

Conversational Agents for People with Cognitive Disabilities

Clayton Lewis
Nikhil Jain
Preethi Vijay Lilly

People with cognitive disabilities use conversational agent technology in typical ways (music, weather, ...)

Applications created by *caregivers* can be more consequential:

- meds reminder allowed a person to move to independent living
- morning routine reminder eliminated the need for daily assistance

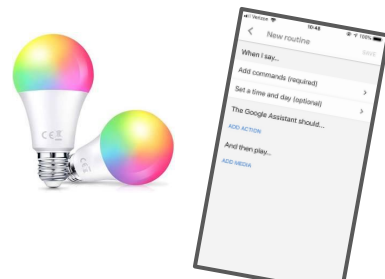
BUT lay caregivers *do not feel able* to set up these kinds of applications.

“Alexa is a magic box we can’t open.”
--parent caregiver



Cognitive Walkthrough analyses of Alexa, Apple Homekit, and Google Home for a sample use case all point to likely problems for lay caregivers.

Example:
Controlling a lamp by command and by schedule require different approaches... *but* Google assistant requires a command when creating a scheduled operation.



Remedy?

- Create *Wizard tool* to guide configuration process
- Use Problem-Centered Design process
- Design alternatives:
 - NLP
 - problem tree
 - editable declarative representation
 - full automation of configuration process, or guidance for user actions?



Generic Reminder-
(You want reminder by voice)
What is your reminder message? []
What time should it trigger? []
Is this a repeating reminder?
Should it be played everyday?
Should it be played only on weekends?
Should it be played only on weekdays?
Custom?
Please select the days it should be played.
Is this one-time reminder?
Please select the date for the reminder.