Effect of aging of hearing on speech recognition in rooms

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Word recognition tests with logatom and word lists, and sentence recognition test in simulated sound fields with noise and/or reverberation were carried out to assess the effect of hearing loss due to aging on speech communication in rooms. The result demonstrates that (ii) Speech recognition scores of elderly listeners are 25% lower than those of young adults for any kinds of speech test. This difference is equal to the 5dB increase of ambient noise for elderly listeners. (ii) Peripheral auditory functions are mainly affected by aging. On the other hand, central auditory processing functions of the aged show same performance as those of the young for the speech recognition task in this study. These results are expected to lead the discussion for speech communication in aged society and the standardization for assessing sound environment.

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Telemetric activity monitoring as an instrument for supporting the health and well-being of the elderly

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Promoting independent living of older people is essential in social and health care. There is a clear trend to provide nursing services at homes instead of institutional care in all industrial countries. Older people value their independence, and for the society the question is about the cost-efficient provision of health and social services. Telehealth and telecare systems can be used as tools for supporting the independent living of the elderly. In this paper, we discuss telemetric activity monitoring of the elderly and demonstrate how existing technology provides information about long-term changes in the health status and well-being of the elderly. In this study, we used the IST Vivago method (IST International Security Technology OY, Finland), which integrates telecare alarms (reactive measures) with telehealth monitoring (preventive measures) in one device. Our results suggest that continuous and ubiquitous activity monitoring can be used as a simple unspecific screening and/or follow-up tool for remote monitoring of the health status of the elderly in the institutions, but also at homes. This kind of technology can be used to monitor changes in health status and to follow up the effects of treatments and hence, to support clinical nursing and medical practices.

Medication reminding for older adults using PDAs

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Forty-six Older adults (average age 72 years) were successfully trained to use personal digital assistants' standard programs and a program called RxReminder for medication reminding. Successful usage was demonstrated through the use of several performance measures. The RxReminder interface is built on universal design principles and the guidelines for computer interfaces described by Czaja and Lee (2001). A pillbox that integrates onto the body of the PDA was also created as a place to store mid-day pills. The Samsung i300 PDA cell phone was the platform used for the study. Unlike the plastic weekly pillbox, the system provides alarms, a picture of the pill, dosage, warnings, doctor, and pharmacy information, and a place for the pills themselves in a single location. Forty-two participants completed a 3-month use test of the device. A physical pill count was also conducted. Average compliance for the device was 0.05 pills with two-thirds of the participants missed 1 pill or less in the third month of the study. The RxReminder interface received the highest usability rating and was significantly higher then several of the PDA standard applications.

Aging and medication adherence: Exploring the perceived usability of personal digital assistants

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Medication adherence is essential to retaining functional independence into older adulthood. In the experiment reported here, 25 older and 26 young adults were asked to learn to use medication adherence software supported by a personal digital assistant (PDA). In addition to completing a battery of cognitive tests, each participant's PDA skill acquisition was assessed over time (i.e., during training, immediately following training, and after a delay). Consistent with previous research, older adults required longer to learn to use the PDA and committed more errors compared to younger adults. Over time, age differences in PDA performance were reduced suggesting that older adults might benefit from the use of PDAs as prospective memory aids.

Ambient intelligence and health care support, a Dutch pilot study

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The aging society asks for new approaches to increase personal independence and quality of life. Home automation and personal care and services technology provided at any time under any circumstance, is called ambient intelligence. The power of ambient intelligence is to create an almost invisible, intelligent, interactive system that is self-learning. In order to understand the process of effective ambient intelligence the application of modern technology to the care situation has been studied both from the supplier side (during a trade fair), and from the viewpoint of 4 stakeholders (in realized projects). In this contribution an inventory is made of avoidable barriers for the application of technology in successful care. The study is limited to home automation and health care support for older adults. The study aims at barriers that prevent mass-introduction. Analysis of existing technology and the newest technology shows that developing successful technologies requires the support of both the array of stakeholders in the care industry and its clients (collaborative design), since functionalities and abilities influencing the specific (individual) needs of end-users, are of the utmost importance for effectiveness.

Factors associated with the self-esteem of older persons in the community: Evidence for enabling environments

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As one grows older, the need for primary and secondary control strategies becomes greater due to the increasing likelyhood of age-related loss. Creating enabling environments is therefore crucial in the empowerment of older persons. This paper identifies the relationship and relative importance of a range of selected indicators on the self-esteem of older Malaysians living in the community. Data on 1,776 respondents (60 years and over) from the 1999 IRPA study that examines the perception of needs and problems of the elderly were used. In the cross-sectional survey, respondents completed a five-module questionnaire which includes the Rosenberg Self-esteem Scale (RSS). A combination of 27 variables representing separate domains was selected to predict self-esteem. The results show that the predictor variables accounted for 24.8% of variance in the RSS score (F=17.12, p<0.01). Hierarchical MRA showed that greater self esteem is associated with fewer depressive symptoms, higher life satisfaction, being urban, being of ethnic majority and in possession of more home appliances. Instead of focusing on engineering changes that one can make easily with the help of technology, many elderly insist on the impractical, focusing on things beyond their control.