



# Guiding People with Dementia Through Simple Tasks – **What Formats Work Best and Why?**

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# The challenge

- **People with dementia can struggle to complete everyday tasks**
- Cannot string known steps together
- Technology may provide prompts to keep a person “on track”
- Solving this using technology could:
  - Improve quality of life and confidence
  - Allow independent activity
  - Benefit the person with dementia and carer

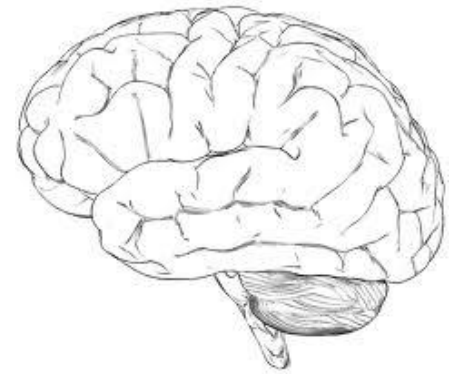


# About dementia

- Various types of brain disease
- Progressive loss of short-term memory

*“What did I come up here for?”*

- Long-term memory can remain intact
- Also, confusion and time orientation problems



# The task sequencing project

## Who

- Research project (Dunhill Medical Trust)
- User Interface Engineer + Occupational Therapist

## What

- Observing (and recording) people with dementia carrying out tasks **in their own homes**, with a carer present
- Rolling recruitment up to ten people
- Two standard tasks
- Some individual tasks for extra insight

# Envelope task

## Choice of task

Tidy, portable, unisex, 3-step, repeatable, not childish, understandable, familiar items

## Steps

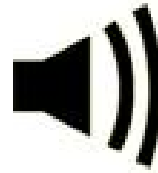
1. Take the card and sign it with your name
2. Put a card in the envelope
3. Put a stamp on the envelope

Specific steps highlight any “improvised” actions

# Envelope task

## Prompts

- Text, photos, video clips, audio
- Displayed on an Asus Eee-top



Take the card  
and  
sign it with your name

# Set up

- Explanation of the task prompting, then:

*“I’m going to set you a task to do; see how you get on.”*

*“Just follow the instructions on the screen”*

# Comparing formats

## **Qualitative**

- Observations (from recordings) allow detailed understanding

## **Quantitative**

- A tailored scoring system allows direct ranking
- (but not direct score comparison between people)

# Scoring system

## Scoring questions

Did they understand what each instruction was?

Did they understand how to act on each instruction?

Did they **start** each step using only the instruction?

Did they **complete** each step using only the instruction?

Did they seek reassurance?

Did they show diversionary behaviour?

Did they get distracted by the detail of the task?

Overall time to complete

How many times did the researchers intervene?

Observations

- “Always”
- “Sometimes”
- “Never”
- 0, 1, 2 depending on sense
- Scored per step

# Results so far - qualitative

Format	Design approach	Findings
<b>Text</b>	High contrast, clauses, large print	Clear, unambiguous, easy to “digest”
<b>Audio</b>	Identical content to text prompts (played once)	Easy to take in, clear, unambiguous, but transient and could be missed
<b>Picture</b>	Photo of action being performed (head camera view) with same props	Not perceived as “prompts” or “instructions”. Hard to interpret, hard to convey some actions
<b>Video</b>	Short clip as per picture prompt (played once)	Does not feel like prompts; still image at end can be misleading; transient information

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# Ranked formats so far

Ranking based on scores for 3 people:

Person	Best format	Second best format
A	Text	Video/Picture*
B	Audio	Text
I	Audio	Text

\* No audio possible (hearing impairment)

Text and audio generally scores significantly higher than picture and video so far

# Further tasks

## Portable CD player task

- Minimises task-specific findings – success depends on type of action



## Individual tasks

- Further insight into attention and a range of actions
- Individually meaningful
- Setting up Wii tennis; emptying a dishwasher; fetching a meal; putting on music
- Male/female orientated tasks!

Dry the tops of the mugs  
and put them away

Touch for  
next step

# Next steps

## Complete testing of Envelope task

- Six complete sets of scored data for ranking

## Complete testing of CD Player task

- Six complete sets of scored data for ranking

## Combining formats

- Early tests show the potential for combining text and audio

## Self- forwarding

- Choosing when to move to the next step



Thank you

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