

Y. SCHIKHOF (Convener). **From acceptance by end-users to added value for all stakeholders.** *Gerontechnology* 2012;11(2):238; doi:10.4017/gt.2012.11.02.046.00 **Participants:** A. ASTELL, A. CORDIA, and M. GOUMANS (all from The Netherlands) **ISSUE** Acceptance was the key to the success of many gerontechnology projects. Both the elderly and care professionals are end-users. However, their role in introducing new technology and the role of other stakeholders (such as housing corporations, local and national authorities, Medicare companies) differ greatly. Do we know whether they see added value in this technology? What can we learn from implementation of gerontechnology in practice? **CONTENT** The symposium will address four examples of the implementation of gerontechnology in practice. All these projects have been, or are being evaluated on the perceived (added) value of the technology. The symposium will focus on these findings **STRUCTURE** The symposium consists of the presentation and discussion of four projects in actual practice, situated in the Netherlands. (i) Screen-to-screen care with videophones in the Northern Netherlands: 'Het Friese Land', a home-care organization, has delivered screen-to-screen care to a group of by now 100 clients for over 10 years. The study at a University of Applied Sciences evaluates this care. (ii) The vital-link project in a Rotterdam community: videophones are installed in care apartments of senior citizens as part of a domotic system to make screen-to-screen care possible and also as a tool to support videocommunication and interaction between senior citizens and/or with family and relatives. Research at the Rotterdam University of Applied Sciences focuses on the use and perceived value of the videophones by the end users. (iii) Monitoring system at night¹: in communal homes for people with dementia a monitoring system was implemented in order to support the professionals in their work and prevent nightly incidents. The Rotterdam University of Applied Sciences was involved in the design, implementation, and evaluation of the monitoring system. (iv) Touch-screen applications for people with dementia. This is a collaborative project of the Rotterdam University of Applied Sciences with St. Andrews University and others. Games on the iPad are designed and tested to be played by people with dementia independently. From research² we know that it is possible to stimulate self-esteem in people with dementia by playing individual (computer) games. The research investigates if the games contribute to the quality of life of people with dementia and how care professionals can use information from these play sessions in their care planning. **CONCLUSION** In this symposium our aim is to identify and discuss the crucial factors to make a better fit between the needs and values of care professionals and older persons and the acceptance and positive valuing of technological solutions.

References

- Schikhof Y, Mulder I, Choenni S. Who will watch (over) me? Humane monitoring in dementia care. *International Journal of Human-Computer Studies* 2010;68(6):410-422; doi:10.1016/j.ijhcs.2010.02.002
- Astell AJ, Ellis MP, Bernardi L, Alm N, Dye R, Gowans G, Campbell J. Using a touch screen computer to support relationships between people with dementia and caregivers. *Interacting with Computers* 2010;22(4):267-275; doi:10.1016/j.intcom.2010.03.003

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M. GOUMANS, M. BUSSMANN, S. HUPKENS, J. MULDER, G. WELVAARD, Y. SCHIKHOF. **Videophones in two different home settings to support social interaction and community participation and to improve care.** *Gerontechnology* 2012;11(2):238-239; doi:10.4017/gt.2012.11.02.383.00 **Purpose** Care domotics and ICT related to care is mostly targeted at improving the care process. Common examples are screen-to screen care and e-health applications. In this research the primary purpose was to support social interaction and community participation of older persons. The secondary purpose was to improve the quality and efficiency of the care process. The research goal was to study the acceptance, value, and adaptation of the videophone in relation to the two project goals. A video phone was chosen as the interface; the type was determined by older persons in a testing panel. Reasons for choosing a videophone were: the expected low threshold for acceptance of the interface, the low rate of computer use in the neighbourhood, and the low socio-

economic status of the area. **Method** The innovation project was conducted in the city of Rotterdam in two new apartment buildings for older persons, in an area with a low socio-economic status. One building has 99 apartments for older persons who live independently. The other building has 54 apartments for older persons who receive care and support in their daily living. In all apartments the videophone is standard equipment. In the semi-residential setting the videophone is integrated in the care domotics system. A mixed-method design was used for data gathering, consisting of observations and visual ethnography. Focus group discussions and semi-structured interviews with older persons, caregivers, and social workers were used to evaluate the implementation process and to research the acceptance, value and adaptation. The social interaction and community participation was measured by questionnaires. **Results & Discussion** The independently living older persons did not accept the videophone. The older persons, who were mostly active, did express that at this moment in their life they did not see the value of an extra opportunity for communication to relatives or a care giver. The older persons living in the semi-residential setting are still being followed by our research. They use the videophone for opening the door and for unplanned and planned care. The use and value of the interface for communication and community participation is not yet visible. Results will be available in May 2012. The research will come up with concrete recommendations for improvements in the implementation and valuing process of ICT in home (care) settings, especially when the goal is to move beyond only screen to screen care to support independent living, social interaction and community participation. The question is how to continuously involve the users in the process from initiation until end. Another question is how to match the rather slow construction process of apartment buildings with fast-moving ICT (interface) innovations.

References:

1. Velde F van der, Cihangir S, Borghans HJ. E-health and domotica in de zorg: kans of risico. Utrecht: Prisma; 2008
2. Greenhalgh T, Robert G, MacFarlane F, Bate P, Kyriakidou O. Diffusion of Innovations in Service Organizations: Systematic Review and Recommendations. *The Milbank Quarterly* 2004;82(4):581-629; doi:10.1111/j.0887-378X.2004.00325.x

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Y. SCHIKHOF, A.L. CORDIA. **Positive valuing of a monitoring system in dementia care.** *Gerontechnology* 2012;11(2):239-240; doi:10.4017/gt.2012.11.02.370.00

Purpose The purpose of this study is to evaluate the implementation of a new monitoring system in residential homes for people with dementia. The system supports the care professionals in their work and helps to prevent nightly incidents. The latest generation of network IP-cameras were connected to a variety of sensors that respond to presence, activity, and sounds. When the sensors are activated by an event, live images and sound are sent by WiFi to the mobile Personal Digital Assistant (PDA) of the care professional on duty. The camera in the bedroom of the resident can then be steered by the carer using the PDA touch screen if necessary. Thus the care professional can make an assessment if the resident needs immediate assistance. **Method** In the first year, after approximately nine months of working with the new system, a semi-structured group interview was conducted with the care professionals concerned. The professionals also interacted with each other. Topics that were discussed were the advantages and disadvantages of the system, the effects on their jobs, on the ability to work, workload issues, the values which were used in designing the system, how to get used to new technology, and possible improvements to the system. **Results & Discussion** When discussing the topics, the care professionals said they saw only advantages to using the monitoring system. They positively evaluated working with the new system despite the fact that, when introduced to the technology, they thought it would be intimidating to work with a PDA or to install a camera. In fact, their ability to work improved because they experienced less stress and their workload was reduced. They did not have to do rounds to check on high-risk residents and only

needed to visit when, for instance, a resident was not feeling well. The care professionals trusted the system and liked the fact that they could decide themselves what to do, based on the information shown on the PDA and their professional experience. They recognized and affirmed values like safety and autonomy, as used in the Value Sensitive Design method¹ (VSD). In this case, the values, which were identified early and were incorporated in the new system and work method, contributed to the positive evaluation. This is why focusing on needs and values of care professionals could be an important factor in the positive valuing of ICT solutions.

References

1. Schikhof Y, Mulder I, Choenni S. Who will watch (over) me? Humane monitoring in dementia care. *International Journal of Human-Computer Studies* 2010;68(6):410-422; doi:10.1016/j.ijhcs.2010.02.002

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A.J. ASTELL, M.P. ELLIS, N. ALM, R. DYE, G. GOWANS. **Supporting relationships between people with dementia and caregivers with touch screen technology.** *Gerontechnology* 2012;11(2):240; doi:10.4017/gt.2012.11.02.374.00

Purpose The purpose of this study was to examine the impact of CIRCA¹, an interactive touch screen system comprising a database of photographs, music and video-clips intended to spark reminiscence and prompt conversation, on people with dementia, formal caregivers and the relationship between them. **Method** A within-participants design with two conditions – CIRCA or traditional reminiscence materials – was used. Eleven people with a diagnosis of probable Alzheimer's disease and eleven care staff employed in three care facilities for people with dementia were recruited. The participants were put into pairs and each pair participated in two reminiscence sessions, one CIRCA and one traditional, in a randomised order. All sessions were video recorded and lasted approximately 15 minutes each. The sessions were transcribed and the videos were analysed using the ObserverTM video analysis software. **Results & Discussion** The data were divided into verbal and nonverbal measures. The verbal data indicated that in the CIRCA sessions the caregivers encouraged the people with dementia to make choices and lead the interaction more than when they used traditional reminiscence materials. The nonverbal analysis suggested that there was more shared exploration of the stimuli and joint laughter in CIRCA sessions compared with those sessions using traditional reminiscence materials. Taken together, these results suggest that both people with dementia and caregivers found interacting with the touchscreen to explore CIRCA an engaging and enjoyable activity. The shared nature of the activity supported the development of an equal conversation between two parties, redressing the imbalance of most interactions that take place in dementia care. All participants expressed satisfaction with the sessions, which was supported by examination of their nonverbal behaviour during the interactions. CIRCA appears to have advantages over traditional reminiscence methods in that it does not rely on caregivers to find the time to gather together reminiscence stimuli and lead the conversation. By exploring and discovering CIRCA-contents together, caregivers report that they find out more about the people with dementia they care for, which changes their perceptions of them and strengthens their relationships.

References

1. Alm N, Astell A, Ellis M, Dye R, Gowans G, Campbell J. A cognitive prosthesis and communication support for people with dementia. *Neuropsychological Rehabilitation* 2004;14(1-2):117-134; doi:10.1080/09602010343000147

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Y. SCHIKHOF, J. DE LANGE, M. GOUMANS. **In touch: Touch screen applications for people with dementia.** *Gerontechnology* 2012;11(2):240-241; doi:10.4017/gt.2012.11.02.369.00

Purpose In this project we targeted the needs of care professionals for games that can be played independently and individually by people with dementia. It should be possible to develop individual games for

the iPad, given the favourable response of this new, user friendly interface, also in dementia care¹. During the preparation phase of this project, professionals of participating healthcare organizations expressed the needs and wish for innovation of care for a changing target group. They requested a tool with different applications that can be customized and updated. Health care professionals want to know if playing games enables people with dementia to do meaningful activities on their own; activities that will give them pleasure and a sense of achievement. Care professionals also want to know if game-playing and data-logging can provide them with useful feedback. If this is the case, game-playing can be dually beneficial, i.e. for the people with dementia and for the caregivers. The latter aspect can also lead to future research. **Method** We used exploratory research, with a mix of qualitative methods. In the preparation phase, students interviewed twenty persons with dementia about their favourite activities and interests. The results were also discussed in an invitational conference with project partners and this resulted in ideas for concept games. The Rotterdam University of Applied Sciences is developing a number of games, based on the expertise of others²⁻³ and in cooperation with the St. Andrews University. Existing well-liked apps, mostly aimed at children, and the prototypes of new games shall be tested in three large health care organizations for the elderly in Rotterdam, in both day care and residential care settings. Observation, interviews, and video analysis shall be used as methods to evaluate the impact on residents' quality of life and care. Furthermore, a new cover for the touch screen, adapted for the use by people with dementia, is being designed and tested. **Results & Discussion** The outcome of the interviews, combined with the experience in the United Kingdom, led to the following selection of themes for concept games: pets, the outdoors, hobbies, sports, and shopping. The first experiences of designing the new games and the new iPad cover shall be shared in the symposium. The indirect value-added benefits of touch screen technology to person-centered care, communication between residents, staff and others and a happier environment for people with dementia can also be discussed.

References

1. Upton D, Upton P, Jones T, Jutla K, Brooker D. Evaluation of the impact of touch screen technology on people with dementia and their carers within care home settings; 2011; www.aliveactivities.org; retrieved February 1, 2012.
2. Rijn H van, Hoof J van, Stappers PJ. Designing leisure products for people with dementia: developing "the Chitchatters" game. *American Journal of Alzheimer's Disease and Other Dementias* 2010;25(1):74-89; doi:10.1177/1533317509333039
3. IJsselstein W, Nap HH, Kort Y de, Poels K. Digital game design for elderly users. *Proceedings of the 2007 Conference on Future Play, Toronto, Canada; 2007; pp 17-22*

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