

Empathy Probes

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ABSTRACT

Design empathy is needed when going from rational and practical issues to personal experiences and private contexts. Probes are specifically designed material packages given to the potential users to document their private lives, contexts and experiences. This paper describes a case study of experimenting with the probes approach, combining it with interviews and a projective tasks. The study was done in collaboration with Polar Electro Oy. The aim was to gain a holistic and empathic understanding of the people who exercise for wellbeing. This paper describes the study and the gained experiences on building and sharing design empathy.

Keywords

User centered design, user study, probes, collages, self-photography, design empathy

INTRODUCTION

Design empathy is a skill often mentioned by leading human factors and designers [1, 12]. Design empathy means that people are seen and understood from where they stand, not as test subjects but as persons with feelings. To get an access into the subjective issues marketing or user research reports are not enough but design empathy - a personal contact and connection with the users - is also needed [12]. It has two directions: towards the participants to create an empathic and respectful dialogue and towards the designers to support empathic understanding.

Sanders [10] divides user research into three areas according to the focus and the kind of information that can be acquired with the methods: say, do and make. Say and do relate to interviews and observations. The make-tools are physical or visual aids to allow people to visualise and

describe their expectations and dreams. According to Sanders these categories should be explored simultaneously to achieve an empathic understanding of the users.

As information technology has become a part of everyday life, people carry and use personal technology devices in changing contexts. To be able to design for positive future experiences the designer has to understand potential users as well as their physical and social contexts. This means widening the scope from task focused usability to taking into account contexts, actions, feelings, attitudes and expectations. [9,13]

These wider contexts affect especially the user research conducted before concept development. In the first phase of concept design the challenge is to find fruitful starting points and questions to be able to formulate the design task [8]. It is difficult to set well defined aims for the user studies at that point. One has to start by probing the possible area to find opportunities and searching for possible signals for new directions.

To gain a larger view into the lifestyles of people and facilitate a better understanding of people's experiences, more traditional user study methods e.g. observation and interviews can be supported with other approaches [10].

The Cultural Probes, described by Gaver, Dunne, and Pacenti [5] was a fresh user study approach into the private lives of people in different cultures. In the Presence project, as the traditional methods were thought to limit the view into too specific and controlled areas, "the probes were designed to be an alternative to the more traditional forms of user research"[6]. The word probe suggests an automatic recording device that is sent to unknown territories where human researchers cannot go, from where it collects samples, and sends these back to the researchers.

The probes in this study were specially designed material packages given or sent to the people to support self-reflection and documentation. These packages contained disposable cameras, maps with instructions and stickers,

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pre-stamped postcards, and were generally aimed at providing a constant trickle of inspirational material to support a cultural understanding at the designers' end. Different items in the package were not designed to gather preset or specific information, but rather to be inspirational and provocative and project unpredicted views to the life of the elderly.

While Cultural Probes could be criticised for lack of formal analysis, it addresses user research from a concept design and designerly point of view, seeking for new opportunities rather than addressing problems [5][8]. Strictly theoretical methods have not been widely adopted by designers. Designers are influenced by the concrete things they can see and feel [3]. When the returned probes material is offered in form of visual stories the design team has a chance to review the material again to look for stimulation and ideas. The material supports thinking and serves as a memory trigger and as communication medium for ideation [2].

Our interest was to gain experience in using the probes approach in a context close to the design industry. Unlike in the Presence project, where the Cultural Probes were developed by the designers themselves, we were in a consulting position, between the participants of the study and the client company. This created a challenge of how to communicate the gathered data to the designers in an empathic and inspiring but at the same time usable and motivating way. Also, we did not want to send probes only to collect inspiring signals but wanted to experiment on combining the probes approach with interviews and make-tools in a process of continued involvement for a more holistic understanding [10]. Our emphasis was on using the probes kit to allow the participants collect data about their physical and social context, life style, attitudes, and experiences to be explained and discussed later in personal interviews.

THE CASE: HEALTH, WELLBEING AND EXERCISE

Being a heart rate monitor manufacturer, Polar Electro had an interest in expanding their knowledge of non-users, especially those who exercise for feeling good and being healthy rather than competitive sports. Their aim of the study was to look at the experience of well being and exercise from a wider perspective - to understand the everyday life of people, their feelings and motivations.

The amount of participants for this qualitative study was limited to ten and they covered ages from 24 to 71 and conditions from headaches to recent by-pass surgery. None of them owned or used a heart rate monitor.

Tuning in

The study began by researching exercise and nutrition facts for by-pass operation patients. At the same time the aim of

the study and its participants were defined to match the interests of the company. Designing the probes kit requires an understanding of the area of the study, and the willingness to understand the informant. This willingness is the first stage in building empathy.

As health and wellbeing can be very sensitive issues, it was important to understand the feelings and the language of the participants and apply this knowledge to the probes material. A focus group was organised with half of the participants to open the discussion, erase our own possible preconceptions.

The Probes kit

Applying the example of other probes studies [5,14] the kit included a small diary booklet and a sheet of stickers, a disposable camera with a list of photography assignments, and ten illustrated cards with open questions. These were sent or given to the informants along with a stamped and addressed return envelope.

The purpose of **the diary** was to collect a set of daily routines and thoughts relating to health, well-being and exercise. Diaries provide tools for event documentation as well as reflection. To assist in the process of describing their feelings, a sheet of **stickers** was provided with cartoon faces and other little illustrations to do with everyday life, exercise, and the season of early summer. The use of the stickers was suggested but not expected.

The illustrated cards had a question on the reverse side with space for writing. The open questions were about issues of interest for heart rate monitor development e.g. how does exercising relate to social issues, how people achieve results, how do they reward themselves.

Some of the cards were about attitudes and facts, and were supported with a descriptive image such as a picture of a computer, a phone and a heart rate monitor. Some cards related to experiences and emotions had more provocative or suggestive images on them, such as a plateful of sugared cakes for a question about rewarding oneself.

The participants were asked to take **photographs** according to given assignments. As with the cards, some of the assignments were purely documentative, requesting pictures of the home and their information appliances, exercise environment. Other assignments required more interpretation and provided a possibility of emotional expression, for example "something disgusting" and "what do you see in the mirror".

Self-photography can be used in situations where the researcher cannot be present, and it collects visual information about the physical environment. Also, in allowing the informants to take the photograph, the choice and framing of the target becomes subjective. They can

decide for themselves what things they are willing to show. One participant did not want to show any members of her family in the photographs and chose her subjects accordingly.

Interview

Each person attended a personal interview where the preliminary review of the results was validated and other issues arising from the material were discussed. The photos, now attached to an album, were leafed through picture by picture, and the informants told us about the things in the photos and other issues related to the study.

As a final closure, the participant was asked to build a **collage** describing their ideal wellbeing and exercising assistant. Collages are sometimes used in the beginning of the design process to find the spirit for the design and in user research and participatory design exercises to reveal dreams and emotions [10]. The materials were a large sheet of paper, glue, and cutout pictures and words from magazines related to exercise, life style, feelings, people, environment and products.

Analysing the material

This study and the gathered material were reported to the company by presenting the collected material and a report with descriptions about the participants as characters and arising themes and patterns on e.g. motivation, measuring, attitudes towards technology illustrated with examples from the material. To report these themes in a less digested and more empathic way and to bind the analysis to the collected material we used the original stories and words to illustrate them.

Communicating the results

Although there was no direct relation to an ongoing product concept development project, we wanted to experiment if the probes and the interview material as such could be used to find new points of views for a company producing heart rate monitors. We organised a workshop with a multidisciplinary group of people from Polar Electro Oy.

This study presents a limited number of people but in previous meetings with the representatives of the company it was found out that going through the material of 10 participants at once is too heavy and time consuming. We chose to experiment with the material of four informants with widely differing attitudes towards exercise. The first preferred exercising alone, with the second the motivation for exercise was mostly to meet friends and mates, the third was very duty driven, the fourth exercised for the pure joyful experience.

The diaries and other materials had not been designed for easy photocopying and distribution, and also the

confidentiality had to be taken into account. The diary texts, card answers and excerpts from the interview were typed and combined with sticker messages and pictures the participants had taken. These files were then sent to the company, printed out, and distributed to each participant before the workshop.

To ensure that the workshop participants read the material each had a small assignment that required them to think of the informant in an empathetic way, such as writing a card from holiday on their behalf or suggesting a horoscope. This assignment was found to be a good way of starting the workshop. It created an empathic and playful attitude, which supported the teams in the concept design phase. All the presented concepts reflected needs arising from the material in a human-centred way and raised a discussion e.g. about the relation of physical and mental well being and growth.

SUPPORTING REFLECTION WITH PROBES

Case specific material

The probes material and the assignments are designed for the purpose. The empathy building process begins with designing the material, imagining the possible contexts of experiences, projecting designers' own ideas and questions about the research and design issues, and preparing a sensitive ear for understanding another person. In this case it happened by thinking about the issues related to exercising and heart rate monitoring as well as considering the values of life and exercising before and after a by pass operation.

The way the probes material is designed has effect: using ambiguous stimuli for users to respond to and allowing for expression verbally, visually and through action also enables the participants to express their emotions easier [10,14]. While having the material kit to document their life, the informants are attentive of the experiences and routines related to the issues being studied. To be asked to verbalise experiences, they become more aware of them [5]. One participant told us later that even after the study she thought what to write into the diary.

The diaries described daily routines and feelings of the participants. These thoughts with personal way of writing opened a subjective view into the life of each person. Some personal issues are easier to write than say aloud.

The stickers inspired some informants to make little humoristic or emotional messages. One informant explicitly told us later on that the stickers helped in communicating the feelings of the day. This suggests that providing people the possibility of easy to access illustrations makes the diary task more playful for the informants, but also more motivating and enjoyable for the reader, whether it was a researcher or a designer. The similar experience about the stickers and diary facilitating the feeling of empathy for the

reader was remarked in another probes study. [14]

Figure 1. Stickers in a diary



The participants did not say explicitly that the illustrations on the **illustrated cards** had been helpful for answering the questions, some of them were not even sure whether they had seen the pictures at all. However, some of them commented a positive surprise when opening the package for the first time and finding the colourful cards. Having separate playful items in the package can affect the motivation of starting the documentation. The responses on the cards provided more detail about issues that were not expected to emerge from the diaries. Some of the issues asked in the cards, appeared, however, in the diaries: the material seem to have given food of thought and stimulation.

Photographs illustrated the life style of these people, their preferences e.g. in exercising equipment. This assignment was surprisingly thoroughly done by all the participants and they were eager to see their photos developed. They had enjoyed in playing with the camera even though some of the assignments needed thinking and effort.

Interview

The persons, their environment and experiences described in the diary became easier to vision through the photographs. However, the explanations of the meaning of the choices were important for understanding the pictures. The photographs also served as easy starting points for discussion, e.g. about making decisions for purchase or issues that had not been asked about at all. Through these **photo album stories** we were able to go deeper into interesting issues.

The collages were emotionally expressive and dynamic. The overall image communicated the ideal attitudes of the person. Through the collage people produced a visual and emotional explanation of the personal elements of well being: nature, social relationships, food, exercise, pleasure, a positive attitude, and the harmonious balance between them all. However, we learned that our interpretations of single pictures were sometimes incorrect. Again the specific reasoning behind the choice of particular images was the key to a deeper understanding of the collage.

The collages were a useful extra to the probes and the interview. New issues that were not asked or mentioned

before were revealed. These collages can be used as such to explain the characters and their way of life or even illustrating the feeling of future products. Also the marketing people were interested in using them as a resource.

BUILDING AN EMPATHIC DIALOGUE

Empathy with the participants

The informants must have a feeling of empathy and trust to provide subjective information. We met most of the participants personally before the study. The probes packages were accompanied with a letter explaining the aim of the study and the probes tasks with personal greetings. In response most of the diaries also ended with greetings.

The probes were returned to us prior the interviews for a first review which provided a starting point for a more reflective discussion. As we already knew about them and their life, and showed that we were interested in hearing more, the interviews were intensive and focused on personal issues and stories.

Supporting design empathy

“The design process needs to start with an understanding of the use situation” [7] In a process before the concept design the understanding can start with finding “the new eyes” to look at experiences [11]. We learned that it is not only the probes material that supports empathy but it grows during the process. In our case, as the designers of the client company were not involved in doing the study, it was important to build a dialogue with them to understand their interests and raise an expectation for the results. Their opinions were asked when designing the probes. When we got the probes back we invited the company representatives to read and look the materials to get feedback what kind of issues they found interesting to focus in the interview.

Figure 2. Probes and designers



The packages themselves with the interview produced visual and narrative data of the participants' world including what they do (photos), say (diary, interview) and make (ideal collages). [10]. Through the study each informant

become vividly alive in attitudes, personality, motivations, and dreams. One company representative remarked as he was reading the original material, that the person could just as well have been right in front of him. The personal format and content of the diary complemented with the photographs was a powerful way of bringing the participant's way of life into the corporate meeting room.

DESIGNING THE MATERIAL FOR SHARING

How the material is to be communicated influences the choice and design of the probes. If needed the material should be designed in a way that it can be scanned and documented easily enough in its original format. When the probes are complemented with interviews or other methods, that data, e.g. photo album stories, should be easily combined with the probes.

With this type of user study, originality and credibility is the key quality in building empathy. Firstly, the probes kit materials are unique, handmade documents that communicate not only through the content, but also through handwriting, drawings, composition. The interviews are discussion about the materials, and there the most important qualities are the first person narration, language and vocabulary and then capturing all this and placing it in context with the original material. The same text handwritten and typed and printed out did not have the same empathic effect – the typed and printed matter was thought to be invented, not real.

The most preferred way for designers to have access to this kind of material is to put it on the wall or have it ready and available. If material is copied and distributed, the probes kit should be designed to support this and as much of the relevant originality should be retained.

CONCLUSIONS

Designers need both information and inspiration to be innovative, in that sense all the user data should not be cut up into small dry facts. [1] Analysing and digesting the empathic qualitative data into the design process needs time and effort, but at its best supports both communication, ideation and decision making. This way of doing user studies is also playful, flexible and easy to apply.

In this case the study provided empathic understanding of a segment of people. The personal stories and subjective descriptions supported a possibility of getting close to them and the originality was found to be an important factor in supporting credibility of the material. On the other hand the subjectivity brings another aspect: the data may be exaggerated or one sided.

The study was able to identify new perspectives for the client. After this study there are more defined questions to ask, situations and people to observe. In a concept design

project the first challenge would have been achieved.

The opportunities of companies lie in the understanding of everyday life of people [13]. In this study an empathic user study approach was applied to document subjective user experiences in private contexts. The experience of the company was that they had received material to facilitate human centered design. The achieved empathy brought a new layer to their understanding of potential users and supported real product concept projects.

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