Informing design with emotional probes

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Abstract: This poster describes a method to inform the design of communication technologies that allow people with family members living abroad to feel appropriate emotions when communicating. Eight participants were recruited. They were all members of three-generational families, where at least one person is geographically separated from the others. Two interviews were conducted. In the first, a box of 'things to do' was left with them. These emotional probes included: Spirit of the Oracle cards with an invitation to write about the feeling they elicit with regard to their family; a digital camera with instructions, e.g., to photograph 'something you would like to share'; a contact diary to note times when communication was pleasant or unpleasant; a sheet on which to describe 'a family journey where I was very happy'. The second interview, a few days after the first, focused on their responses to the probes. The emotional probes study combining interview techniques was successful in eliciting rich data for understanding the emotional needs of communication and the practical constraints of technology.

Key words: Probes, presence technology, light weight communication, qualitative technique

1. Introduction

Many devices have been proposed to connect absent loved ones. Yet we still know little about real value of this technology especially, from the point of view of the three-generational family. To do this we need to find an appropriate method to understand deep feelings and real dialogue.

The method we consider here is to systematically identify themes that emerge from data with regard to family members' emotional needs and the practical constraints of communication technology. The aim is to formulate hypotheses inductively, based on natural and rich data, in order to inform design. It uses qualitative data from non-intrusive and non-directive interview techniques. Interviewees are not led by any specific communication technology or any intentions for designing.

Since cultural probes [3] were proposed as a new generative tool for gaining more insights from participants, many have been used to get design ideas. One of the purposes of Gaver's cultural probes was to get 'accidental glimpses' of the home's atmosphere. In Keller's study [4], cultural probes were used as a communication tool with which participants express their daily experience and their feelings on communicating in group discussions. Keller's use of cultural probes was for understanding the users in general. Wallace's probes [8] were designed, with the focus on personal significance, to encourage action, reflection, and imagination in order to answer questions, tell stories, and create images. Wallace's way of interpreting the information given is as a resource for conversations with the participants that in turn inspire the designs that result. This is the approach to be taken

here. In this Probe Study, a box of 'things to do' was left with participants at the end of the first interview as a stimulus for conversation with people in the second interview. The stories they told us are to be transcribed and subjected to grounded theory analysis. This paper focuses on the probe method. Another paper in this conference [5] puts this in the context of the first author's thesis work.

2. Procedure of Probe Study

A probe study was conducted where one member of a three-generational family, where at least one person is geographically separated from the others, talk about their emotional experiences. Two interviews were conducted with participants in their own homes, separated by more than a week. Six participants in the UK and three in South Korea were recruited. They were one father, living with his family in the UK, and one grandmother, living in South Korea with her husband, two British mothers, two Korean mothers and one 10 year old child in the UK. Korean mothers living just with children in South Korea were also interviewed.

2.1 Interview 1

The procedure for the first interview is set out in Fig1. Participants were first asked about their day-to-day contact with their family. A family map (see Fig. 3a) was drawn identifying family members and how they typically communicate. This technique is a natural way of gathering data with open-ended questions for example, *'I just want to listen to your story of your family and how to communicate each other. If you don't mind, I will write your name on the center of this paper. Is that ok?'*. Next, to sensitise them to the types of technology we are interested in they were shown pictures of four prototype communication devices (Lover's Cups [2], LumiTouch [1], HomeNote [7] and Whereabout Clock [6]). Pogo was a 3D plastic prototype. The participant was asked, *'What do you wish this communication device could be? How do you think it would be working?'* Finally, the probes were introduced and left with them.
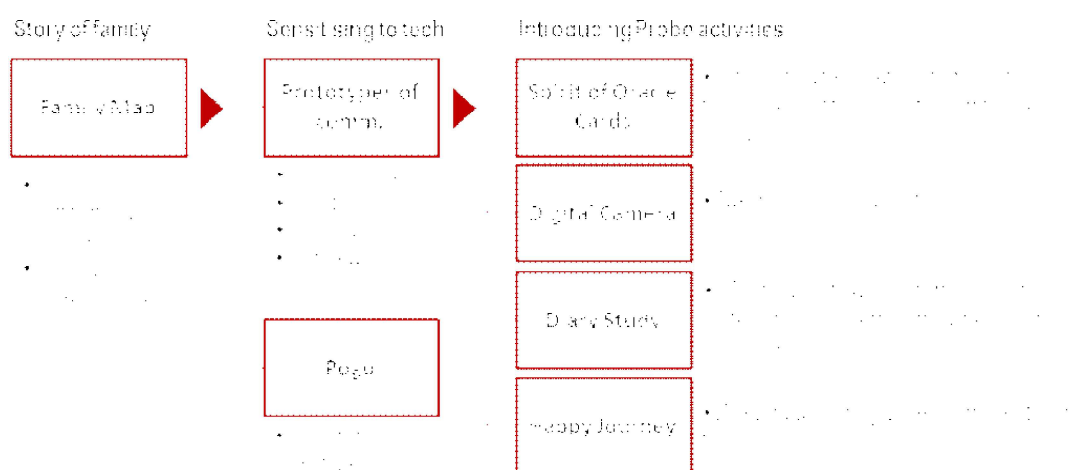

Fig 1. First interview procedure including probe activities

2.2 Interview 2

More than one week later from the first, the second interview was conducted. The probe responses were the stimulus for conversation. Participants were asked to talk about what they had done with the probes, focusing on how and why, rather than what and who, in order to get more emotional context. Some probe activities were carried out during the second interview. The interview was designed to be natural and non-intrusive. If any signs

of distress in the participants were recognized, the conversation was steered to another topic. All participants signed a consent form stating that they understood that the conversation was recorded and that they could stop at any time and ask to have the recording destroyed. No participant did this. Care was taken to ensure that the participants were not upset at the end of the interview. Interviews are audio recorded and transcribed. Transcriptions are made anonymous as the first step in coding and analysis.

3. The Probes: Box of 'things to do'

The probes we presented to the participant in an attractive "box of things to do" (see Fig. 2a) participants could choose to carry out one or more of the activities. These emotional prompts are four types of activities, each of which provides its instructions.

Spirit of oracle cards with an invitation: These cards were intended for emotional reflection as stimulus. Each card has its own name and image on the front such as 'emotions', 'intention', 'regret,' 'angel over me', 'blessings', 'faith', 'remembrance', 'speak your truth', 'soul mate', 'honesty', etc. Participants were asked to choose a few of them that elicit thoughts or feelings about their family, and write or draw on the back of the card.

Digital camera: Participants are suggested to take photos relating to any/all 11 prompts listed on the instruction sheet. These were something about you that you like, something you like to share with your son/daughter, something you like to share with your husband/wife, something you like to share with your mother/father, an element of family life, a favorite part of your home, a connection to someone you love, something connected to a favorite place, objects that are precious to you, children's homework, artwork, certificates that they really want to show off, and symbols of affection (see Fig. 2b). Some photo probe responses are of 'children's story book (Fig. 3b)' and 'iPod to listen to specific American radio programs together (Fig. 3c)'.

Diaries: Two diary cards were provided to write about special occasions of communication, for happy or unsuccessful ones with the date, time, contact person, and the types of communication. Third card was designed for log of telephone calls with the instruction of 'Please list as many as possible the telephone calls you have with members of your family between the two visits'. The common topics were intended to indicate daily context (see Fig. 2b).

Journey with my family where I was very happy: A3 sized paper was offered for describing happy journey participants had with their members of the family. The instructions say 'Write something next to "Start" and "Destination". Add drawing, stickers, words or sentences along the given line between "Start" and "Destination" that tell the story of what happened on that journey'. More than two events were expected to be described along the line on a journey in order to get as much data as possible (see Fig 2c).
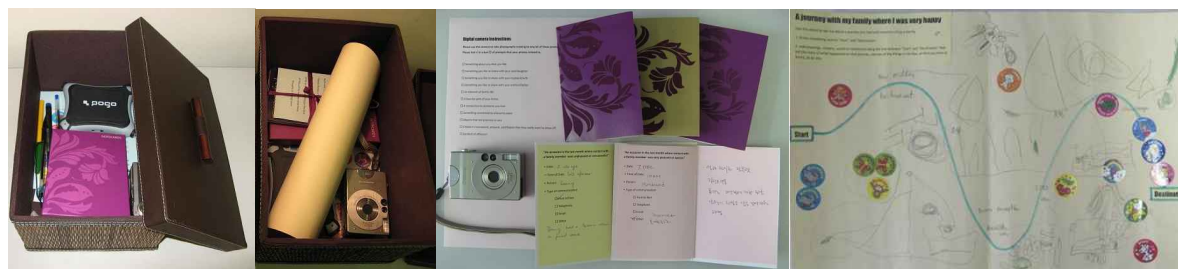

Fig 2a. Box of things to do, b. Digital camera with instructions/Diaries, c. Journey probe response

Fig 3a. Family map, b. Something to share with your son, c. Something to share with your husband

4. Discussion

With 8 hours of recorded conversation for Interview 2 and 7 hours for Interview 1 (English and Korean), 134 pages of transcript were generated. The analysis is currently being carried out using grounded theory analysis. Preliminary findings outlined are presented in [5]. The method combining emotional probes and interviews was successful in eliciting rich material for understanding the emotional needs of communication, also practical constraints of technology, such as daily context, cost, and time difference. Some participants took these activities as therapeutic treatment as they could evoke and explain explicitly their experience of retrospective, present, and future dialogue. Others wanted to keep some of probe activities for themselves as a symbol of the importance of the family.

Acknowledgements

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