ABSTRACT
In the context of design for experience this paper presents a review of existing models of user experience. In response to a prevalent view of experience as something individual, this paper suggests how these models should grow to include social use as well. Examples from a multimedia messaging study are discussed to this end and the concept of co-experience is introduced to take into account the social aspects of user experience and the experiences that users create for themselves with designed artefacts.

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A.0 [General]: Conference Proceedings

General Terms. Design, Human Factors, Theory

Keywords: User Experience, Co-Experience, Interaction design

1. INTRODUCTION
In the recent years there has been an increasing interest in understanding how to design and deliver user experiences to consumers. Experience is seen now as the next new business in addition to selling products and services [18]. In the field of design the word “experience” is used to mean many things, such as products, retail spaces and online content. In fact, it can be anything and everything.

The understanding, however, remains that experiences are private and subjective [18, 3] and what remain to be designed are the “contexts for experience” [3, 9, 20]. This means that design supports the possibility for having certain experiences while it is accepted that due to uncontrollable factors, the experiences may also be different. Models describing user experience thus have focused on describing experience [3] as well as defining the elements that contribute to experience [13].

The advances in consumer products and available technologies are bringing in new possibilities for product related experiences – an interesting example is the digital camera, which has been available for some years already. How is it used? Most of the time it gets no attention at all. Then a group of friends get together – suddenly the camera is pointing and clicking, being passed from hand to hand. Grouped closely over the display, the friends are commenting on the expressions, posing for pictures, deleting, approving and smiling. It seems that some experiences only come to life when they can be shared. How do current models of user experience account for this?

This question arose from the results of the Maypole study [5]. The study focused on supporting social interaction with new technologies. In the process of research and design, existing products with relevant features were field tested with target users. A field evaluation of the new GameBoy Camera was used to understand what kinds of experiences a personal product that can capture and share images might support. Collaborative use was important: teasing, editing funny images, staging pictures and creating stories – all things done together were the most enjoyable features [12]. The final prototypes of wireless image communicators were field tested with two families in Finland and in Austria [14]. The families used the prototypes in different ways depending on their interests. Children staged stories, took silly pictures and teased each other. The grandmother started creating abstract art puzzles and would talk about them with the grandchildren over the phone. Social use experience is more than the sum of the individual experiences.

The concept of user experience needs to be expanded to encompass not only the individual side of experience, but also to take into account the social side. In fact, the issue of not being able to design experiences can be resolved by letting the users themselves be the ones who create their experiences, and who do this also together. This paper explores how people create experiences together with designed artefacts. These socially created experiences, or “co-experiences”, are illustrated with a set of examples from a case study on multimedia messaging. Finally, the paper will discuss designing for co-experience, present possible dimensions for it and point to further work.

2. WHAT IS CO-EXPERIENCE?
Experiencing is a constructive activity [20]. Co-experience is the user experience, which is created in social interaction. Co-experience is the seamless blend of user experience of products and social interaction. The experience, while essentially created by the users, would not be the same or even possible without the presence of the product and the possibilities for experience that it provides.

2.1 Everyday Creativity in Co-Experience
The action of co-experience is creative and collaborative. Sanders criticises the individualistically oriented approach of experience design and suggests that the focus be rather on understanding collective creativity: the creativity of ordinary people in their everyday life. What people do and create together is much more interesting and unpredictable than what people do when they use things alone [21]. Creativity, then, is not just the domain of the designers, and what is created is not necessarily a product or art. Users create ways to make existing technologies and products work in for them in social interaction. Creativity is one of the drivers of co-experience.

Collaborative (and creative) design work has been studied in the context of professional designers, where Geisler and Rogers [6] analyse the process of co-construction, of people getting together to
make something. The results can be transferred also to support and understand the collaborative process involved in co-experience. The process of creation is argumental: participants make proposals and counterproposals, evaluate, reject and accept in a dialog of communication and action.

2.2 Everyday Social Interaction in Co-Experience

Social sciences provide insights into what people do in their everyday lives with each other and why. Some of the essential tasks of being a social being are to present yourself to others in a favourable way [7], keep social connections active, maintain normality [19], and string the events of everyday existence into coherent, meaningful narratives in the process [15].

Social motives the a key driver for co-experience and they affect people’s lives in all its aspects. Learning can be much more effective when it happens socially and socialising at the workplace makes actual work run more smoothly [17]. We want to communicate with our near and dear even if we have "nothing to say". People are both individuals and social beings, and neglecting the social aspect of experiences would be to overlook a very important aspect of being human.

3. EXAMPLES OF CO-EXPERIENCE

3.1 Creating and Sharing Experiences with Multimedia

A pilot study on mobile multimedia messaging (MMS) was organised by Radiolinja, a Finnish mobile telecommunications operator. Groups of friends were given multimedia capable mobile phones for a period of four weeks, and with their permission, their communications were logged. The MMS mobile phones are able to take a digital image, add text and sound to it, and send it as a multimedia message to other such phones and an Internet repository.

During the one-month pilot, the 25 users sent over over 2000 unique messages, which were analysed quantitively, and two samples of the messages were also qualitatively analysed. The messages are published here with permission and the names of people and places have been changed to protect their privacy.

Looking at the user experience of the MMS phones, the examples below demonstrate that being the owner of the MMS phone did not mean that the person was its only user. Many MMS messages were created by more than one person and received by a group or a couple, or were sent from a person other than the owner of the MMS phone to a third person in the company of an owner of a MMS phone. This was facilitated both by the features used to create multimedia messages and the context-rich nature of multimedia messaging, which was often used to introduce other co-present people.

3.2 Communicating Context

This exchange shows how participants share their mood and context without prompt, then in response (to introduce all the recipients) and finally by request.

The first message (figure 1) is just a casual message where the sender is sharing her experiences of the present – the sender, Anna-Maija, is clearly enjoying her evening and is sharing some the elements of her experiences with text and image (rosy cheeks, towel around head, cabin porch). The recipient, Kira, shows the message to two other friends, Emma and Pitu, who take interest in the summer place – maybe Kira and Emma have been there or seen pictures previously and talk enviously about the lake. Within a few minutes, Emma takes over the phone and creates a reply from herself and Pitu (figure 2). The girls introduce themselves with a picture as well as their names and create a request for more pictures of the cabin’s view of the lake. Back at the summer place Anna-Maija happily complies and within three minutes sends a picture of the sauna cabin, the first of a sequence of pictures describing the summer place (figure 3).

3.3 The invitation Greetings

This message (figure 4) contains several elements: a greeting, an emotive description and an invitation all in one. It also shows how easily other people can participate in the message creation.

Leena, the user of the phone, and her partner Pate have arrived at a summer place. They are there as guests of the woman in the picture and they probably also talk about Leena’s sister, who will be arriving the next day. Leena helps the woman to send a message to Leena’s sister by recording the voice message and taking the picture, and sending it off to her sister’s MMS-phone.
Subject: Greetings from Kesäjärvi!

From Leena: 10th July 2002 12:27

audio: [female voice] “So, greetings from here, our hot summer garden, from Kesäjärvi. Having a glass of sparkling. Leena and Pate are visiting, lovely. See you tomorrow then, welcome!”

Figure 4.

The welcoming message presents to the recipient elements for pleasant experiences: company (represented by the smiling woman in picture, the visitors’ cars and sounds of other people in the background), enjoyable food and drink (sparkling wine in the glass), the summery hot garden (in the background), and invites the recipient to share the enjoyment of these at Kesäjärvi (= Summer Lake) the following day.

Subject: Great holiday weather!

From Leena: 5.7.2002 11:58

audio: [male voice in windy weather] "Hi Pekka, greetings from these sunny isles, Leena and I are on our way slowly towards Porkkala point and as you can see, the weather here really is quite fantastic. Cheers”

Figure 5

3.4 Creating Humour with Rich Context

This message (figure 5) is just one example of the ways the multimedia aspects of the messages were used in a humorous way. The message plays a sarcastic version on the common format of sending post cards from holidays and describing how warm and sunny the weather is. The facts: the steely grey sky and waters behind the hooded figure, the man’s voice slightly raised to be heard over the whirring sound of the wind in the microphone. In fact, it is impossible to say if the person in the picture is a man or a woman. Their disappointment must also be put to context of the season: the previous two months of the summer had been unusually warm and sunny, and July is generally the warmest and sunniest time of year. The “fantastic” weather is in fact the opposite. Also here the message has been created together on Leena’s phone: it is a man who speaks, and who maybe is in the picture, the bright reds and yellows of the sailing jacket in contrast with the gloomy surroundings.

All messages with sound were analysed in one sample in which four distinct content categories emerged: humour, greetings, emotive content and informative content. Most messages contained more than one type of content (as in the case of the invitation greeting). Interpreting humour is difficult. A well-masked inside joke may be hard to notice but this sarcastic type of humour was easily recognisable in many messages as a contradiction between the meanings of the different media elements. For example, the text and the image would suggest one interpretation and the sound would provide the final clue and turn the situation upside down. Any combination of media could be used to this effect, but it would seem that in supporting these interpretations, the richer context of the sound was helpful. In a sample (N=98) of all MMS messages, humour was present in 12% of the messages. Messages containing sound were evaluated as a separate sample; and half of these messages were found to be humorous (see table 1). Humour was divided into subsets, such as situational commentary, absurd messages, insults, puzzles and spoofs.

<table>
<thead>
<tr>
<th>Message type</th>
<th>Humour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selection sample of all messages n=98</td>
<td>12%</td>
</tr>
<tr>
<td>All messages incorporating sound n=190</td>
<td>48%</td>
</tr>
</tbody>
</table>

These values should be understood as a rough impression, due to the complexity of identifying and classifying humour.

3.5 Co-experience in MMS

Co-experience takes two forms in the data of this study. One is the use of the mobile phone in creating a message. The other is the message itself and how its content is experienced and interpreted. Both have been analysed from evidence in the messages themselves.

While typing a sms message collectively does not sound likely or attractive, creating a MMS greeting does. The picture and the sound recording feature allow openness for participation and collaborative message creation – everyone from young children to parents and grandparents can be involved in speaking into the microphone and posing in the photograph. All of these messages were created in the first week of the experiment, when the participants were still exploring and discovering ways in which to make use of the message formats. The young women were familiar with text input and used that to communicate, while the middle-aged woman recorded her message in audio, giving a brief soundscape of the garden and the murmur of other people’s conversation in the background. The sailors make sure the howling of the wind is a part of their message, too.

So how can such a small image and a few words written or spoken serve to share experiences? The parts of the message serve the purpose of providing context, which is essential for using and interpreting humour and affect [17]. The interpretation of these media fragments, especially images, is surprisingly evocative and emotional [10]. Participants of an earlier mobile image communication experiment have remarked how the events described in messages appear better and more fun than reality [10]. The creativity in authoring these messages is similar to “performance” [7] where people control the physical environment as well as their behaviour and other expressions in front of other people to convey particular messages about themselves. With the fragmentary nature of multimedia messaging, this controlling and editing becomes very easy – multimedia messages can be seen as mini performances.
In messaging, both sender and recipient take part in the creative action. The sender quite literally may put on a performance, which is then documented and composed as the message and sent to the recipient. The elements of the messages may support each other and be intuitively understandable or create a discord or a puzzle, which then must be interpreted by the recipient. Quite possibly these messages also become part of conversations and discussions, in which interpretations and counter-proposals are created. Storytelling and reminiscing over photographs are the ways in which memories are shared and kept alive [4]. Whether this will be possible with multimedia remains to be seen, but for now the messages themselves are of a semi-disposable nature with limited storage.

4. DIMENSIONS OF CO-EXPERIENCE
With the onset of affordable digital media and information and communication devices, communication takes many forms. In face to face situations people are able to use their full range of expression: language, expressions, gestures, and interaction with the artefacts and space. Mediated communication has to rely on a more limited range – text, sound, image, and video alone or in any combination. Communication can be synchronous or asynchronous and constructed to require a reply or to function as a lone comment. As people become fluent in forms of media, these start to be used in new ways and combinations to create richer experiences.

Co-experience, however is not only about communication. Below is a first attempt at understanding the dimensions of co-experience.

4.1 Explorative - Organised
Explorative co-experiences are not planned in advance, they happen because a possibility has presented itself at a suitable moment. As an opposite, organised experiences are events such as parties, which are planned beforehand and prepared for. In the case of multimedia messages, participants use existings forms and predictable situations (postcards, birthday cards) as well as explore new forms (such as image puzzles). Dewey contrasts these two kinds of experiencing as the ongoing experience and the “an experience”; one the flowing ongoing consciousness and the other with a marked beginning and end, that can be completed. This experience breaks down into numerous smaller experiences, which comprise the whole. [2]

The decreases in price and size in consumer electronics are in their part allowing everyday life to become a business opportunity. Mobile and wearable personal technologies increase the possibilities of spontaneous communication. In fact, they are present in situations that until now have not been part of our documented environment just because of their unexpected nature. New technologies are pushing more new interaction opportunities into the explorative end of things.

4.2 Synchronous - Asynchronous
Dividing communication according to the immediacy or delay in reception and reply works both for co-present communication as well as mediated communication. Newsroom journalists remark aloud on their subject matter if they think someone at the neighbouring desk may find it relevant, and the reply may take place later, or not at all [17]. Mediated communication can also be synchronous or asynchronous, with a delay ranging from some seconds or minutes to days of delivery. As in the newsroom commentaries, picture messages may be part of a monologue, but responded to later when a suitable interpretation is thought of [10]. Spontaneity, especially as seen in instant messaging services is fragmenting communication but also extending the sense of social connectedness: the sense having a instant message channel open even if it is inactive [17]. In the MMS messages, this can be seen in messages that describe mundane situations and experiences but do not request direct replies or responses. With mobile phones, can such channels be considered open all day long?

The challenges are to develop new technologies as well as support and integrate the older technology platforms. The necessary communication may take place over a range of communication channels, and the study of only one channel is not sufficient; people may respond to a short message with a phone call, to an email with a photograph, and continue their internet chat session with a gossip over coffee.

4.3 Creation - Interpretation
Creativity and interpretation in co-experience relate to the ways in which the participants make things and experiences relevant and meaningful for each other. Information and communication tools are being introduced with the capacity to capture and send data wirelessly. For example, a picture, sound and text can replicate conventions of post cards, but new formats were sought as well. Creativity applies here both to usage and content. Creative use finds new possibilities for existing functionality. Creativity can also be the production of new content. Interpretation is then required in the interaction process. In the MMS study, the richness of the message content was much increased with the inclusion of sound and image, but not only because they provided a richer, multisensory description of reality, but because the elements together provided more possibilities for interpretation: emotion, mood and humour. Messages were created in response to previous themes visually, aurally and textually. Creating “performances” of our selves with new media allows more freedom in creativity and experimentation than real life. Technologies that were developed for “serious” communication turn out to have greater potential in sociable communication. In fact, in many cases there is no point in distinguishing tools from toys [16]. Studying innovative uses and solutions that users have created is now an accepted and essential part of new technology development.

5. CONNECTING CO-EXPERIENCE
Dewey [2] analysed experience and stated that the experience created by two people interacting is closer to art and drama than to sociology and psychology. In other words, it involves creativity and interaction.

Forlizzi and Ford presented a review and a model of user experience made relevant for interaction designers, in which they addressed the ways to talk about experience as well as the changing nature of the kinds of experiences people have. Experience flows between the states of subconscous, cognitive, narrative and storytelling, while learning and events like unexpected situations promote these changes. When experiences become meaningful, they promote storytelling. [3] Narration and storytelling imply social dimensions in experience. Meanings are communicated through storytelling, which suggests that meaningful experiences might be found in the kinds of stories that people tell of objects. Although the object is part of the story, and obviously related to the teller, these stories involve other people as well. Our dearest objects often symbolise people and relationships. [1] However, much of our interaction happens without conscious attention, and cannot directly be accessed through verbal accounts or stories.

Drawing the exact line between individual and social experiences is not easy. Problem solving has often been looked at from the individual’s point of view, but learning and problem solving can
happen collaboratively as well. As co-experiencing can be asynchronous, it can be difficult to tell whether something is an individual experience or whether it is a part of an asynchronous process. Human Computer Interaction (HCI) has been criticised for its cognition and individual oriented view on users and technology. Computer Supported Collaborative Work (CSCW) takes collaboration as its user. Still, even CSCW systems sometimes fail because of overlooking things such as the importance of social interaction in accomplishing apparently individual co-present work or tacit knowledge in paper-based manual systems. [8]

6. CONCLUSIONS

It can be seen that the division between individual and social experiences is not a simple one. The concept of user experience must grow to include also the co-experience dimensions of product use in social interaction. While consumer oriented, such holistic approaches have their applications in productive contexts as well.

To some extent, the “adoption of products” has been seen as something mysterious and beyond the control of the designer, which may or may not happen. The emergence of co-experience in social interaction must play some part in this adoption process. Co-experience is a process where participants together co-create the shared experience in a reciprocal fashion, creating interpretations and meanings from their life context and allowing themes and social practices to evolve.

In research into user experience, the social elements of experience have often been neglected in favour of individualistic approaches. Co-experience is driven by social needs of communication and maintaining relationships as well as creativity in collaboration. To support co-experience, these aspects should be addressed in user studies and design.

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8. REFERENCES


