

Emotive User-Artefact relations

Viktor Hjort af Ornäs, University of Skövde, viktor.hjort@ite.his.se

Abstract

This paper describes research in progress at Chalmers University of Technology's Human Factors Engineering group. Traditionally user-centred design has been focusing on usability. Lately increased attention has been paid to the feelings evoked by artefacts (e.g. Desmet 2002, Jordan 2000, Norman 2004, Nagamachi 1995, Picard 1997). We are interested in how products evoke emotions. We want to know what influences the feelings of the user, e.g. the individual characteristics of the user, the products expression and functionality, or other factors.

In order to find out how people talk about their feelings to products we have conducted an explorative focus group session. The n participants (4 male, 2 female) where asked to share experiences of emotional reactions to products, discuss some products shown on images, and finally try to explain what evokes emotions in relation to artefacts. What we gained was descriptions of situations where participants had felt emotions as well as explanations of why they thought they felt as they did.

Introduction & Background

Humans use products to accomplish goals and needs. Traditionally user centred design has focused much on the usability of products. However a product may fulfil a broad range of needs and wants that go beyond functionality in the traditional technical sense. A wristwatch, for example, may tell time but also be worn to express something. Traditionally in product development the influence a product has on the user has been described through customer satisfaction. These measures say little about what actually happens in the interaction between user and artefact. A more profound description would take into count how the artefact makes the user feel. If we for example look at dissatisfaction, it could be used to describe anything that does not please the user. The customer may be irritated or disappointed etc. Through looking at these issues one by one rather than by a combined metric we can derive more useful information that could help us in developing new products.

Users experience emotions when interacting with products. We are interested in how artefacts influence people's emotive states, and more specifically what it is that evokes emotions. Lately there has been an increase in research addressing the experience of products and more specifically the affective side of products. Conferences (e.g. DPPI 03 in Pittsburgh and Design and Emotion 02 in Loughborough) have been held and research societies such as the design and emotion society (www.designandemotion.org) have been organised. Several authors have also addressed the theme, some of the more noteworthy being Desmet (2002), Jordan (2000), Norman (2004), Picard (1997).

The feelings people have to products can be addressed using either quantitative or qualitative methods. An example of a quantitative method is Kansei Engineering (Nagamachi 1995) which describe the relation between users and artefacts by looking at how different design attributes correlate with the feelings of users. Products are evaluated on semantic differential scales (Osgood et al 1957) and also categorised in respect to their attributes (e.g. colour and shape). Statistical methods are then used to find correlation between attributes and perceived expression or users feelings. In developing new products this statistical data is used to make decision on the properties of a new design. A common problem in this approach is that it fails to recognise that there is a difference between what may be said about the product, e.g. a

watch expressing “exclusiveness” and what the user experiences, e.g. a sense of pride because he/she may expect to gain social status through wearing the watch. Another problem is that the attributes are considered to be independent, i.e. it fails to recognise effects of gestalt laws. The third and perhaps most serious limitation to this approach is that correlation alone does not tell us anything about causality. Hence we gain little understanding about what actually caused the feeling and about within what contexts our results would be applicable. Using Kansei Engineering we do not get a qualitative understanding. An example of a qualitative framework is that suggested by Jordan (2000) Jordan suggests a hierarchy of product appreciation similar to Maslow’s (1968) hierarchy of needs. In Jordan’s hierarchy the basis is functionality; the second level in the hierarchy is concerned with usability. The third and final level is denoted “pleasure” and has to do with appreciation based on aspects that are harder to anticipate; e.g. cultural values and personal preferences. Jordan quotes Tigers (2000) framework of four pleasures and describe how products can evoke social, ideological, physiological or psychological pleasures. As competition increases it becomes more important to meet the higher objectives in the hierarchy. Speaking solely about different pleasures may be limited, and only provide slightly more information than an approach focusing on satisfaction or delight. In fact, humans display a wide variety of different emotions and in relation to artefacts and these may influence both the general well being of the user and purchase decisions. Desmet (2002) studied emotions in relation to images of artefacts and developed an instrument measuring seven unpleasant (Indignation, contempt, disgust, unpleasant surprise, dissatisfaction, disappointment, and boredom) and seven pleasant (desire, pleasant surprise, inspiration, amusement, admiration, satisfaction, and fascination) emotions in relation to product appearance. The main limitation in this study is that it only consider the appearance and does not take the usage of a product into account.

Products may seduce and excite us. However it is not certain that all users will perceive the same qualities in a product. What is thrilling to one person may be repelling to someone else. When trying to study users’ feelings to products beyond the expression of the artefact we cannot in advance attribute all reactions to the product itself. We must also consider that there may be other factors that may play an important role. We are interested in finding out what evokes feelings in relation to artefacts. Is it the product in itself that evokes the emotions, e.g. through its expression or through the sensations the user feel when interacting with the product? Or is it perhaps its functionality? Is it the task that users carry out or the satisfaction or frustration of meeting or not meeting a need? We believe that through understanding the reactions to products we may gain information that can help us develop new products that are better tailored to the users needs. We are conducting explorative focus group sessions on the theme of emotions evoked by artefacts. The results presented here are from the first of these.

Method

In order to find out how people talk about their feelings to products we have conducted an explorative focus group session. Participants were all adults living in Gothenburg, covering both genders (2 female and 4 male) in ages ranging from 24 to 81. During the 1 ½ h session participants were asked to discuss their feelings and associations to products. Topics covered products that participants had emotional experiences with, as well as discussions around certain products. Participants were asked to motivate why they experienced a feeling. In the final part of the session participants were asked to try to find patterns in what had caused their affective reaction.

Results & Analysis

What came out of the discussions were descriptions of situations in which participants had experienced feelings to products. As an example; one of our participants describes irritation in

relation to the noises of mobile telephones. Most comments related to categories of products rather than specific products, e.g. most comments about mobile telephones did not concern attributes of specific models but rather situations that could be experienced with most phones. The participants expressed a number of different feelings that they had felt in relation to products. These were both positive (e.g. a sense of freedom, relaxation, harmony, curiosity, security) and negative (e.g. a sense of saturation, fear, dissatisfaction, stress, not being in control etc.).

Comments about products differed between participants. While one participant found something exciting and joyful in the potential information one could get through the phone others found the phone stressful in that there was a need to always watch over it and that they were hard to understand. The participants did not always have a distinct opinion about a product but sometimes described mixed feelings for it.

The participants discussed a broad range of explanations for their emotions. Among these reasons were: The way the product was acquired, Being in control of the situation and being able to operate the product, Novelty, The use quality of the artefact, and Individual characteristics of the user, e.g. gender. Interestingly the participants did not make many comments about the expression of specific artefacts in the discussion. Only in a few cases was comments made about colour, shape etc. They also seemed to think that usage was more important than ownership. The participants agreed that the activity in which the product is used is what has greatest impact on the feeling when using it. One of our participants was ambiguous to a pair of dice and a deck of cards. Depending on whether they were used in solitude or in a social activity they were perceived as either negative or positive.

Our study shows that when talking about the experience of using an artefact people describe situations. Many of these involve activities and the resulting feeling depends on more than the artefact. We must also consider the individual user, the activity the product is used in and the context.

Discussion & Future work

A focus group session is a discussion in which the participants may draw on each others replies. The results from one focus group are not something we could generalise to a population. We need to keep in mind that the comments the participants make reflect not only the way we phrase our questions but also the process of interaction in the group. Participants are asked to make retrospective reflections. This means that what we can capture is at best the conscious part of the affective interaction. There is also a part that is a direct response (Norman et al 2003). Although not covering all factors the conscious part of the relation to products is still very important.

The theme of this session was very wide in order to establish an idea of what aspects participants would bring up. We got a broad range of descriptions of situations which is what we wanted. However we got surprisingly little comments that were related to specific artefacts. Even when showing images most comments concerned general categories of products. We would like to get more comments about the specific artefacts. In upcoming sessions we will, apart from showing images of products, also bring physical artefacts that the participants are allowed to handle. By presenting participants with a number of products that they can compare and contrast (e.g. several mobile telephones) we hope to gain more comments about the specifics of each product. In future studies we consider to use a more focused methodology, and try to evaluate specific products with respect to specific emotions in a setting were we can try to control a number of parameters, e.g. the functionality or expression of a product.

References

- Desmet, P.M.A. (2002). *Designing Emotions* Delft: Delft University of Technology
- Jordan, P. (2000) *Designing pleasurable products: an introduction to the new human factors*. London: Taylor & Francis
- Maslow, A. (1968) *Toward a psychology of being*; New York: D. Van Nostrand
- Nagamachi, M. (1995) *Kansei Engineering: A new ergonomic consumer-oriented technology for product development*; International journal of Industrial Ergonomics 15 (1995) 3-11; Elsevier
- Norman, D. (2004) *Emotional design: why we love (or hate) everyday things*. New York Basic Books
- Norman, D. A., Ortony, A., & Russell, D. M. (2003). *Affect and machine design: Lessons for the development of autonomous machines*. IBM Systems Journal, 42 (1), 38-44.
- Osgood, C., Suci G. & Tannenbaum, P. (1957) *The measurement of meaning*, Urbana, University of Illinois Press;
- Picard, R.(1997) *Affective computing*. Cambridge, Mass. MIT Press
- Tiger, L. (2000) *The pursuit of pleasure*, New Brunswick, Transaction Publishers