

ICT Inexperienced Elderlies: What Would Attract Elderlies to Use Items of Technology?

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Abstract. This paper presents the findings of the first end-user research study with seniors who are not familiar with operating ICT devices, executed as part of the EU-Active and Assisted Living research project Kith & Kin. This project aims at developing an ICT device for these seniors by building on their needs and real capabilities, encouraging communication and fostering social inclusion.

Keywords. ICT inexperienced elderlies, design research, user studies, user-driven product development, intuitive interaction

1. Introduction

As an older adult who is not trained in the use of ICT, staying in contact with your beloved ones is often reduced to phone calls. But these calls are often experienced as an obligatory act rather than a possibility for connectedness. Social inclusion and communication is a key issue for active and healthy aging. Wildevuur (2013) references a paper from the European Commission arguing that people who remain active in their lives and are well connected to other people are generally happier and in better physical and mental health. Those people feel more empowered to cope with changes and life transitions [1]. This challenge of creating connectedness builds the core of this research project. ICT products for seniors currently available on the market are based on the idea to train them in modern technology usage. Instead this project aims to respond to the vast diversity in user needs and capabilities by developing an ICT device which is based on well-known communication, behavior and interaction patterns, an approach inspired by the research area of intuitive interaction [2].

The following research questions built the core for this study:

- To which extent is ICT integrated in the everyday life of seniors?
- What are the main drivers or hurdles for using ICT?
- With types of digital and mechanical devices do seniors feel comfortable with?

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2. Methods

This paper focuses on the questions concerning drivers and hurdles for computer illiterate seniors and the findings gathered through the method Cultural Probes, executed with test persons from Switzerland and The Netherlands in May and June 2016.

Cultural Probes are provocative packages given to participants to get insights in their daily live, environments, thoughts and interactions by putting diverse questions and certain tasks within a defined period. Introducing diverse materials and artefacts, e.g. disposable cameras, maps and daily journals, people are inspired to thoughtfully consider personal context and circumstances, and respond to the research team in unique ways facilitated by the provocations [3].

Since this project aims at developing an ICT device which should, first of all, empower computer illiterate seniors to connect with their family members and friends in an intuitive, easy and joyful way, the goal of the Cultural Probes method was to gather information about the seniors' wishes for technical devices, to examine their social integration and family connections, their communication practices with family and friends and their used means of technology for that. Finally their use of technology was examined to be able to draw conclusions about the subject-object relationships of seniors with devices of technology.

2.1. Participants' demographic data

Based on the ethical guideline for the inclusion of users in the project, test persons were accordingly recruited for this study. The group of computer inexperienced seniors was defined by seniors aged 70+ who have no or very little experience in using ICT. A total number of 18 test persons with an average age of 77.7 years participated in the cultural probes study. Among them, 10 female persons were completely computer inexperienced and 2 female and 6 male test persons had basic technology handling knowledge.

2.2. Procedure

The cultural probes diary in form of a composed booklet questioned the activities, pleasures and awkward happenings, meetings and the way of communication of the participants during a period of seven consecutive days. They were asked to reflect on their personal opinion about technical devices in general and answer questions concerning their free time and their personal use of technology. Furthermore the participants were requested to present a most loved and most hated device at their home, describe its design, handling, color and material. Additionally the test persons documented 8 different devices at their home in terms of design, handling, color and material and the likes and dislikes of those devices.

3. Results

The executed method showed the following categorized results:

3.1. Wish for devices

Computer illiterate seniors wish technical devices to be mainly easy to understand, easy to use without help, to combine functionalities of many input devices and no senior-only products.

3.2. Family connections and integration

Participants enjoy spending time together with their family and friends. Seniors like to spend their time with handcrafts, reading, watching TV, gardening and playing. Concerning family traditions, seniors report to either have a fixed date once per month or traditionally meet other family members on birthdays or official holidays. Means of communication for seniors are talks on the telephone and visits to stay connected with family and friends. When being outdoors they stay in contact mainly via mobile phone but predominantly use the voice call feature.

3.3. Daily life during a period of seven days

Housekeeping, cooking and leisure time activities like reading, shopping, sports or journeys are the most frequently mentioned activities of the seniors. They are well socially integrated according to the results of the study which shows averaged 79.3% social contacts with family members and friends during a period of one week. The most common activities spent with family and friends are eating together and chatting followed by activities like sports, shopping or journeys. Regarding the use of technology the results clearly show that seniors prefer personal communication.

3.4. Technology use – subject-object relationships

Seniors in Switzerland and in The Netherlands still use the landline phone very much but nevertheless with a minor percentage the mobile phone seems to have entered their everyday life routine. They also use personal computer, laptop and internet frequently during a week, although their self-estimation of their own knowledge and experiences with these ICT objects is ranked relatively low. Participants state that they feel overstrained when dealing with technical devices which is obviously a very interesting fact concerning the core research questions of this study.

4. Discussion

The results clearly show that social contact is very important for seniors. Test persons stress that they prefer personal communication but in case they use ICT it is predominantly the landline phone and with a minor percentage the mobile phone, which is mainly used when being outdoors. There is not even a high interest in technical devices; a conclusion for this fact might be that they feel overstrained due to the unfamiliarity of operation patterns with ICT devices.

Findings show that the main driver for the usage of ICT is the possibility to stay in contact with family and friends. Seniors try out new technical devices only when they experience the need for a new technical device. They appreciate to get in contact with

others and be informed. They want to feel safe with a new device in terms of understanding its functionalities and meeting their requirements. The main hurdles for the group of the seniors appear when a product presents a poor usability and accessibility performance e.g. when a device is too unpractical, too complicated or too slow for everyday use. The results of the study revealed that the most appreciated technical devices were products which the seniors could use without help, which are easy to understand and which use is ergonomic and efficient. Products frequently used are liked especially for their good performance and aesthetic qualities. The most appreciated criteria for materials are durability, sustainability and robustness.

5. Conclusion

Raising an interest in a new ICT product for the group of the computer inexperienced seniors would obviously mean to clearly present a personal benefit to them: facilitate contact with their loved ones. An ICT product should elude technological barriers and encourage communication with easy, user-friendly and well-explained technology which builds on the needs and real capabilities of computer inexperienced seniors. Seniors don't want to be forced to learn new handlings and usage patterns, they just want to use a product without needing help from others. At the same time a "senior-only" product appearance is clearly not appreciated. What seniors appreciate is a good overview of the product functionalities, good and steady performance and high material quality which supports a long period of usage without being expensive. Additionally, products should generate the feeling of being in control.

In summary the findings show that Ullrich and Diefenbach's [2] research on the four sub-components of intuitive interaction, Effortlessness, Gut Feeling, Verbalizability, and Magical Experience will also in future be of high relevance to the further project development process. This project currently heads into the tests of mock-ups which had been developed on basis of the above mentioned findings as well as on the research area of intuitive interaction.

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