

User Requirements Study in Order to Improve the Quality of Social Robots for Dementia Patients

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Abstract : Introduction: Neurodegenerative diseases are frequently accompanied by loss and unwanted change in functional independence, social relationships, and economic circumstances. Currently, the achievements of social robots to date is being projected to improve multidimensional quality of life among people with cognitive impairment and others. Objectives: Identification of particular human needs in the context of the changes occurring in course of neurodegenerative diseases. Methods: Based on the 110 surveys performed in the Medical University of Lublin from medical staff, patients, and caregivers we made prioritization of the users' needs as high, medium, and low. The issues included in the surveys concerned four aspects: user acceptance, functional requirements, the design of the robotic assistant and preferred types of human-robot interaction. Results: We received completed questionnaires; 50 from medical staff, 30 from caregivers and 30 from potential users. Above 90% of the respondents from each of the three groups, accepted a robotic assistant as a potential caregiver. High priority functional capability of assistive technology was to handle emergencies in a private home-like recognizing life-threatening situations and reminding about medication intake. With reference to the design of the robotic assistant, the majority of the respondent would like to have an anthropomorphic appearance with a positive emotionally expressive face. The most important type of human-robot interaction was a voice-operated system and by touchscreen. Conclusion: The results from our study might contribute to a better understanding of the system and users' requirements for the development of a service robot intended to support patients with dementia.

Keywords : assistant robot, dementia, long term care, patients

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