

Affective Prototyping – a Theoretical Proposal

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ABSTRACT

Prototyping is an essential tool in the designer's repertoire, when it comes to making sure the concepts of your design fit the expectations and needs of your intended user. But it is a practical tool, created and used primarily to understand user experiences, explore design ideas or communicate design concepts [1]. Affect is a well-known and well-researched topic, when it comes to analyzing finalized designs and concepts, but using it in the design process, as a tool to be used as other design tools, is another matter completely. In this paper I will try to outline the possible benefits of introducing a new way of thinking about what prototyping should try and accomplish, and what it can do in specific design processes. I propose to use the prototyping method to create affective link between the user's experiences with the prototype and the final design product.

Keywords

Affect, Interaction, Prototyping, Design Theory

1. INTRODUCTION

To overcome adverse reactions to your design, when presenting it, or delivering it to the intended recipients, is a difficult thing to do. It requires understanding of the user, his expectations, and knowledge of the degree to which your design lives up to these expectations. Each of these fields of understanding represents a potential problem in regards to your expected user's reactions. Having a design that does not live up to the expectations of your user's, is not in itself a problem. There are various ways of making sure the perspectives of your intended users are related and integrated into your design: by involving them, making them participate in workshops and thereby giving them a voice in the designing of the final product. In this paper I will outline the possibility for influencing user reception by creating an affective link between the user's relation to a chosen mode of interaction, and the final design product – using a theoretical method I like to call Affective Prototyping.

The scope of this paper is to explore the possibilities of including affective dimensions into a prototyping situation, on a theoretical level. In effect, this limits the paper to a theoretical review of

current literature with a possible reflection on future practice with regards to the topics at hand. This is not seen as a weakness, but as a result of the basic need for strong theoretical considerations, before empirical studies can be carried out, in support.

In closing, the paper does propose some immediate steps, which if pursued, could support the argumentation of this paper strongly.

2. RELATED WORK

This paper focuses on the possible effects of the interaction between people and products, being more or less finalized. This position is covered and expanded upon in Forlizzi & Battarbee [2]. This paper shares that focus on the experience of that interaction, and specifically the emotional bond or link to a given product that a person can experience as part of, or result of a given interaction. In line with the content of their paper, this paper will focus on the interaction-centered models, and especially the emotional thread of experience, as presented by Wright [4].

One could argue that this paper takes another view to the term of expressive user-product interaction, as presented in Forlizzi & Battarbee [2], with the extension of the concept to include interaction where the user doesn't modify, change or personalize the product, but engages with, and creates a personal story about the product and interaction.

To expand on the concept of experience and the emotional consequences of experience in particular, this paper also draws heavily on the concept of Affect, as presented in Massumi [3]. In the article, Massumi presents the affective tonality of a situation as the basis for the resulting emotional attachment by the user to the situation and experience as a whole.

The amalgamation of both of these approaches, the experiential and affective, is put into play much earlier in the design process, as part of the prototyping phase. This is done, not to secure effectiveness of the design, or to improve the prototyping procedure as it stands, but to refocus it to another purpose – to make sure that the affective tonality, or emotional response to the design, is positive.

In effect, this is similar in focus and goal to the experience prototyping suggested and elaborated on by Buchenau & Suri [1]. That paper presents three design situations, that can be enhanced with the use of a differently focused prototyping method, and in this paper I expand upon one of these, the communication of design concepts.

3. AFFECTIVE INTERACTION

3.1 Affective Tonality

In Interactive art, affective tonality or mood is the binding power between the instances of action and reaction, which in turn constitute interaction [3]. It is the thing that gives the interaction,

with its otherwise fragmented nature, a wholeness and creates a situation, instead of a string of separate events. When interacting with an art installation, one is immersed in this wholeness, and the underlying mood colors the perception of the interaction, both positively and negatively, depending on the tonality and qualities of the interaction situation. This is similar to what can happen when interacting with other, more mundane interfaces. When presented with a novel interaction form, or a new version of a familiar product, we immerse ourselves in the interaction, and as a result, our affective relation to the interaction or product is shaped and possibly changed. This can be used in the design process, to shape the affective relation to a product, or to gauge the degree to which the current model of interaction generates an affective response. To create an affective tonality in a given situation is to make the person(s) involved react emotionally and give the situation an in-ness [3]. The division between affect and emotion, the reflectiveness, is central to this idea. The unreflected affective engagement becomes reflected emotional response in retrospect, and as described in Massumi and detailed later in this paper, it can color and reshape perceptions and experience. Instead of making the situation subject to reflection or analysis, the immediacy of it, and the immediacy of preceding and following moments is brought to the forefront and given voice. It is not the content of the situation, and as a result, it can be very hard to plan or presuppose, but as explained later, some things can be done to make a given affective tonality appear.

Affective tonality is central to creating a positive or negative reaction to the interaction, and to whether or not the agent in the interaction recalls it as pleasant or unpleasant. The tonality is a result of particular events in the situation, particular moments, and the immediate and unreflected response of the participant to those events. A good response, a feeling of accomplishment, security or power, can color or taint the following moments positively, and in effect also recolor or retain the preceding moments similarly, whereas a bad response, a feeling of disappointment, anger or fear, can lead to a likewise negative coloring or recoloring of the preceding and following moments that make up the situation as a whole. [3] That makes eliciting the right, or wanted responses central to ensuring desired affective tonality, and emotional reaction to a given experience.

3.2 Models of Experience

To understand the emotional effects of prototyping we turn to Forlizzi & Battarbee [2], who present different models for experience, as encountered in interaction, focusing mainly on the interaction-centered model as presented in the paper. Since interaction with prototypes is qualitatively new, at least from the point of this paper, the interaction cannot easily be described as *fluent*. Likewise, since the focus of Affective prototyping is the emotional response to the interaction, rather than the cognitive solution to a given problem, or acquisition of knowledge, the interaction wouldn't be considered *cognitive*.

As a result, we focus on the *expressive* user-product interactions, which can form the basis for trying to prototype an affective user response to a given form of interaction, and as a result, create an emotional link between user and product.

To use their terminology, what I am suggesting the design team tries to create is not "experience" or "co-experience", but "an experience", which inspires an emotional change in the user. The main difference is in the scope of the interaction, and the resulting affective bonds, and their emotional repercussions. Specifically, we want the subjects to be able to express, with or without words,

the effects of the interaction on their relation with the design. The changes in emotions in return changes the plans and intentions of the user, the organization of the procedures related to the plans and the evaluation of the outcome of the plans and procedures.

It is worth noting that changing the focus to a co-experience approach would make it possible to utilize even negative emotions to form positive shared experiences, as explained in Forlizzi & Battarbee, but for now, the focus remains on a single user, and a single interaction prototyping situation [2].

3.3 Prototyping Interaction

There are many reasons for involving the user in the design process. Not least of which is the possibility to test early stages of your design, before being resourcefully committed to a particular concrete design. This is not the only reason, as I have stated previously. The opportunity to make a likewise uncommitted test of a chosen form of interaction is another one, and even more so if your reasons for choosing that particular form of interaction are weighty and/or difficult to explain.

3.3.1 Experience Prototyping

To use prototyping to relate design choices and communicate design concepts is a well-known and described practice [1]. While the purpose of Affective prototyping could also be described as understanding users responses to a concrete idea, or explore the possible effects of affective tonality on the overall reaction to interaction, its main focus is communicating design ideas, the third of three design activities mentioned by Buchenau & Suri. Using prototypes as means of communication is often limited to a logical or practical communication, and not geared towards changing opinion or emotional response to the content of the communication.

The point made in Buchenau & Suri is that prototyping can be used to let users form their own subjective understanding of the intended design, which I expand to include understanding of the emotional responses to the affective tonality present in the interaction with the prototype. This is done, not to better understand your design, but to make your intended users understand your thoughts and reasons for choosing that exact solution to the design. Thus, instead of being focused on simply communicating, the goal of Affective prototyping is to alter or change the attitude or emotional response to your prototype and by extension, your final design.

3.4 Affective Prototyping

When you have a chosen form of interaction, and would like to make sure that the interaction is well-received, one way to go about doing this is to make your users participate in an affective prototyping session. It does not differ from a normal prototyping session, in regards to methods and tools, but the object of the session is not to make a proof-of-concept, but to influence the user's relation to your chosen mode of interaction. I have mentioned the different uses of prototyping, as explained by Buchenau & Suri [1], and as previously stated, would like to present Affective Prototyping as a communicative tool, rather than an exploratory or understanding-seeking one.

3.4.1 Making an Affective Prototype

It is hard to come up with a comprehensive list or description of how to go about making an affective prototype, for one very simple reason: The specifics of the setup of your prototyping session depends on your preliminary design and your users along

with any other design-specific limitations or requirements. This makes a predetermined list of things to communicate, along with the specifics of the possible affective tonality and emotional responses, nigh on impossible. Instead of trying to make a full list, I will try to outline some of the things that I think are important for an affective prototype, and the reasons for them being important.

3.4.1.1 Positive Affective Tonality

To make sure that your users feel that the interaction is pleasurable and would like to repeat it, the overall affective tonality should be geared towards positive affirmation and rewards. This seems quite logical, but as quickly noted in the coverage of models of experience by Forlizzi & Battarbee [2], there are also positive things to gain from experiencing initially negative interaction.

Repetition is the key here. Wanting to repeat the interaction, whether overtly or (as explained later) in a hidden form, adds to the user's acceptance of your overall design, including the chosen mode of interaction.

3.4.1.2 Hidden Interaction

The interaction, while central to your prototyping session, should not be overtly placed at the center of attention for the users. This could lead to reflection on the context and situation, rather than the immediacy of the interaction.

Making the interaction hidden is something that sets this form of prototyping apart from others, and one of the reasons why I would find it hard to categorize Affective Prototyping as either exploring or seeking understanding. In effect, what you are prototyping is not the design object, but the underlying, meta-layer of interaction, as envisioned by you, which is then ported onto another context completely. The exploration or understanding gathered from such prototyping could only relate to that specific situation, and as a result of the port, could not be directly used to explore or understand your actual design, other than the interaction..

3.4.1.3 Gamification

One way to make sure the interaction stays hidden, and keeps a positive affective tonality, is to use Gamification as a design guideline [3], when designing the prototype the users are going to interact with. This is to make sure that the possibilities of the users seeing the link between your prototyping context and the actual design context are as small as possible. While it is not forbidden to use similar or work-oriented contexts to prototype interactions intended for such situations, it is more likely that the users will be focused on the context, instead of the interaction. Keep in mind that the affective prototype and the final design product do not need to have anything in common, aside from the chosen form of interaction.

3.4.2 Considerations

There are certain caveats when it comes to affective prototyping, primarily the necessity of the complex relationship between designer and user. The two parties involved in the prototyping process need to bring their respective knowledge and professional skills to the table, as well as an acceptance of the skills and knowledge of the other participants, and as a result, the relationship is both symmetrical and asymmetrical at the same time.

The symmetry comes from both parties bringing professional skills and knowledge of the design situation and design practice to the table, while the asymmetry comes from the differences in the present knowledge. The designer has meta-knowledge of the inner workings of the design process, that the user does not necessarily have, and the other way around – the cooperation requires acceptance and understanding of this asymmetry.

When talking about the relationship between, and relative input from, both designer and user, it is also relevant to point out that in one respect, they are very similar, and that is in their respective capacities for emotional response, and as a result of this, their ability to become affectively engaged in a given situation. This is vital in understanding the reasons for Affective Prototyping, and more weighty than respective professionalities in this regard.

Another consideration about the usefulness of Affective Prototyping is the setting in which it can effectively function. There has to be a known and limited user-group, to which the designer has a wide range of access and possibilities of involvement and communication. This more or less limits the method to be used in situations where a designer is contacted and required to solve a certain design-oriented problem – design by request.

4. CONCLUSION

In this paper, I have presented an idea of expanding the usefulness of experience prototyping, by changing the goal of prototyping from communication to creating “an experience” where the user gets a chance to create or change their emotional or affective bonds with the design object. This is to show that it is possible to make the user part of the group of design areas that a designer can actually design upon.

In order to bring some of these ideas to fruition, and actually support the theses put forth in this paper, I propose making a two-part study of observation and implementation.

Firstly, I would think there is a need to observe and record actual prototyping situations, and from the data collected, try to find instances of affective interaction, characterized by immersion in the interaction, or clear, emotional responses.

Secondly, I would propose considering and analyzing the data, and from there attempt to construct a model prototyping session, where the potential situations for affective interaction and emotional response are supported and brought to the fore.

From there, it would be easier to judge whether or not the affective relations are a resource to be used by the designers, in constructing design workshops, such as prototyping sessions, or not.

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6. REFERENCES

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