

J. BAUCHET, V. RIALLE. **Coping strategies as inspiration for the design of assistive technologies for cognition: An exploratory study.** *Gerontechnology* 2014;13(2):166; doi:10.4017/gt.2014.13.02.344.00 **Purpose** Designing assistive technologies for cognition (ATC) is challenging. As part of the European project, MyGuardian (Ambient Assisted Living programme 2012-2015), we are investigating an experience-centered design approach¹. Our objective is to understand how people with mild cognitive impairments (MCI) and their caregivers experience and cope with impairments in their daily lives (e.g., in outdoor activities), and to investigate the role ATCs could play in these situations. **Method** Three people with MCI (CDR=0.5, mean age=73) and 3 informal caregivers (2 spouses, 1 son, mean age=63) were interviewed in order to A) explore the participants' outdoor life space, activities, difficulties and related coping strategies (*Figure 1a*), and B) illustrate the situations where the technology - Smartphone with dedicated services - could take part (*Figure 1b*)^{2,3}. We got feedback about the ATC perceived usefulness and intention to use⁴. Usability was not addressed at this stage. **Results & Discussion** Our investigation of coping strategies for dealing with mild cognitive impairment demonstrates that people with MCI believe new devices can aid them in everyday life. Three coexisting main roles were identified: (i) Provide support for the application of problem-focused strategies (e.g. writing information to remember it). But intention to use is low: "I have used pieces of paper for years, why should I use a Smartphone?" (ii) Improve the strategy, like automatically transferring calls when caregivers are not available. This proposition was perceived as useful and more participants were keen to use it. (iii) Allow those with MCI to participate in tasks without the caregiver, thereby improving their self-confidence. For emotion-focused strategies, identification of roles is less obvious and highlights the limits of the technological assistance and the challenges of ATC acceptance. Future work will go into this topic in depth for the identification of acceptable ATC design patterns.

References

1. Wright P, McCarthy J. Synthesis Lectures on Human-Centered Informatics 2010;3(1):1-123; doi:10.2200/S00229ED1V01Y201003HCI009
2. Robinson L, Brittain K, Lindsay S, Jackson D, Olivier P. *International Psychogeriatrics* 2009;21(3):494-502; doi:10.1017/S1041610209008448
3. Lindsay S, Jackson, D, Schofield G, Olivier P. *Proceedings of the 2012 ACM annual conference on Human Factors in Computing Systems* 2012; pp 1199-1208; doi:10.1145/2207676.2208570
4. Renaud K, Biljon J van. *Proceedings of the 2008 annual research conference of the South African Institute of Computer Scientists and Information Technologists on IT research in developing countries riding the wave of technology* 2008; pp 210-219; doi:10.1145/1456659.1456684

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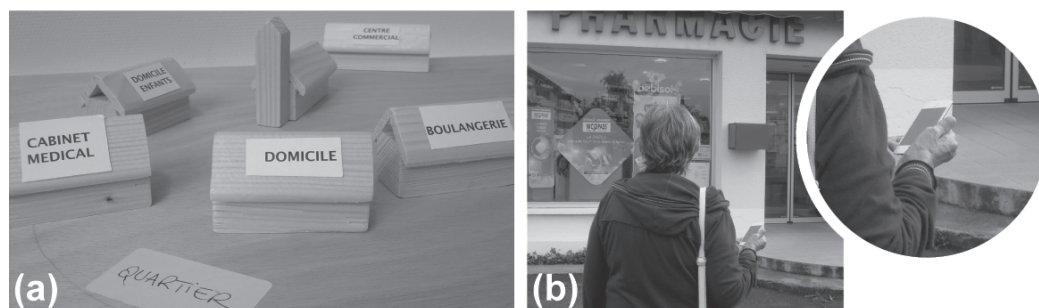


Figure 1. (a) Small wood houses as intermediary objects to explore the outdoor life space; (b) storyboard featuring the ATC, with no details regarding its functionalities to feed the debate about potential ATC functionalities usefulness (invisible design technique³)