Assistive Technology and Aging

Independent Life Style Assistant (ILSA)

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Abstract

The purpose of this workshop is to provide participants with exposure to those working to develop assistive technology for the elderly--biotechnology laboratories, advocacy groups, business and government funding agencies. Ms. Richardson will discuss Honeywellís decision to submit a proposal to the National Institute for Science and Technology (NIST) to develop an intelligent home automation system that can be easily integrated with a diverse set of sensors, medical devices and "smart" appliances to enable elderly and infirm users to live and function safely at home.

Honeywell International, with long experience in control systems and home automation, believes that in many cases the needs of the elderly could be served betteró and less expensivelyó by an intelligent, home-based automation system that enables individuals to continue to live safely at home in an assisted environment.   Honeywell's Independent Life Style Assistant (ILSA) will determine eldersí needs and adapt to meet them by monitoring for and responding to critical situations, providing reminders, and supporting typical daily activities. To provide this support, ILSA will connect home appliances, medical monitors, and other home devices designed to protect and serve the elder with a system of intelligent sensors, controllers and software. Elder-friendly features such as voice interaction will eliminate the need for elders to ì masterî the technology. Using all these devices, ILSA will assess a situation, understand the elderís immediate needs, and adapt itself to meet those needs. When ILSA determines outside assistance is needed, it will summon help.

The ILSA project is a 2.5-year, $5 million research and development program sponsored by the National Institute for Standards and Technology (NIST). The program is being led by Honeywell Laboratories and includes geriatric and gerontological specialists from the University of Minnesota, School of Nursing and United HealthCare Corporationís EverCare division. As a research program, our focus is on technology development. Our goal is to develop advanced home automation, automated reasoning and situation assessment, user-interface design, and machine learning technologies to transform the home into an intelligent, supportive environment. The high-risk nature of the project lies in the need for an unprecedented level of system "intelligence" and flexibility to work reliably in a broad range of possible environments, with users of varying degrees of disability, and an unpredictable mix of potential sensors and other peripherals. If successful, ILSA could greatly reduce the financial burden of caring for the elderly and infirm by extending the period when they could safely live at home. NIST ATP assistance enables Honeywell to attempt this project, which otherwise would be shelved because of the very high technical and business risks.