

use our discussion to flesh out an agenda for an STS of aging. This agenda revolves around the poles 'images of aging' and Gerontechnology.

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Keywords: science and technology studies, gerontechnology, usership, socio-structural lag.

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S. PERÄLÄ, M. ÄMMÄLÄ, R. LATVALA, K. MÄKELÄ. *Location based technology for memory impaired elderly. Gerontechnology* 2010;9(2):242; doi:10.4017/gt.2010.09.02.274.00 **Purpose** The population of Finland is 5.3 million with 120,000 persons diagnosed with memory impairment and 13,000 new cases diagnosed yearly¹. Of these, 60% are caused by Alzheimer's disease; 15-20% are due to vascular diseases, 10-15% due to Lewy Body Disease (LBD) and less than five per cent due to frontotemporal dementia (FTD)^{2,3}. The aim of this study was to investigate location based technologies suitable for use by elderly persons with memory impairment that are prone to wandering. We studied several devices taking into consideration overall safety aspects of independent living. **Method** This study was carried out in the Seinäjoki region of Finland; the study commenced in March, 2008 and concluded in 2009. A total of 32 persons (13 men and 19 women) suffering from mild to severe dementia participated. They ranged in age from 66 to 90 (mean=81 years). All were living at home either alone or with a caretaker (spouse or children). All participants underwent a mental status examination (CDR, MMSE and GDF-FAST) prior to the intervention⁴. At the beginning of the study 15 were diagnosed with mild stage memory impairment, 13 with moderate and four with severe memory impairment. The location based technologies tested were divided into three types: those that operated within the home, devices used in close proximity to the home (for example, in the garden), and devices for use outdoors at arbitrary distances from the home. **Result & Discussion** A total of 23 individual devices were installed (10 door alarm systems, 10 GPS or RF based location devices, 2 GSM camera systems, and 1 short range RF communications device). In 9 cases, location based technology could not be installed due to a variety of reasons: permission was not granted by elderly person or relatives, stage of memory impairment precluded use of technologies available, or the person was moved to a care institution due to progression of dementia. No satisfactory devices were found for use outdoors in close proximity to the home. Although several such devices exist that operate up to 300 meters from a central base station, none of the devices tested operated satisfactorily as there were too many false alarms triggered. One significant observation was that irrespective of the technology used, it should be installed when the elderly is at the early stage of dementia; at later stages of dementia it is usually impossible for the elderly to adequately adopt the device. This is a major challenge, as the elderly themselves might not recognize early stage dementia and will reject tracking devices. Caregivers or relatives might similarly downplay early symptoms of dementia and reject the use of appropriate technology. Dementia can progress very rapidly. Very often it will be too late to implement new devices if the elderly person was not acquainted with them at an early stage of the disease. **Acknowledgements:** This research was supported by the EU ESR fund as part of the 'Kulkurin valssi' project.

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