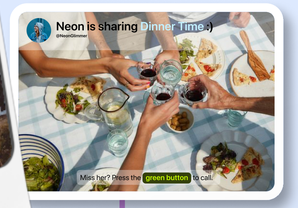
Comparison with the data from the HaTS form showed that Prototype 2.0 demonstrated a significant improvement, both in terms of satisfaction and desire to recommend, compared to Prototype 1.0. This improvement can be explained in terms of five dimensions: ease of use, technical reliability, functionality, visual appeal and perceived speed. In addition, during in-depth interviews, all participants expressed satisfaction with features and materials, with only a few interaction details needing to be adjusted.
In summary, the 4 rounds of the study demonstrated that the product as a whole meets the needs of grandparents and grandchildren, providing them with joyful ways of communicating and promoting good family relationships. Future research could continue this approach and further explore issues such as the rationality of the product form and the technological inferiority complex of older adults.

DESIGN

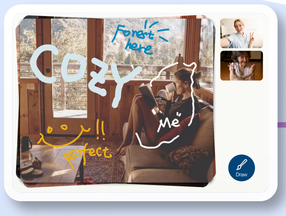
For Grandparents

One function of the elderly product is making and receiving calls. During other times, it functions as a digital photo frame, receiving synchronized photos from the grandchildren's end. It allows viewing, sharing, and experiencing moments from various children, similar to operating a television. The grandchildren's software enables editing and sharing content, making video calls, managing, and viewing topic collections.

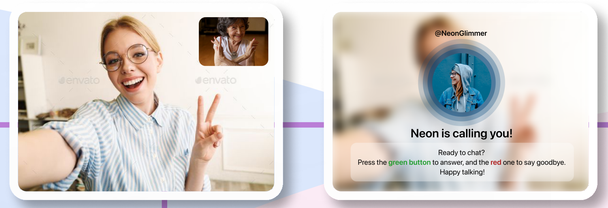
Photo sharing



Co-editing



Video call

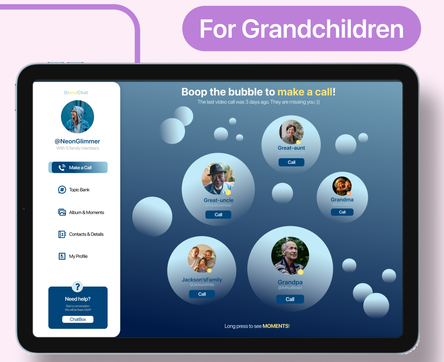


Album and Moments

Topic Collection

Contacts Manage

For Grandchildren



Video call