Title:

Socially assistive robots for the aging population: Are we trapped in stereotypes?

Abstract:

Robots taking care of the older population in care facilities and at home are an ongoing theme in HRI research. Research projects on this topic exist all over the globe in the USA, Europe, and Asia. All of these projects have the overall ambitious goal to increase the well-being of older adults and to enable them to stay at home as long as possible. However, the recent Special Eurobarometer 382 on " Public attitudes towards robots" revealed that the wider public does not want robots to take care of the older population (even if the wording of the question was questionable), subsequently in this workshop we want to reflect if the HRI community is trapped in stereotypes when it comes to socially assistive robots for older adults? Therefore we want to gather and compare findings from user needs analysis, user evaluation studies, as well as interaction scenarios and functionalities of existing care robots. Are our results suggesting similar scenarios? Do older end users in all countries have similar needs and desires when it comes to assistive robots? What are the challenges and opportunities for future assistive robots (maybe for those we develop for ourselves when we belong to the older population…) also on an ethical and legal level? In this workshop we want to escape the stereotype trap what socially assistive robots should do. Can socially assistive robots solve the aging population problem on a societal and individual level? Are older people in general technology opponents? Will robotic helpers be accepted in the home as long as they pretend to be social actors?

Organizers:

Astrid Weiss: is a postdoctoral research fellow in HRI at the Vision4Robotics group at the ACIN Institute of Automation and Control at Vienna University of Technology (Austria). She holds a master degree in sociology and a PhD in social sciences from the University of Salzburg. Her current research focuses on user-centered design and evaluation studies for Human-Robot Interaction, with a special interest in the impact technology has on the everyday life and what makes people accept or reject technology. She was involved in the organization of two workshops on social acceptability of robots at Ro-Man2008 and HRI2009, as well as in the HRI Pioneers workshop 2010.

Jenay Beer: is expected to earn her PhD from Georgia Institute of Technology in Engineering Psychology in Fall 2013, and she is transitioning to an Assistant Professor appointment with the Department of Computer Science and Engineering at the University of South Carolina. Her research passions include the areas of human factors and aging. With a special interest in Human-Robot Interaction, her research focuses on the application of assistive technology to help future generations of older adults in maintaining their independence. She has studied themes such as user acceptance, emotionally expressive robots, and level of robot autonomy.

Takanori Shibata: is a Chief Senior Research Scientist at Human Technology Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), a Visiting Professor at Tokyo Institute of Technology, and a Visiting Fellow, the AgeLab, Massachusetts Institute of Technology (MIT). He received B.S., M.S. and Ph.D. in Electronic and Mechanical Engineering from Nagoya University in 1989, 91 and 92, respectively. He was a research scientist at AIST 1993 to 98. Concurrently, he was a visiting research scientist at the Artificial Intelligence Lab., MIT from 1995 to 98, and a visiting research scientist at the Artificial Intelligence Lab., Univ. of Zurich in 1996. At the AIST, Dr. Shibata was a senior research scientist 1998-2013. Concurrently, he was the Deputy Director for Information and Communication Technology Policy, Bureau of Science, Technology, and Innovation Policy, Cabinet Office, Government of Japan from 2009 to 10. Since 2013, he has been the current positions.

Markus Vincze: received his diploma in mechanical engineering from Technical University Wien (TUW) in 1988 and a M.Sc. from Rensselaer Polytechnic Institute, USA, 1990. He finished his PhD at TUW in 1993. With a grant from the Austrian Academy of Sciences he worked at HelpMate Robotics Inc. and at the Vision Laboratory of Gregory Hager at Yale University. In 2004, he obtained his habilitation in robotics. Presently he leads a group of researchers in the "Vision for Robotics" laboratory at TUW. With Gregory Hager he edited a book on Robust Vision for IEEE and is (co-)

author of over 250 papers. Markus' special interests are computer vision techniques for robotics solutions situated in real-world environments and especially homes.

The workshop organizers have a consolidated experience organizing workshops, tutorials and conferences (Ro-Man2008, HRI2009, CSCW 2013 etc.) and will be responsible for facilitating the discussion during the workshop. The following people have already agreed to serve as Program Committee members in case the workshop gets accepted: Anglika Peer, Manfred Tscheligi, David Feil-Seifer, Susanne Fernnert, and Kate Tsui.

Overview of the Workshop:

1. Introduction
In HRI there is an ongoing discussion that robots could be the solution for "the aging population problem" and the resulting shortage on qualified healthcare personnel in future. Assistive robots are considered to help older adults staying home longer and supporting them and the personnel in care facilities. However, using robots to assist older adults should not be accepted uncritically as the solution for an ageing population. In this workshop we want to lean back and reflect: Are we trapped in a stereotypical mindset thinking that assistive technology will automatically ease societal and individual problems (plus boost the economy) and that older adults are reluctant users, but socially assistive robots will convince them of their usefulness?

2. Objectives
It is the aim of this workshop to reflect on existing assistive robots and ongoing research on HRI with older adults in the domestic and the care facility context. A lot of work has already been done to understand user needs and desires for "elderly care robots", as well as to build platforms and evaluate them in terms of acceptance and usability, but what have we actually learned overall as an HRI community? Are we all working with the same "stereotypes"? Where are the communalities and differences in our work? In this workshop we want to gather, compare, and combine knowledge gained in various HRI projects with older adults in the US, Europe, and Asia. This should lead to a broader understanding of the target user group as well as of design and implementation challenges of care robots.

The following topics should be addressed in the workshop and guide the submission of position papers:

- Identified user needs and desires of older adults at home and in care facilities
- Requirements and constraints of socially assistive robots for older adults
- Functionalities and interaction scenarios of socially assistive robots for older adults
- Moral accountability and legal issues of care robots for the aging population

3. Invited Speakers

- Wendy Rogers (confirmed)
- Kazuyoshi Wada (confirmed)
- Marcel Heerink (confirmed)
- Birgit Graf (confirmed)
- Selma Sabanovic (confirmed)
- Elizabeth Broadbent (confirmed)

4. Target Audience and Participants
The primary audience of the workshop are researchers in the field of HRI. In particular researchers working with the aging population on social robotics, user-centered HRI evaluation, and ethical and moral implications will be interested in this workshop. Moreover, researchers from the field of advanced interfaces will be addressed via HCI-related channels, as research on smart homes and ambient intelligences solutions for the older population is a closely related field, but unfortunately underrepresented in the HRI community. In general we are convinced that this workshop will attract a

broad target audience, as the topic is of huge interest in the community. As we want to address both sides of the topic, namely the user-centered and the robotic-centered perspective we expect an interdisciplinary audience and also practioneers from health care institutions and robot manufacturers. We also consider the topic as highly interested for mass media and public relations.

5. Recruitment and Position Paper Requirements
Workshop organizers will commit to publicize their workshop. The call for participation for this workshop will be distributed via HRI- and HCI-related and specialized mailing lists (e.g. ACM SIGCHI, HRIWeb, European Robotics Platform etc.) and websites (e.g. HRI Community, IEEE Robotics and Automation Society, etc.). A website will be created to provide information about the workshop. Position papers will be grouped into several sessions, to organize the discussion thematically.

Workshop candidates are requested to send a position paper (no longer than 4 A4 pages) before 10th of January about a research on HRI and the aging population they have been involved in (related to the topics described above) to astrid.weiss@tuwien.ac.at. All position papers must be submitted in PDF format and conform to conference proceedings specifications for Late Breaking Reports. Participants will be selected on the basis of the relevance and comparability/ generalizability of their work.

Deadlines

* 10 January 2014, Position paper submission
* 28 January 2014, Notification of acceptance
* 03 March 2014, Workshop at HRI 2014

6. Format
This is a one-day workshop with break-out sessions, alternated with a moderated group discussion. The workshop starts with an introduction to the topic, followed by short introductory presentations to get familiar with the participants and their work. After that, the organizers present the common themes of the submitted papers, grouping them into different sessions (following the main topics of the workshop). Two different groups (one from a robot-centered view point and one from a user-centered view point) then reflect in a break-out session on the communalities and differences of their work and how a stereotypical bias may be involved. After the lunch break, the group comes back together to discuss the conclusions of each break-out session. The organizers actively interact with the audience during the break-out sessions as well as during the whole group debate to stimulate discussion around the key topics of the workshop, identified by the organizers based on the submissions.

7. Schedule
09:00 - 09:15 Introduction
09:15 - 10:30 Short presentation of the accepted papers and discussion - first round
10:30 - 11:00 Coffee Break
11:00 - 11:45 Short presentation of the accepted papers and discussion - second round
11:45 - 12:30 Summarized highlights of the submitted papers by the workshop organizers, session grouping, start break out groups
12:30 - 13:30 Lunch
13:30 - 15:00 Break-out sessions in two different groups (robot-centered and user-centered)
15:00 - 15:30 Coffee Break
15:30 - 16:30 Presentation of break-out session results & group discussion
16:30 - 17:00 Wrap-up

8. Documentation & Dissemination
We will collect all papers and presentations. Additionally we will capture the whole-group discussions in notes in an additional presentation. All material will be presented on the workshop website. An overall whitepaper will also be provided on the website after the workshop.