Designing Home Care Reminder Systems: Lessons Learned Through Co-Design with Older Users

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Context: Technology for Health and Wellbeing
Reminder Systems

"By the time you're eighty years old
you've learned everything.
You only have to remember it!"

How should electronic reminders be delivered?

How can reminder systems be configured by end users?

www.multimemohome.com
Understanding the Reminder Design Space

- What do people need reminders for?
- Why do people forget?
- How do people currently remember?
- How would users like to receive reminders?

Overview of Development

Survey (N=372) → Focus Groups → Home Tours → Co-Design → Personalisable Reminder apps → Empirical Studies → Home Trials
Understanding the Reminder Design Space

- What do people need reminders for?
- Why do people forget?
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- How would users would like to receive reminders?


Some Findings
## Categorising Reminders People Want

<table>
<thead>
<tr>
<th>Main Categories</th>
<th>Popular Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental controls</strong></td>
<td>Closing windows and doors</td>
</tr>
<tr>
<td><strong>Daily chores</strong></td>
<td>Unloading the washing machine</td>
</tr>
<tr>
<td><strong>Weekly chores</strong></td>
<td>Putting out the bins</td>
</tr>
<tr>
<td><strong>Less frequent events</strong></td>
<td>Appointments</td>
</tr>
<tr>
<td><strong>Objects</strong></td>
<td>Keys, Bus passes (where / taking them)</td>
</tr>
<tr>
<td><strong>Care regime</strong></td>
<td>Taking Medication</td>
</tr>
</tbody>
</table>

Provide an appropriate choice of modalities
Understanding People and Reminding at Home

Understand physical and social context

Personalisation is key
Configuration/Personalisation

How do people want to set reminders?

How do people want to change reminders later as they use the system in practice?

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Co-Design Sessions
Design Sessions

- 4 x 90 min sessions with older users
  - (N=3, N=2, N=6, N=4)
- 2 x 90 min sessions with users with sensory impairments
  - N=7 (Hearing Impaired), N=3 (Visually Impaired)

➢ Evaluation of existing prototypes
➢ Co-design and re-design

Prototypes

![Prototypes Image]
Prototypes

Analysis

Chore reminders

Volume
Speed
Gender
Speakers:
1 2 3
CHANGING REMINDERS – configuration/personalisation

If you were going to change a reminder, how would you want to change them?

Analysis

Thematic analysis of:

Observation Notes
Transcripts
Photos
Original Coding
How Should Reminders Be Delivered?

It Depends........

- personal preference
- impairments and abilities
- available devices
- importance of reminder
- social context

➢ Provide Choice
How Should Reminders Be Configured?

It Depends........

- Technical ability
- System decisions
- User decisions
- Behaviours and choices over time
- Recommendations

➢ Provide personalisation options

Co-design as a Process

- Easier to recruit users
- Easier to engage users
- Live Coding is useful
- Prototypes provide focus and freedom
- Allows evaluation and design
- Can increase ownership and buy in
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http://MultiMemoHome.com