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# Exploring Care Networks with Senior Citizens in Vienna

Isabel Schwaninger, Geraldine Fitzpatrick  
TU Wien  
*Contact Author: [isabel.schwaninger@tuwien.ac.at](mailto:isabel.schwaninger@tuwien.ac.at)*

**Abstract.** The aim of this position paper is to outline social networks of senior citizens in Vienna who are participating in a test project with digital devices for telecare, mobility and safety based on ongoing empirical work. Furthermore, the potential role of trust in these collaborative networks is discussed.

## 1 Introduction

Previous research in HCI has focused on care networks with a focus on dyadic relationships (Van den Abeele et al., 2014; Miller et al., 2016) or by taking a broader lens (Consolvo et al., 2004). In this position paper, we draw on ongoing empirical work in an AAL test project in Vienna, where we aim to look at care networks as they are part of this project. We will reflect on social actors in the closer environment of the participants in the test project, the role of care in people's lives and further reflect on how trust is part of collaboration in care networks.

## 2 On the Social Embedding of Care

Some senior citizens prefer ageing in place over care facilities (Roy et al., 2018). Self-care refers to the ability of the individuals to manage symptoms, treatment,

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emotions and lifestyle changes when living with a chronic disease (Barlow et al., 2002), and technologies can greatly support people in their self-care management, for example via telecare and telehealth (Nunes et al., 2015).

This position paper draws on ongoing empirical work in the WAALTeR project, an AAL pilot project taking place in Vienna. The project has equipped over 80 households with AAL technologies of three service areas: social integration (e.g., through neighborhood networks), safety (e.g., fall detection) and health (e.g., tele-monitoring) (Ates et al., 2017). The research project offers regular meetups for the test participants to exchange and to ask project-specific questions. Currently, an 18 month long evaluation study taking place, including quantitative surveys and additionally 15 qualitative interviews. So far, 10 qualitative interviews have been conducted. By the time of the conference, a systematic analysis of 15 interviews will be in progress, and first results will be available to discuss. Through the interviews, we aim to assess experiences of using technology regarding people's quality of life, self-determination, trust, and expectations for the future.

In our ongoing qualitative research, it shows that people engage with various other people in their daily life practices, of which some we will briefly describe. Social networks around a senior citizens vary depending on the personal situation. There are partners or other people who live in their homes. Flatmates can be cross-generational and non-family members. Some people speak about family members who sometimes live in different cities or villages, others tell stories about their neighbors. A few people are involved in communities, such as the church, groups of friends or in voluntary work such as in the social sector. Furthermore, the research project community meets regularly for social events and to inform about project-specific topics. Some people visit doctors regularly, and since they are using telecare watches, they are remotely connected with a care institution of the research project.

Within this social embedding, the qualitative interviews so far give the impression that participants of the projects are entangled with care practices in multiple ways. Some people are engaged in mutual care relationships with friends, flatmates such as a refugee family, partners and pets. Two participants said they engage in voluntary formal care work themselves. Some senior citizens are receivers of care, where care is received from partners, doctors they visit, and via tele-care.

Although some participants have high technical affinity, many are willing to familiarize themselves with new technologies. In the process of learning, other people who are more experienced with technology play a key role. However, some senior citizens don't ask others right away if they have a problem, and instead stop using certain applications. One person even stated she would not ask her children for help, as she would rather ask them in the future when she had more serious problems (i.e. "*when you actually need it*"). Besides looking at who or what people care and are being cared *for*, it may be worth looking at what people care *about* (Morris, 1977), and whether technology plays a role for this distinction. For

example, tele-care and practices of self-care may change these care relationships among people as well as their self-perception.

For people who are part of our participants' social environment, we argue that although some do not take the role of what we would frame as formal or informal caregivers, we still take them into account as important people in their life and thus contributing to their overall wellbeing. People frame their hopes in future opportunities to ask for help when they will need it, such as in family members. Furthermore, social contact is often mentioned when referring to other "older" people, where technology could aid (e.g. referring to the tablet, where the applications to engage socially with others are "*for lonely people*").

### 3 First Reflections on the Qualitative Interviews

For reflecting on the qualitative interviews, it should be noted that the test participants are self-selected. They joined the project on a voluntary basis and many participants have prior experiences with technology or other related test projects. Within this context, curiosity and the willingness to learn new things appear to be major drivers for joining the test project. The project offers a community of people to exchange with, which participants state a major driver as well. The project offers seminars where technology usage is explained, which the participants who were interviewed so far seem to enjoy attending.

However, it seems that some people still wish for improvement in their skills of using technology. Where the ability to use technology is associated with independence and seen as an investment for the future, asking for help is a key to achieve this. Nevertheless, there seem to be barriers for doing so. For example, one woman who had a refugee family staying with her would not ask the teenager to explain to her how to use technology despite her being eager to learn it and seeing him using his tablet several hours per day. She would however go to the project meetings hoping to improve her skills, where during the seminar she said there were too little chances to ask for help. An issue appears to be the notion of other people being more familiar with technology and a lack of psychological safety.

Curiosity about technology as we are seeing it in the current project however seems to be not representative for overall society, as stated by some interview participants. First of all, participants mentioned they know many people in their closer environment who are the same age, but would not consider participating in such a research project, not to speak of using a mobile phone that comes with a touch screen (e.g. "*friends of mine [...] wouldn't want to learn this anymore*"). Secondly, one participant said both because of different skills and technical affinity and due to high costs of technology, they expect a "*two-class society*" regarding access to technology in the future. This may reflect the observation that currently there is a digital divide (Kania-Lundholm and Torres, 2015) between people with different skills and technical affinity. On the other hand, they experience that financial costs of technology can exceed what a retiree gets for living.

Based on first reflections of the ongoing empirical work, open questions with a potential focus of future analysis are the following: How does the social network around senior citizens contribute to care and self-care? How does the social network contribute to perceived technological self-efficacy, ease of use and perceived safety, access to healthcare related resources and to perceived autonomy? To what extent is technology part of the care network? Furthermore, what are the implications of the multiple ways people engage in care practices in their everyday lives for framing care?

## 4 On Trust in Care Networks

In the care networks that have been described so far, trust seems to play out in multiple ways. For example, senior citizens spoke about technological trustworthiness related to its reliability, i.e. on the expectation that it actually works when it is needed, such as in cases of an accident. However, relying *only* on technology seems to be not sufficient for putting trust into technology, and it was stated several times that caregivers who respond reliably to alarms, also false alarms, are crucial (e.g. *“there are actual people behind it”*). Besides this entanglement between technological reliability and reliable work practices of caregivers in telecare, people also spoke about seeing a doctor or being cared for by partners in their homes (which can refer to housework or other practices), also involving trust. Furthermore, the issue of trustworthy companies, i.e. a company from Austria, was raised opposed to a company that is based in another country on a different continent. Using technology and learning to do so is tied to technological self-efficacy (Compeau and Higgins, 1995; Pütten and Bock, 2018), which is closely linked to ‘self-trust’. Furthermore, participants spoke about privacy-related aspects in telecare. One person referred to the safety package as *“surveillance”*, others stated that, related to privacy, *“a whole lot of people have fears [...] because they are not well informed”*.

For analyzing citizens trusting the research project as an institutionalized form and the healthcare system, institutional trust (Zucker, 1986) may be relevant to consider. In care networks, interpersonal trust is of importance between social actors. For interpersonal trust, the models of Rousseau et al. (1998) and Mayer et al. (1995) may be of help, where trust is defined as a willingness to be vulnerable. For trust in technology, there are additional models of relevance (e.g. Mcknight et al., 2011; Sousa et al., 2014). Technological self-efficacy and how it mediates technology’s perceived trustworthiness could be interesting to study. As trust is however a continuous process that goes beyond dyadic relationships, we argue that referring to people’s everyday life practices and social care networks is crucial.

Trust is itself a multidimensional concept, and it seems to be part of the care networks on several levels. However, potential relationships between trust and care are yet open for exploration. The following questions are of interest: How do different levels of trust interrelate with each other in care? How does trust evolve

over time in this context? And how do emerging technologies interrelate with trust in networks of care, where does technology change perceptions of trustworthiness?

## 5 Conclusion

The aim of this position paper is to outline ongoing qualitative research on technology-mediated care with senior citizens in Vienna. Future work will potentially focus on the entanglement of technology and care-networks, and on the role of trust in sociotechnical care networks. In the workshop on care networks, I would be happy to outline actors in social networks of our AAL test project. I am eager to discuss what dimensions of care play out in those care networks, and how trust and care interrelate in people's everyday lives.

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