Development and Usability Testing of a Digital Memory Notebook

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Introduction

- Prior studies suggest that a memory notebook can be helpful in assisting individuals with scheduling and completing everyday activities
- Study goal: Develop a tablet-based user-friendly digital memory notebook (DMN) that will:
  - Assist individuals in scheduling, completing, and logging everyday activities
  - Help compensate for declines in cognition
  - Function both as a standalone tool and as part of a smart environment system

Materials and Procedures

- Participants completed three types of tasks after a brief tutorial of the app
- Measures:
  - Technology Use and Comfort Questionnaire
  - Scheduling Tool Use Questionnaire
  - Post-Study System Usability Questionnaire (PSSUQ)
  - After Scenario Questionnaire (ASQ)
  - Open-ended prompts

Methods

Participants

- 8 older adults (Age: M = 71.25 years, SD = 13.13; Education: M = 17.13 years, SD = 2.80)
- 87.5% of participants said they would use the app if it was available

Results

- 75% of participants reported using technology and scheduling tools at least 3-5 times per week
- 87.5% of participants supported by the National Institute on Aging of the National Institutes of Health under Grant No. #R25 AG046114.

User Interface (UI) Design Considerations

- Font size and type
- Color scheme
- Button labels
- Date and time selection interface

Results

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- 87.5% of participants said they would use the app if it was available

Conclusions and Future Work

- Overall, participants were very satisfied with the app and provided valuable feedback about possible modifications for future development
- Participants were satisfied with the UI design aspects chosen by our team
- Future directions for the project include:
  - Translation of app into iOS format
  - Integration into smart environments to use sensor data to populate and track DMN activities, and deliver reminders/prompts at ideal times
  - Distribution of app via iOS and Android app stores for broad use in the general population

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Based on open-ended feedback, the following changes are recommended for the second iteration:

- Adding alarms and prompts for events
- Implementing specific buttons for task title and description in the Add Event dialogue page
- Increasing salience of important buttons (i.e., “Save”) by changing color or animation
- Adding a “Notes” page as a fourth primary function