SocialWall: Photo-based Participation in the Life of Loved Ones

Torben Wallbaum[1], Wilko Heuten[1], Susanne Boll[2]

OFFIS – Institute for Information Technology, Escherweg 2, 26121 Oldenburg[1]
University of Oldenburg, Ammerländer Heerstraße 114, 26129 Oldenburg[2]

Abstract

Social interaction, the participation in the life of loved ones and the exchange of experiences and feelings are key needs for human beings. Especially for families living over a distance, it is essential to stay up-to-date and to participate in important moments in life. In this paper, we present requirements, a prototype and results from a first field study to evaluate the design of a photo-wall.

1   Introduction

Social interaction is an important factor to our quality of life and well being. Interacting with friends and family members, exchanging experiences is important to everyone (Tee et al. 2009). In co-located groups and families, spontaneous communication occurs day-to-day, and therefore allows the continuous exchange of news and experiences within the family. However, for family members that are living remotely from their loved ones, the exchange of experiences and the participation in family events is not as easy as for co-located persons. The use of synchronous verbal communication via the phone or video chats, enables people to participate in the life of loved ones, but requires simultaneous presence. To support an asynchronous exchange of events and experiences within the family we want to investigate the use of a photo-based diary to support an ongoing exchange of experiences as well as an easy and continuous way to reflect on them.

2   Related Work

Mols et al. have conducted a cultural probe study that has discovered the most valuable everyday experiences of participants (Mols et al. 2014). Their research confirmed that everyday experiences are valuable, when they have a social aspect, occur on a regular basis, or have a big impact on the life of a person. The exchange of pictures for patients in a

rehabilitation center has a positive impact on the connectedness between distant partners (Biemans et al. 2009). During their six weeks evaluation, four participants could see pictures of their family members on a digital picture frame. The attendees were positively surprised how sharing pictures helped staying in touch without even talking to each other via phone. Counts (Counts et al. 2004) presented another photo-sharing system, which supports the group-centric exchange of photos with family members and friends. Results from a one week field study with 28 participants showed an increase in the number of exchanged photos. Moreover, participants reported an increase of social presence of their family and friends. Following the approach of the pervious works, we aim to further investigate: a) the usage of such systems and b) how such system could further facilitate more verbal communication between family members by integrating social elements into the design.

3   SocialWall

The SocialWall is a digital photo-wall, which enables the exchange of memories, experiences and events within the family based on photos.

3.1 Requirements

To gather requirements, we have conducted interviews with eleven participants from three different families (7f; 11-74 years, M=42.9, SD=20.36) about their photo sharing habits, needs and wishes. Participants reported to take up to 60 (M=15.9) photos per month. Results show that users older then 30 years were taking most pictures during special events, e.g. holidays. Younger participants preferred taking pictures from day-to-day experiences. Five participants mentioned that they were not able to collect photo-based family memories in an easy and well-arranged way. Seven participants mentioned that they often miss to review pictures and to reflect experienced moments at a later point in time. When asked if they could imagine using a photo-based digital diary within the family to share events and experiences, ten of eleven participants agreed. Eight participants motivated this decision by saying that they would feel more connected with the family and such a system might be able to enhance the participation in the life of the others. We asked, what additional information should be available for a picture. The three main answers were: date and time (11), event description (8) and location (7). Similar parameters were mentioned for the question of how to sort pictures available within the diary: time (11), events (9) and persons shown (9) as well as location (7). All participants preferred a linear layout, with pictures arranged based on the time they were taken.

3.2 Design & Prototype

Based on previous works and our requirement analysis we have designed a digital photo-wall to enable remote families to share events and experiences. The prototype can be used on various platforms e.g. smartTV, tablets, where pictures are presented in a tile-based grid (see Figure 1). Newly shared pictures are automatically loaded and integrated into the stream of

images. Users are able to apply filters to create a personalized photo-set based on events, persons, or a specific time frame. When a picture is selected, the SocialWall shows additional information e.g. date or creator of the image. We integrated features to react on a picture. This includes: a) linking a new picture to an existing one to create linked memories and b) comment on a picture with emojis to express emotional reactions. Users are also able to see the pictures of their family members in order to lower barrier of getting in touch with eachother and to learn about their interests.

Figure 1: SocialWall used during the field study on a smartTV

4 Study

We conducted a field study for one week. Overall 12 participants have used the system within their daily routine (5f; 12-55 years, M=35.8, SD=15.6). The participants were members of three different families, living in different distances from each other. To investigate how the system is used and to identify possible effects through our system, we have conducted semistructured interviews, using a predefined questionnaire for the interviews before and after the evaluation. All participants were asked to fill out a predefined diary, each time they were using the system. In addition, we have used the ABCCT - Affective Benefits and Costs of Communication Technologies Questionnaire (Yarosh et al. 2014) to measure how the system might create a feeling of connectedness.

4.1 Results

The results from diaries showed that 67% of all shared pictures have not been restricted to specific persons. 29% excluded some members of the family and 5% were only shared with one other person. The system was mostly used in the evening hours (49%) and during the lunchtime (36%). The rest of the usage has taken place in the morning hours. Enjoying the pictures as an automatic stream was the most used function of the system (43%). The second most usecase was the communication with others by sending an emoij (23%) and reacting to a photo by linking a new one (7%).

Additionally, we have asked the participants about their usage of classic communication channels (phone, personal contact, messaging) before and after they used our system. Results

showed that the usage of direct speech via phone increased by 35% and the personal meetings increased by 85%. Qualitative analysis also showed that the communication within the family has been increased during the evaluation. Further participants mentioned that the exchange of daily experiences was much faster than normally and the pictures were a good reason to start a verbal communication via phone or personally. Participants reported that they feel more informed about news within the family while using the SocialWall.

Results from the ABCCT questionnaire showed that participants were excited to use the system and felt more connected and closer to their partners. Within the category "Opportunity for social support", participants felt special when using the system and it helped them to feel better when having a bad day. Users did not feel to have "Unwanted obligations" when using the system. Some users felt sad when a communication partner was not reacting or an answer took too long. Some users refered to the privacy issues of the system by saying that others can get to know something they should not and they themselves are violating the privacy of someone else.

5   Discussion & Future Work

The first results from the field study on SocialWall showed an increased communication within the families. The reasons are the following: 1) a novel system that created an interest in communicating with each other; 2) the availability of topics and reasons to talk to each other; 3) an option of sharing a verbal information related to a picture beforehand. As far as the duration of the study was rather short we aim to conduct another field study with different families for a longer period of time to further investigate the impact of pervasive photo-sharing on the social closeness within distant families. We further plan to develop tangible interaction techniques to simplify the process of setting up filters for the photo-set shown by the SocialWall.

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