

S. SUIJKERBUIJK, C.C. CORNELISSE, J. VAN DER LEEUW, H.H. NAP. **User evaluation of a navigation application for people with Mild Cognitive Impairment (MCI): A two months test in the Netherlands and Spain.** *Gerontechnology* 2016;15(suppl):117s; doi:10.4017/gt.2016.15.s.806.00 **Purpose** An end-user evaluation of the Happy Walker (HW) prototype was performed to gather an insight in the accessibility and usefulness of the navigation application. The HW, containing several smartphone apps, is a system that facilitates an intuitive and contextualized set of mobility enhancement services for older adults and people with MCI. The services include Happy Preparing; making appointments, setting reminders and receiving suggestions for activities, Happy Travel; a navigational support during walking (with the possibility of notifications about deviation from the route) and using public transportation, Happy Memories; creating pictures which are automatically linked to activities. **Method** The end-user evaluation of the Happy Walker started with an observational interview while executing specific HW tasks, including measurements of the participants' cognitive abilities by means of the Memory Assessment Clinic Self-Rating Scale (MAC-S)¹ and their experiences with using technology. During a two month period the participants were invited to test the Happy Walker prototype individually at home. After this individual testing, the researchers conducted a second observational interview. The IBM usability questionnaire², a heuristics evaluation³ and a diary study were used to evaluate the use of a prototype of HW. Two target groups were included; older people (target group 1, n=15, M_{age}=72.4, SD_{age}=8.0) and people with MCI (target group 2, n=12, M_{age}=69.8, SD_{age}=8.9). The evaluation was performed both in the Netherlands as well as in Spain. **Results: & Discussion** The results show that the language and icons used in the system are generally well understood by people in target group 1. Participants reported that most functionalities of HW were experienced as supportive during navigation tasks. In particular, informal caregivers of people in target group 2 indicated that it would be desirable to have a system as the HW to support their partners in living independently. Despite the positive outcomes of the end-user evaluation, frequent smartphone users reported limited added value of the total HW system. For less frequent smartphone users and people with MCI, a number of functionalities are too complex and need unnecessary interaction rounds and user input. The relatively high interface complexity of HW can hinder safe and successful navigation for the intended end-users. Participants from target group 2 showed more problems in understanding how to successfully use the HW system. From the study it appeared that it is difficult to design one application for these two different target groups. Within the target groups there are differences in abilities, interests and level of technology literacy. In conclusion, the HW prototype was too complex for people with MCI to use and it is recommended to keep user input for a smartphone application at a minimum level for this user group. The gathered insights are used in a follow-up design and evaluation round – HW Outstanding – to enhance the usability of HW for people with dementia.

References

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Figure 1. Index of Happy Walker application