

# Feelings for products- Sensations, intentions, beliefs and emotions

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## **Abstract**

Products challenge us, thrill us, upset us, and remind us about our past- they elicit feelings. A better understanding of this can help design contribute positively to user experiences. However a several different phenomena fall under the umbrella of feelings with products. The discussion is disparate and terms are used interchangeably which makes it hard to advance knowledge on the relation between different affective phenomenon and design. This paper discusses some meanings of the word “feelings” together with their respective relation to design. Three types of meanings of “feeling” frequently occur in texts on design and emotion; feelings as sensations, feelings as beliefs, and feelings as emotions. These are all relevant but in order to plan meaningful studies and to choose what explanatory models we use we must make a distinction between them. Further there are explanatory factors that are not under our control in design and also these should be included if we are to analyse how products elicit feelings. While sensations are closely related to product properties, beliefs depend on several properties interacting with the person’s prior knowledge. Value laden beliefs need to be explained in relation to the persons concerns. If we really aim to address the emotions elicited by a product we need to look at situations in which it has impact on the user’s activity. By designing products that help rather than hinder the user we can reduce negative experience and enable positive ones.

**Keywords:** User experience, feelings, taxonomy, methodological challenges

## 1 Introduction

Addressing the feelings products elicit through design would be both respectful to the user and commercially interesting. However there seem to be a lack of agreement about terms used to label experiences. This makes it hard to advance the body of knowledge within the field. Different authors within affective design, design and emotion etc. discuss various aspects under the same umbrella using the label emotions or emotional. This text instead uses the term feeling as a more general concept for different experiences. Affective concepts are hard to define and even emotion theorists disagree over terms such as “emotion” (Scherer, 2005). Desmet (2003) writes “A difficulty of affective concepts is that they are probably as intangible as they are appealing. Design literature tends to refer to ‘emotions’ or ‘moods’ when studying anything that is thought of intangible non-functional or non-rational“. The term feelings have been used to denote several different issues. Averill (1994) list three types of feelings: “Feelings of”, “Feelings about” and “Feeling like”. The first of these, “Feelings of”, are essentially bodily sensations. The second are essentially value-judgements, exemplified by Averill by “beautiful, provocative, disgusting, trite”. The third, “feeling like”, refers to action tendencies exemplified by “feel like running”. Averill argues that these match three essential components of an emotional experience; bodily reactions, cognitive appraisals, and instrumental responses.

To provide useful information for addressing feelings in relation to goods we want to find relations between some product aspect and the elicited feeling. Studies on feelings in relation to products sometimes use scales measuring “good”, “pleasant” etc. In other cases studies use adjectives such as “sporty”, “classic” etc. To address improve products we need to know what aspect of the product is being commented, or at least what type of feeling ratings and statements refer to. While several types of feelings may be relevant to design, we need to make some distinctions if we are to conduct meaningful studies that include the relevant explanatory factors.

This text aims to review some uses of the term feeling. The second aim is to try to establish to what extent these may be caused by products and addressed through design. The discussion is illustrated by examples from an assignment in which students were asked to document three to five situations where products played a central role in the elicitation of emotions. They were asked to think about what in the product elicited the emotion and consequences for product development, and to document the emotion, the situation and the product. While this

aimed to capture the eliciting conditions of emotions participants shared accounts also in relation to other “feelings”, which further motivates the need for clarifying some differences between the concepts.

## 2 Feelings as sensations & Feelings as intentions

One meaning of the term feeling is that of awareness of some inner or outer bodily state raised to a level of awareness. This corresponds to Averill’s category of “feeling of”. Sensations are involved in any interaction between users and products.



	Product: Low energy light Feeling: Dazzling feeling Product aspect: Shines too strong
	Product: Table leg Feeling: Pain Situation: Hit the foot Product aspect: Wrong placement

Figure 1, Examples of products eliciting sensations

In the lighting example in figure 1 there is clearly a property of the product that causes the feeling and this may potentially occur frequently when using that product. In the table example (see figure 1) on the other hand the user hits his/ her foot and experiences pain, which is less related to the product par se than the event of hitting ones foot.

Feelings can also be used to describe awareness of some internal bodily state, e.g. hunger as well as intentions, e.g. feel like going to the movies. In the following example the person feels a desire for consuming something sweet:


	Product:	Candy
	Feeling:	Temptation, desire, remorse
	Situation:	Sitting in the student common room. One knows that there is candy in the café and buys one. It whets the appetite and buy more. Once all are consumed you feel remorse but still feel like having more
	Product aspect:	You recognise the brand/design and knows what you get when you remove the paper and put it in your mouth

Figure 2, Example of a product eliciting an intention (approach and consume)

In the example in figure 2 the subject feels like doing something and then has some remorse over the actions taken. This is Averill's category of "feeling like"- i.e. some intention or action tendency. In this case the desire may relate to the taste of the products but also to the state of the subject, and awareness that there is a product available that may help meet that concern.

## 2. 1 Relation to design

Feelings as sensations depend partly on product properties but also on how the user interacts with the product. If we cannot predict the interaction (e.g. that there is a high risk of the user hitting his / her foot) there is little reason to try to design for that sensation.

Feelings as intentions may be both a cause and result for design. Much design aims to support the user in some intention. Products also elicit intentions, e.g. desire for candy may be triggered by the sight of it.

## 3 Feelings as beliefs

Feelings can also be used as a descriptive term about something, i.e. Averill's category of "feelings about". The feelings a product elicit in terms of what the user perceives it to be and associates it with, can be described as the meaning assigned to it. This may sometimes be hard to explicitly define. We assign meanings to all sorts of phenomena and also label them with words but sometimes lack of vocabulary for what we want to describe and borrow other labels using metaphors.



Product: Table lamp  
Feeling: Warmth  
Situation: Am going to watch a movie and need a nice light  
Product aspect: Soft shapes, coloured frosted glass that creates a “warm” light

Figure 3, Example of feelings about a product

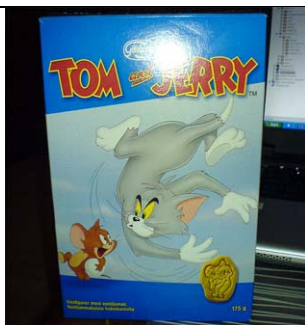
In the example in figure 3 the light was described as “warm”. This does however not imply that the light makes the user feel warm. The feeling of warmth applies to a property of the product rather than the user. Similarly, the helmet in the following example (see figure 4) was perceived as “aggressive”- which does not imply that it makes the user feel aggressive.



Product: Helmet  
Feeling: Satisfied, joy, safe  
Situation: Taking a ride on the bike. Fun and relaxing, Light and comfortable but a lot of buzz.  
Product aspect: The latest and foremost. Quite subdued colours, yet aggressive

Figure 4, Example of feelings about a product

Meaning includes not only an interpretation of the artefact as such. We also come to ascribe meaning to artefacts through memories and associations.



Product: Biscuits  
Feeling: Joy, nostalgia, expectation  
Situation: Happen to come across the box of Tom & Jerry biscuits at the grocery shop, came to think of my youth. Hoped it was as good as I remembered.  
Product aspect: The box’ expression gives me good memories.

Figure 5, Example of a product referring to previous experiences

The biscuits in figure 5 elicited positive memories within the person which resulted in nostalgia but also some expectations concerning their taste. Meaning may also concern potential futures as in the example in figure 6. .

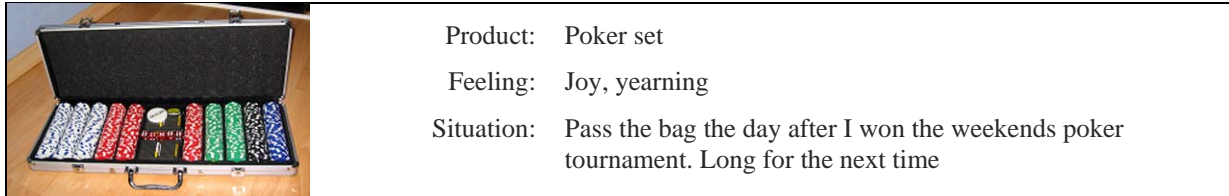


Figure 6, Example of a product referring to desirable future activities

In the example above the product is associated with some activity that the user values, i.e. it is assigned the meaning of being able to mediate a future event.

Meaning is in itself idiosyncratic. Each person holds his own associations and interpretations concerning the significance of a product. However we can also talk about “public” meaning, a commonly held belief that members of a group would agree upon. Richins (1994) denotes these private and public meaning.

### 3. 1 Relation to design

Feelings about a product are belief states representing what a product is and stand for, i.e. the meaning associated with it. When conducting studies we must try to capture not only the feeling but also what it relates to. If something is rated as warm we need to know whether the person thinks that the product is warm or if it makes the person feel warm.

The public meanings associated with products are addressable in design, e.g. through the products expression. We can design products that belong to a certain style, e.g. classic, sporty etc. There are several tools and methods available for addressing relations between “feelings about” products and design parameters. As an example we can measure the public meaning associated with an artefact with semantic differentials (Osgood, Suci, & Tannebaum, 1957). It may be possible to find some relations between properties and public meaning. Statistical approaches such as Kansei Engineering (Nagamachi, 1995) aim at this. The reasoning is that if the occurrence of a certain property is correlated with the assignment of a certain meaning to a product, the property contributes to that meaning. However this assumption is somewhat problematic. Looking at separate properties does not necessarily reflect how we perceive and

assign meanings to things. We interpret products as wholes (gestalt) rather than compositions of separate elements. Further these methods implicitly assume that a group of people share similar associations and interpretations. Meaning is elicited not by the artefact as such but by relations between some product aspect and the user's prior knowledge. While relations between some product aspect and meaning can be found it typically apply only a certain group of people that share some frame of reference. The idea of linking meaning to product properties has also been addressed using semiotic theory borrowed from linguistics. In product semiotics (Krippendorf & Butter, 1984) products are seen as sign systems that can be decoded. From this view we can see the product as a vehicle for communication between the designer and the user (Coates, 2003; Monö, 1997). Product semiotics provides an explanatory framework that helps us look beyond correlations between attributes and meaning in explaining how meaning is assigned to products.

While the private meanings of objects may provide valuable information for design, they may be harder to address through design. Over time we assign a product personal associations and meanings. This type of relations has been studied within sociology and consumer behaviour. In their famous Chicago study Csikszentmihalyi and Rochberg-Halton (1981) found that "*things are cherished not because of the material comfort they provide but for the information they convey about the owner and his or her ties to others. /.../ A battered toy, an old musical instrument, a homemade quilt provide meaning that is more central to the values of people than any number of expensive appliances or precious materials.*" Also within social psychology there are explanatory models that relate artefacts to identity, e.g. (Dittmar, 1992). The private meanings of products cannot be explained by products alone but by the significance it has in a person's life.

#### **4 Feelings as value judgements & valenced reactions**

Meanings ascribed to a product can be value laden- i.e. we associate certain objects with beneficial or negative aspects. The subject then has an emotional relation or an attitude to the product. We can explain some feelings about products, i.e. whether it is perceived as a good tool or not, by looking at the meaning assigned to a product in relation to what the user strive for. In other cases products may instead be loaded with negative associations because they somehow do not match what we approve of or like. People have norms, goals, aspirations, dreams and do not simply react to products as stimuli. People appraise the significance of products in relation to their concerns.



Product: Coffee brewer

Feeling: Disgusting, strong, warm, addiction

Product aspect: A coffee brewer is very important to many people, but it can be important in different ways. Most probably think of freshly brewed coffee or perhaps a coffee break. Others think it is beautiful or fun. Personally I don't like the coffee brewer. The first that occurs when I see it is that I don't like coffee, it feels superfluous, but if I look at it for a while I realise that it is quite fun, at least one could make it nice and fun.

Figure 7, Example of an attitude towards a product

In the example in figure 7 a person dislikes coffee rather than the coffee brewer. However this meaning rubs of to the product. The user appraises the product as mismatching her concerns. While appraisal may explain some attitudes it does not necessarily occur every time a user is exposed to a product. Attitudes “do not need to be triggered by event appraisals although they may become more salient when encountering or thinking of the attitude object” (Scherer, 2005). We may easily come to associate some objects with values. In other cases value laden beliefs may be tightly related to a specific activity. If the person engages in another activity the product may lose its significance. Scherer (2005) separates attitudes, “Relatively enduring beliefs and predispositions towards specific objects or persons”, from emotions which concern the immediate situation that faces a person.



## 4.1 Emotions

According to cognitive theories of emotions, emotions are the result of appraising events “with respect to their implications for well-being or for the satisfaction of goals, motives or concerns” (Frijda, 1993).


	<p>Product: Microwave oven</p> <p>Feeling: Annoyed, angry. Very annoying that it keeps on going although there is no meaning whatsoever in doing so. /.../ It should turn off after the first beep, why keep on going when its just annoying.</p> <p>Situation: Was going to eat a microwave pizza, put it in the oven and walk away. The microwave oven beeps when it is done but continues to be active and beeps at regular intervals to remind that it is done</p>
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Figure 8, Example of a product eliciting emotions because by interfering with the activity the user is engaged in

In the account in figure 8 negative emotions where experienced because the situation somehow conflict with the persons goals - the sounds interfered with the activity the subject was engaged in.

Emotions may help us deal with the immediate situations that face a person. Smith and Lazarus (1993) writes “Appraisal is an evaluation of what one’s relationship with the environment implies for personal well-being. Each positive emotion is said to be produced by a particular kind of appraised benefit, and each negative emotion by a particular kind of appraised harm. The emotional response is hypothesised to prepare and mobilise the person to cope with particular appraised harm or benefit in an adaptive manner”. Each emotion is tied to a more or less distinct pattern of appraisals. Frijda (1988) describes this in the law of situational meaning: “Emotions arise in response to the meaning structures of given situations; different emotions arise in response to different meaning structures”. What elicits emotions is not the situation par se but the person’s subjective interpretation of it. This may be coloured also by personality traits and the mood the subject is in. Emotions are elicited by appraisal of situations, in which products may play a role.

Emotions are directed towards something- they have an object. This object may be a change in state of affairs; it may be a person, a physical thing, an idea etc. In other words it could be anything that a person can hold a belief about.



Product: Clock  
Feeling: Wonder, cleverness, nice, “how does it work?”  
Product aspect: Design – the feeling of visibility. No numbers but nuts and a gliding walk of hands and cogwheels.

Figure 9, Example a product eliciting an emotion because of an intrinsic quality

In the account in figure 9 the person is fascinated by the clock because it elicits an interest. However emotions are not always directed towards the product (see figure 10).



Product: Tooth paste tube  
Feeling: Stressed, disappointed, annoyed, angry  
Situation: Was at my girlfriends parents and we were about to go home. Was stressed and should just brush my teeth. The tube was gooey.  
Product aspect: Some can't keep the tube clean.

Figure 10, Example of a product eliciting emotions where the object of the emotion is someone/something else

Products may act as antecedents triggering emotions even if the object is something or someone else. In the above the person is annoyed by and disappointed about someone else's behaviour which has resulted in the toothpaste tube being smeary.

Central to the elicitation of emotions is an appraisal of goal congruence/incongruence. This means that the role the product plays in the activity the user is engaged in is important.


	<p>Feeling: Irritation, anger, frustration...but still joy (over its existence)</p> <p>Situation: Am irritated by its incapability to sort the papers in order. The papers end up mixed in the printer, on the table and on the floor</p> <p>Product aspect: Its incapability to hold the papers, isn't capable of doing what it should.</p>
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Figure 11, Example of a product eliciting mixed emotions

In the printer account in figure 11 the user appreciates its existence but is frustrated because it fails to live up to her expectations. The functionality of the product is not up to part.


	<p>Product: Remote control for video/DVD</p> <p>Feeling: Expectation, irritation, feel stupid</p> <p>Situation: Am about to turn on the DVD-player, which doesn't work. Become annoyed and try pushing all possible buttons. Discover after a while a small symbol on the DVD player that shows that it is the video-function that is active. Try to change to DVD which doesn't work since I don't understand which button to push.</p> <p>Product aspect: Indistinct remote and bad display</p>
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Figure 12, Example of a product eliciting negative emotions because of usability problems

Also the user in the example in figure 12 has a hard time making progress towards the goal. Providing the right functionality is of little use if the user cannot make good of it. Not being in control may elicit negative emotions while being in control may elicit positive ones as in the example in figure 13:


	<p>Product: Playstation control</p> <p>Feeling: Joy, expectation, power</p> <p>Situation: Just bought a new game. Felt in control and how I had the power in the game</p>
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Figure 13, Example of a product eliciting positive emotions by mediating an activity

Even in cases where it is the state of affairs in general rather than a product aspect that is the object there may be some room for product development- e.g. we may design new products that either takes away tedious activities of doing the dishes, making ones bed etc. or turn the activity into something positive.

#### **4. 1 Relation to design**

We can make a distinction between traits and states, i.e. dispositional attitudes towards something, and short term reactions. It has been suggested that emotions with products stem from the relation between what the product is perceived to be and the users concerns (Desmet, 2003) which is true for emotions as attitudes. While these can be explained by a product in relation to concerns emotions may often relate to situations. Attention, goals and other factors influencing appraisal is likely to change with context, over time, and as the subject gets involved in another activity. We cannot expect people to react the same way to a product in a laboratory environment as they would in another situation. If we control variables in experiments there is a risk of obtaining results that are only valid for that specific situation, i.e. there is a problem with ecological validity compared to the actual situations in which people encounter products.

Our lives are full of products and in most situations many of them pass us by more or less unnoticed. Emotions in relation to products may be comparatively weak because products do not always have much impact on what we do. In many cases it is not the product as such that is important to users but whether it plays a central role in their activities. Emotions stem from appraisal in which the meaning of a situation is compared to the needs and motives (concerns) of users. In order to understand the contribution of a product to emotions we must understand what role the subject thinks it plays in a situation. While this may to some extent relate to a products expression it may in many cases relate to the products functionality and behaviour, i.e. how well it mediates an activity.

#### **5 Methodological challenges**

The different types of feelings reviewed here are all to some extent addressable through design, and all contributes to the experiences a user has with a product. While they are closely related problems may occur if we use them interchangeably. If we want to address user feelings in relations to design we need to be aware that these may need different types of explanations why we may have to use different methods in parallel. Whether the information

we capture in relation to users' feelings for products regard attitudes or emotions, and whether the appraisal occurs consciously or as an unconscious reaction, may be less important as long as we involve the relevant explanatory factors in our analysis. What is important is that we capture information that is useful- i.e. something that can help us improve products. In relation to design we are interested in looking at how various feelings are elicited by different aspects in products. This means we must somehow capture both the elicited feeling and what may cause it.

Capturing the elicited feeling may prove problematic:

1. Feelings occur within subjects and are only accessible for study through secondary phenomena, e.g. how the person reports them, physiological changes, actions etc.
2. There is no well-established taxonomy for describing feelings why it is not certain that users can verbalise what they feel. The examples were drawn from a study that was intended to capture emotions but yielded accounts on various types of feelings and several interpretations of the meaning of "emotion". This problem may go beyond the examples. Even emotion theorists have problems agreeing on definitions.
3. It is not certain that people know what to express since at least some of the cognitive processing resulting in "feelings" occur at an unconscious level.
4. Even if users are able to express feelings people do not necessarily differentiate between different affective concepts. We need to make clear what it is that is commented and separate feelings about something from how this makes the user feel. A sporty car does not necessarily make the user feel sporty.

To get information that is meaningful we must capture not only the feeling but also its object. Adjectives such as good, bad, nice etc. could relate to a sensation, a belief about the product or the user. Judgements are only useful if we know towards what they are directed and what elicited them. This could be the product as a whole, its properties, its functionality etc., but also symbolic attributes. Ideally we would like to capture what aspect of the product influence the feeling but even if we get explanations from participants in studies it is far from certain that the participants' conceptions of what preceded the feeling is in fact also what elicited it. While we in design want to make decisions concerning properties of products and these play some role in the elicitation sensations, beliefs and emotions, they are in many cases a

necessary but insufficient condition. There are also several other causal parameters that play an important role:

1. Feelings as sensations are likely to be quite closely related to specific aspects of a product (a sound, surface material and texture etc.) and hence addressable through design if we can predict how the user will interact with the product.
2. Feelings about a product, i.e. the meaning ascribed to it, depend on the background knowledge of the user. Both private and public meanings regard beliefs that depend on the users' prior experiences why they may vary between different groups of users. Further feelings about products depend on how different design parameters interplay.
3. Value laden feelings about products cannot be explained by products alone. We need to involve the users concerns in our analysis.
4. Emotions occur in relation to situations. If we are to explain emotions with a product we need to look at its role in an activity occurring in a specific context. Emotions are elicited by changes in affairs and to address this we need to look also on how the situation develops over time.

## **6 Concluding remarks**

Feelings occur within people and we cannot design an emotion or any other feeling. We can however create conditions so that products may elicit emotions. In the words of Sanders (2001) we cannot design an experience but we may scaffold for it.

Several types of feelings contribute to the experience a user has with a product. To relate them to aspects of products we need to use appropriate theories and involve the relevant causal parameters in the analysis. The various feelings a user may experience in relation to a product may only to some extent be explained by the product in terms of dimensions, colours and other parameters. Users value products not only for their physical properties, but for the meanings they elicit and the role they play in mediating activities. We are dealing with real people; active subjects that have goals, intentions and motives. If we really aim to address the emotions elicited by a product we need to look at situations in which it has impact on the user's activity. We can strive to design products that fulfil a certain role in situations by creating products that help rather than hinder the user. We should strive to reduce negative experience and enable positive ones.

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