Exploring changing information needs with cognitive decline

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Abstract

This position statement briefly describes my research plans for exploring the changing information needs associated with cognitive decline. In the participant bio, I outline my prior PIM research focus.

Author Keywords

Changing information needs; cognitive decline; calendar.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Position statement

I have done research in the past with persons with Alzheimer's Disease (PwAD) and their caregivers and would like to continue research in this area. Previously, I investigated repetitive questioning behaviour by PwAD to their caregivers [1]. Repetitive questioning is an early indicator of dementia and constantly answering questions can be a burden to caregivers.

My goal was to see if we could develop a technological intervention that might lessen the burden of question answering. I learned a great deal and about the types of information PwAD were seeking during their questioning. I also learned that their interaction

abilities were almost non-existent; PwAD were for the most part passive consumers of technology and had given up on interactions such as changing the channel on the radio or television.

My findings indicate that information needs change as cognitive abilities decline. Those in the early stages of AD appear to require much more detailed information about scheduled activities than those less cognitively impaired. For example, while somebody without a memory impairment may be able to jot down "Dr. Smith, 2pm" in their calendar, a PwAD might need to have information about the role of Dr. Smith, why they were visiting Dr. Smith, where to find Dr. Smith, how to get to the appointment and possibly other information such as when to leave and what to wear. One barrier to providing this type of information is that caregivers are often overloaded and may not have the time to generate such detailed content.

Similarly, a decline in executive functioning could change the information required in to-do lists. Those without a cognitive impairment may use to-do lists as reminders, noting high level activities (i.e., make lunch) that should be accomplished. However, PwAD need those activities to be broken down into ordered steps in order to accomplish their tasks. Additionally, they may need to be reminded to look at the to-do list at the appropriate time.

As I move forward in my research, I would like to explore more fully how information needs and interaction abilities change over time by also interviewing individuals with cognitive abilities consistent with normal aging (i.e., some decline in memory) and those with mild cognitive impairment. In particular, I am interested in examining whether there a need for a specialized solution solely targeted to PwAD or whether a more general solution could be personalized and adapted to the changing requirements of an elderly individual as their cognitive and physical abilities deteriorate. Such a solution could gather detailed information when users are able to generate it and then adapt the presentation of that information as needs and abilities change over time.

Biography

Kirstie Hawkey has been a member of the PIM community since PIM 2006. Her earlier PIM related research focused on privacy needs associated with personal information activities and data during collaboration and information sharing.

References

Hawkey, K., Inkpen, K.M., Rockwood, K., McAllister, M. and Slonim, J.(2005) Requirements Gathering with Alzheimer's Patients and Caregivers. In proceedings of the Seventh International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS). Baltimore, MD, USA, October 2005, 142-149. http://doi.acm.org/10.1145/1090785.1090812