*F. WERNER, J. OBERZAUCHER, K. WERNER. **Real-life evaluation of a socially assistive robot.** Geron-technology 2012;11(2):382;* doi:10.4017/gt.2012.11.02.352.00 **Purpose** The main aim of the study was to test the first prototype of an integrated system–developed in the FP7 project KSERA[1,2]–consisting of several environmental sensors and a humanoid robot as main user interface with a group of older people. **Method** The KSERA prototype was evaluated in a real user environment regarding system performance, user perception, acceptance and human robot interaction parameters (HRI), including motivational abilities and the use of gestures, mimics, and voice control. The study was performed in the 'Living Lab Schwechat' (Austria) and in a senior citizen home for older people (Israel) with a group of older trial participants (n=16, age>70). During the trials each participant was invited sequentially into a usability laboratory, furnished like a living room, where predefined scenarios for reminding, alerting, and motivating the participant were conducted using the scientific version of "Nao"[3], from Aldebaran Robotics lasting 2 hours per participant. (*Figure 1*) The scientific data was gathered using questionnaires prior, during, and after the trials as well as by video analysis of the trial users' behavior and the robot's movements and by evaluating general user comments on the system. The evaluation model comprised standardized metrics (Godspeed[4]) combined with questionnaires specifically tailored to the KSERA project and focused on the research question "how will the users accept and use the system?" [2,5].
Results & Discussion Areas that influence the perception of the used robotic system could be identified and partly correlated with results from the technical performance parameters using a quantitative and qualitative analysis of the test results. The overall impression of the users of the KSERA system and the related approach of using a humanoid robot as motivator and helper in daily life was verified and appreciated very much by the trial participants. The users rated the interaction with the robot very positively and appreciated the possibilities of the system as an interface also in comparison with other state-of-the-art systems (in physical exercising, reminding, motivating and physical parameter measurement). The KSERA system (and especially the robot) was perceived as a very sympathetic and safe system, which could be used at the trials participants' homes without fear of being unsafe or the sense of being monitored constantly. The trial results offered a clear picture of how the future HRI-interaction can be enhanced for real life conditions, implementing extended interaction flows, interaction cues and non-functional modules to improve animation, perceived intelligence, and confidence of the system.

References

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Figure 1. Demonstration of a trial scenario