Taking an Ethnography of Bodily Experiences into Design – analytical and methodological challenges

ABSTRACT

Physical dimensions of human-technology relationships are increasingly gaining attention in interaction design research. We attempt to make a contribution that incorporates sensitivities to the role of the body, bodily interaction, and bodily experiences in HCI theory and interaction design. To build creative links between our ethnographic findings of bodily practices and design, we translated them into what we call design inspirational cards describing the sought experiential qualities be used in idea generation and early prototyping. These are intended to be used as inspirational links connecting design with empirical findings and vice versa.

Categories and Subject Descriptors

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Keywords

Shared experience, bodily experience, embodied experiences, ethnography

INTRODUCTION

Physical means of interaction are increasing in our everyday lives typically exemplified by the iPhone touch based interface and the Nintendo Wii game console. In parallel, physical dimensions of human-technology relationships have recently gained more attention in interaction design research. This development is two-folded. One side regards the character and qualities of the physical artefacts, and the material circumstances that we interact with and around. The other side puts the physicality of our bodies and its consequences for human action and perception at centre stage. These directions of development are closely intertwined since physical shape, form, texture, size, etc., of interactive artefacts and settings have immediate consequences for the experiences they contribute in shaping. Moreover, sensor technologies offer new materials that can potentially be used to create for exciting embodied, physical experiences. These technologies allow for movement, touch based, and gestural interaction [1, 2] together with actuators, such as haptics [3] they create...
for a new exciting design arena, where the bodily experiences are put at core.

By investigating how detailed ethnographic studies of bodily practices in shared experiences can be made relevant in design, we attempt to make a contribution that incorporates sensitivities to the role of the body, bodily interaction, and bodily experiences in HCI theory and interaction design. In order to create an understanding of these issues, we have conducted ethnographic studies of groups of friends, as well as design explorations, at an art exhibition hall.

Contrary to much other HCI related work conducted in similar art gallery or museum settings [4, 1] our aim is not to contribute to the designing for an art experiences. Instead, we aim to design bodily engaging technologies for groups of friends to use in expressing themselves to one another, and thereby providing new dimensions to their experience before, during and after the visit. The art exhibition visit is just one of many possible activities for a group of friends.

Our work aims at designing technology for socially, bodily, and emotionally enriched experiences among groups of friends. We are particularly addressing how bodily aspects of the visitors’ experience and social interaction can be used as design opportunities and challenges in designing technologies for bodily engaging interactions, and for collective experiences within groups of friends.

We provide an approach to more explicitly taking bodily experiences as inspiration for design. In order to allow for creative linking between ethnographic findings of bodily practices and design, we have developed a set of what we call inspirational design cards which are aimed to be used in idea generation and prototyping. The cards display inspirational empirical findings from an ethnographic study, focusing on bodily ways of experience and interaction, thereby supporting design processes in making “the imaginative and conceptual move” in how to creatively take ethnographic insights to practical design work [5]. The cards are developed to carry experiential qualities from ethnography to design, providing details about movement, touch, gesture, spatiality, etc., while still opening up for the creativity and interpretation necessary in productive design work. We present a prototype case in which these were central in designing and implementing an artefact allowing art hall visitors to physically express and physically experience each other’s impressions of their visit at the art hall. Finally, we identify a number of challenges in describing and interpreting bodily aspects of experience and feeding such qualities into early stages of design.
**Design inspirational cards**

Our ethnographic material were represented in fashion that intended to illustrate a number of the properties that were prominent in our empirical material. The purpose of this was not to give a complete account of the visitors’ experiences and interaction at the art hall, but to provide a sense of the character of the material. The statements on the cards offer design inspirational formulations that capture prominent phenomena from our findings together with a photo from a particular situation in the data to make the material vivid. These are chosen because they have a clear character of

<table>
<thead>
<tr>
<th>Statement</th>
<th>Description</th>
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<tbody>
<tr>
<td>Body, eye, and gesture work for collaborative viewing</td>
<td>The visitors engaged in considerable collaborative action, bodily as well as verbally. Walking, positioning, gesturing etc played a key role in the engagement of collaborative viewing and sharing experiences around art pieces.</td>
</tr>
<tr>
<td>Urging to touch and feel art pieces</td>
<td>Visitors often wanted to and even did touch the objects in the exhibition to feel texture, shape, material, relief effects and other properties of the objects. Especially sculptures invited tactile explorations.</td>
</tr>
<tr>
<td>Living the artist’s hardship</td>
<td>Investigating how a piece was done in terms of material and technique. Reflecting some of the photographs the visitors discussed where the camera must have been placed to capture the motive.</td>
</tr>
<tr>
<td>Short collective views</td>
<td>The visitors browsed the art hall making short views of the art pieces spending as little as 10 seconds, and rarely more than 60, at an art piece.</td>
</tr>
<tr>
<td>Transforming the individual to the shared</td>
<td>The visitors engaged in creating sharedness out of their experiences even for art pieces that had a specific individual purpose, or by making sure that a friend</td>
</tr>
<tr>
<td>Maintaining conversations through bodily action</td>
<td>Conversations ranged from specific discussions of the art to talk about everyday topics, and the shifts between these were quick and managed by subtle cues in body movements such as gaze, posture, gesture and spatial positioning.</td>
</tr>
<tr>
<td>Spatial organisation</td>
<td>Visitors engaged in bodily ways of collaboratively exploring objects, e.g. by walking around objects in a coordinated fashion, or varying the distance to the art work.</td>
</tr>
<tr>
<td>Appreciative postures, moves and gestures</td>
<td>Valuing art pieces in a multitude of ways, through bodily expressions such as posture, facial expressions, demonstrative gestures, and ways of walking.</td>
</tr>
<tr>
<td>Regathering</td>
<td>Moving individually around the exhibition and regathering to share experiences. Leading friends to an object, describing it, or suggesting that they have a look.</td>
</tr>
<tr>
<td>Conversational clouds by art works</td>
<td>Conversations among groups of friends at an art piece at a particular place, travelled in the group. Associations was transferred throughout the group and picked up by new members matching that plot.</td>
</tr>
</tbody>
</table>

Table 1
physical and bodily action to them, while also relating to the activity that the visitors are currently engaged in.

The cards were used in design exercises in which the purpose was to develop design ideas and prototypes for bodily engaging technologies of being and experiencing together at the art hall. A thorough presentation of the empirical material was conducted to give the design team a clear sense of it. In Table 1, we present the nine most central phenomena from our material, together with an explanation of what these refer to in the material.

### USING THE CARDS IN PROTOTYPE DEVELOPMENT

Bringing the design inspirational cards to a first iteration of designing for bodily ways of interaction in the art hall resulted in 35 different design ideas, out of which three were further explored through lo-fi prototyping, bodystorming, and several short tests with visitors in the art exhibition hall. We also went on to technically implement one or a few critical aspect of these prototypes and tested these together with visitors at the art hall.

### LESSONS LEARNED

Bodily ways of expression and experiencing were prominent in many ways in our empirical findings, typically exemplified by the specific ways the visitors moved to create joint experiences or by pretended or actual touching of art pieces to engage in details together with their friends. Our design inspirational statements capture essential qualities of bodily action, these utilized textual descriptions together with photos from our video data. The statements were appreciated by the design teams that used them in design exercises. The statements guided designers in maintaining a sensibility to specifics of the bodily practices of the art hall visitors.

However, we are still struggling with ways of getting closer to the subjective dimensions of bodily interaction for design purposes. What we capture through our video analytic approach are aspects that are externally accessible for observation such as facial expressions, laughing, body orientation, postures, gesture and movement that participants produce in situ. We have not been able to capture experiential aspects of a more internal and subjective character such as the feeling of touching an object, or how smiles and body orientation contributes to bringing back memories and associations about things that friends share. For instance, in attempting to analyse some of the detailed gestures that participants used to physically explore the materiality of the art we were not able to get access to the immediate feelings and associations involved in those actions. To be able to design for such experiences we need to further explore how we can investigate subjective aspects of bodily experiences in design oriented fashion. Dance theoretical Laban’s notation for captures details of kinaesthetics by focussing on e.g. effort and shape, sometimes used in design oriented research e.g. by, while video analytic research captures the interactional role of artefact use and embodied actions. Such descriptive accounts are developed with purposes that in many ways differ from design oriented settings. In comparison, the kind of accounts that we used, were productive as starting points towards putting the design perspective first. Despite this, we still need to further investigate ways of capturing experiential aspects of bodies and bodily action so that
these can be represented and communicated in an inspiring and useful way to designers. This involves challenges in effectively describing how bodily action and experience actually occur, in relation to people, artefacts, and activities that these refer to.

REFERENCES

Short Bio
Jakob Tholander is a senior researcher at the MobileLife Centre at Stockholm University. He is also presently on leave from his position as associate professor at Södertörn University He finished is Ph.D. in 2003 in Human-computer interaction. During the last years he has worked with tangible interaction. Currently his research is concerned with design for bodily engaging mobile and tangible interaction.