I'll be your mirror

In certain areas of HCI a lack of reflection about the content in papers and articles is apparent. Are the results really legitimate? Are the claims made realistic? Sometimes rash conclusions are made with seemingly no deeper afterthought regarding the outcome of the research.

But the debate about this is virtually non-existent. The voices that need to be raised are silent, or perhaps not interested in dealing with this problem. Who knows? This is the real problem which I will address in this short paper – the lack of critical thinking within our own field of research. I will present three articles where parts of the content are worth debating. Doing so, I will be using a method partly derived from Socrates. I will then exemplify what I as a student have done to encourage this debate and finally give suggestions to what can be done in a larger scale in order to promote reflection in the HCI community.

Jon Mårtensson
IT-universitetet
jonbm@ituniv.se

INTRODUCTION

The title of this paper is stolen, or borrowed is perhaps a better definition, from Nico, the German chanteuse in the legendary band Velvet Underground. In the song "I'll be your mirror" she sings: "I'll be mirror / reflect what you are, in case you don't know" [9]. This is a very fitting description of the intentions I have with this paper. I do not want to condemn anyone; I just want researchers active within the field of HCI to reflect over what they are actually doing and once they have done that, reflect over what others working in the community are doing.

When a new theory is made official within the social or natural sciences, the publicist is aware of the fact that the theory will be closely scrutinized by others within the community. It will surely be a subject of critique, and if the founder of the theory successfully can argue for the sake of the theory it will most likely be accepted as legitimate. This critical reading is a vital part of the process of generating knowledge, but as I see it the same process within the field of HCI does not have the necessary critical and reflective abilities. I will give three examples of papers which, some more than others, would have beneficed from such a critical reading. Many of the questions I ask regarding them are purely rhetorical and will be left unanswered. This is intentional and an approach inspired by Socrates and his take on philosophy and how to spread knowledge. I, much like Socrates, do not strive after a solution since I believe that most of my questions cannot be given simple answers. Instead I want to give food for thought and to hopefully make others react to, reflect over and debate the questions raised by these articles. This paper should be regarded as a meta-example of my vision.

THE SOCRATIC METHOD [8]

Socrates did not leave any writings behind him; he only exists through the works of other philosophers and writers. According to the professor of philosophy Gregory Vlastos Socrates "is the investigator, testing his own ideas in the course of testing those of his interlocutor, watching the argument with genuine curiosity to see whether it will really come out where it should if the results of previous arguments were sound, and scanning the landscape as he goes along, looking for some new feature he failed to notice before." Socrates did not claim to possess the truth; on the contrary he stated that the only thing he was sure of was that he did not know anything. This statement in combination with his role as an investigator is the foundation of a humble philosophy. It supports the view that the human being is not a monolith, but a constantly changing entity. The change in this case is a direct cause of better arguments.

A method used by Socrates was the *elenchus*, which could be translated as "the refutation". "You say A, and he shows you that A implies B, and B implies C, and then he asks, 'But didn't you say D before? And doesn't C contradict D'?" Socrates did not give any final answers to a problem and he was very aware of that, instead he functioned as a catalyst to spur reflection and in the long run new ways of thinking. I find this approach very rewarding, exemplified later on.

THE PAPERS

Smart home – digitally engineered domestic life [7]

The paper "Smart home – digitally engineered domestic life" deals with the notion of the smart home. The authors line up examples of prototypes they mean will enhance our ways of living. Amongst the examples are a smart sofa that enhances the experience of watching films or playing video games, "DigiFlowers" bursting into bloom when a member of the family is approaching the house and a smart wardrobe that can recommend appropriate clothing depending on the outside weather. Curiously enough it is hard to tell in which context the article would fit better. With prototypes like the smart pillow being presented with the following words: "Wouldn't it be great if, as an adult, you could still be read a bedtime story of your choice and have someone taking care of you and your needs when you went to bed each night?", or the authors conviction that the smart projector "…is bound to become a favourite with all the family members, and being wireless, connected to a home digital device, there is never any trouble with the location when using this multi-functional projector" it is hard to tell if one should categorize the paper as pure advertisement or serious research. Is this type of publication a threat to the perception of ubiquitous computing-related HCI research as a valid academic field? Why was it accepted for publication in the first place being written in the subtle persuasive and salesman-esque way it is?

In the beginning of the article the authors state that their notion of so called smart memories is to have an atmosphere transmission system remembering the living pattern of a resident and recall his or hers favourite smell, sounds, lightning and images in order to create a "perfect and appropriate atmosphere in the smart house". But is there really a way for a house to dictate the ideal setting for a resident? The human being is at least in my opinion very difficult to pinpoint emotionally at a given time. If I take myself as an example, most of the time I am not sure what the perfect setting would be according to my mood. And if I am not sure of myself, how could a house be able to tell me what would suit me? And the plot thickens considering a house normally has more residents than one. Whose mood will the house prioritize?

Touch Me, Hit Me and I Know How You Feel: A Design Approach to Emotionally Rich Interaction [10]

In this article the authors try to propose a way of designing emotionally rich interactions, that is interaction dependant on emotions expressed through actions. In order to reach the goal of designing artefacts for this kind of interaction a three-step method is explained. The first step deals with retrieving the relevant emotional aspects from a user. This is done with the method of using cultural probes [3]. The second step is concerned with how the artefact gets aware of a user's current mood. The information needed for the artefact in order to do so is broken down into four categories. I will discuss the fourth category, called "sensed proximal information". It carries according to the authors "direct information about a person's emotion. People express and communicate their emotions through behaviour and therefor [sic] behaviour is a source of direct information about the emotions." If one thinks about this statement for a couple of seconds it becomes quite clear that it is only partly true. Of course emotions are expressed though behaviour to a certain extent, but it is a rather bold statement to give the impression that behaviour is the objective face of emotions. Would it not be the end of many misinterpretations if behaviour clearly expressed the feelings of a person? Surely. No question about it. But sad to say this is not the case. Behaviour expresses, both consciously and perhaps even subconsciously, only a tiny fraction of the current emotional state of a being. Furthermore, as stated above, sometimes it is hard to decide for a person exactly what he or she is feeling. Emotions are complex stuff indeed. Unfortunately the authors do not give any example of how behaviour could be recognised by an artefact. Doing so, a fundamental part regarding the notion of emotionally rich interaction the paper is left out.

At the end of the paper several examples of expressive and non-expressive action by a user and expressive and non-expressive feedback from an artefact are given. They serve as an illustration of a certain aspect of industrial design whose "approach is to design solutions that elicit expressive actions and can communicate understanding of these actions to the person through inextricably linked feedback." But what is expressive feedback? And expressive action? The authors give an example of an interaction relabelled [3] foot pump, supposed to function as an alarm clock as well as giving expressive feedback and allowing a user to manipulate it expressively. "You get visual and tactile feedback from the compression of the spring. This is an obvious result from relabelling a foot pump." If one were to ask Goethe's young Werther whether he found the approach expressive or not, I believe he would disagree.

Another example given is, again, an alternative approach to an alarm clock. This time it consists of a home base and an alarm ball. Before going to bed the user throws the alarm ball. The further it lands from the home base, the louder and more urgent the sound emanating from the alarm clock will be in the morning. In order to silence the alarm, the user has to get out of bed and put the ball back into the home base. Is this an example of "inextricably linked feedback"? Is there really an obvious cause and effect connection buried within this type of interaction? Or is this linked feedback as valid as just about any other kind of link between user action and artefact feedback?

Ambiguity as a Resource for Design [5]

Ambiguity in design is the concern of this paper. The authors deal with the, admitted by themselves, somewhat controversial idea that a certain amount of ambiguity in design can be used creatively to make users "establish deeper and more personal relations with the meaning offered by those [artefacts incorporating ambiguity] systems." It is worth to mention that the authors – in contrast to the authors of the other papers discussed – have a quite humble attitude toward their research.

They define three types of ambiguity – ambiguity of information, ambiguity of context and ambiguity of relationship. Ambiguity of in information is being described as a deliberate lack of information within an artefact. Comparison is made with da Vinci's Mona Lisa and Picasso's Guernica where both artists used techniques, albeit very different ones, in order to achieve a certain loss of information in their respective piece of art. The authors mean that this brings the positive side effect of making the works of art seem intriguing. They also give an example of ambiguity of information mentioning a GPS-based mixed reality game where the somewhat erroneous nature of the GPS tracking were used to add tension to the game.

In ambiguity of context Duchamp's Fountain is used as the prime example of an artefact seemingly belonging to more than one context. It could be viewed both as a urinal and a piece of art. A more recent example according to the authors would be mothers using the ring tones of their mobile phones to soothe crying infants. The mobile phone is used both as it was intended to, as well as a sort of a baby rattle. The authors mean that the problem of placing an artefact within a given context "disrupts easy interpretation of the design, and obliges users to work out ways to make sense of the new situation".

Ambiguity of relationship deals with a user's own relationship to an artefact. This is exemplified with Van Lieshout's Bais-ô-

drôme described by the authors as “functionally decadent”, with “liquor bottles… hung on the walls for easy access from a large, cushioned settee, while in the background a sheepskin-covered platform seems simultaneously clinical and lazy.” The authors argue that this installation leaves viewers “admiring but uncomfortable”, and that this kind of self-examination in relation to an artefact is the essence of the ambiguity of relationship. Another example discussed the Telegotchi, “an electronic pet with no buttons, relying on psionic powers for influence.”

My first of my main questions regards the notion of ambiguity, mainly the kind of ambiguity described in the sections of ambiguity of context and ambiguity of relationship. Exactly what can be considered ambiguity, or more precise – is ambiguity inherent in the object or in the subject? If an artefact splits the opinion between me and a friend about what the meaning really is or how it should be used, could the object be considered ambiguous? Or is it more relevant if the doubt of the meaning resides inside of me? These types of ambiguity are each others opposites. In the first case, the ambiguity in inherent in the object, and in the second case the ambiguity is a part of subject, and quite possibly in the object. This could imply that all objects have an ambiguous nature and that the latter example is more ambiguous. The type of ambiguity proposed by the paper would then be of an extended and reinforced kind and therefore be more prone to subjective interpretation. Then the point really comes down to whether a designer can design explicitly for a subject or if trying to do so he or she is working in the domain of art? This leads to the next question.

The second main question is one of the most difficult as well as important to discuss. Where the line between art and HCI should be drawn? Should there even be a line? Is the synthesis of art and technology really something to strive for? Or should HCI be purely devoted to designing of interfaces, user studies and evaluation methods? The subjective nature of art assumes a user takes the time to reflect over the artefact. This is nothing one can take for granted. Also, is it even possible to compare Duchamp’s Fountain with a mobile phone used as a baby rattle? Duchamp was seen upon as an artist and the mother with the baby rattle is seen upon as, well, a mother with a baby rattle. The motives behind the artefacts differ; Duchamp had no intention for his work of art to actually function as a fountain, whereas the mother had found a previously unknown use of her mobile phone without considering it a work of art. Perhaps the connection between Duchamp and the mother is there. But in that case the connection is purely bound to the artefacts and our view of the whole phenomenon is effectively ignoring the intricate tangle of intentions, expectations and – ironically – context.

AN ATTEMPT TO PROMOTE REFLECTION AND DEBATE

This attempt was made by me and two other students. We were to host a seminar that was supposed to revolve around the paper “mediaBlocks: Physical Containers, Transports, and Controls for Online Media” [1]. Our idea was to divide our class in two, where one side would look for shortcomings in the concept and the other look for advantages. Our fellow students had to perhaps override their personal opinions to argue for their sake. We assumed this would be beneficial both in terms of debating the notion of mediaBlocks and in terms of self-reflection.

We began the seminar by dividing our class in two and then letting all the students watch a movie dealing with the concept of mediaBlocks [6]. After the movie was finished the two fractions were separated into different rooms where they were supposed to sharpen their arguments. This gathering went on for about ten minutes before we all got together again for the main debate to take place. We also kept a score, where arguments that had a certain edge to them would be rewarded with a point.

This was, in my opinion, a successful take. Important aspects, both pros and cons, about the mediaBlocks were brought to light. An example put forth of a benefit of the system were the positive aspects of the physical handling of the mediaBlocks. This kind of interaction was argued being a good way to learn a person not used to computers to get an impression about how, for example, file transfers worked. Another positive view about the concept was that one did not need to worry to lose data if a mediaBlock was lost since it was a mere ID-tag for data. The other side meant that finding a certain bit of data stored on a mediaBlock would be like trying to find a needle in a haystack, as it was seemingly time consuming to browse the content of a block. The physical interaction was also seen as a hindrance and a waste of time, only slowing things down which otherwise could be handled quick and effective.

In the end the pro-side won by 13-12, mainly due to very effective argumentation. But the score of the other group indicated that the concept of mediaBlocks still was burdened with things that could be improved. This is one of the real benefits of this type of rhetoric evaluation – finding things to make better as well as discovering certain aspects of a concept that are worth to develop further. Moreover, to both strengthen the ability to reflect over a phenomenon and encourage self-confrontation can only be seen as good things.

DISCUSSION

With this paper I have tried to encourage reflection and critical reading of papers and research in the HCI community. I firmly believe that our field would have much to gain from such an attitude. It may seem contradictory to propose that critique can act beneficial, but by asking simple questions and argue for different standpoints a lot can be learnt, not least shown by the seminar we held. I am not the first to propose this reflective attitude. In the paper “Alternatives, Exploring Information Appliances through Conceptual Design Proposals” [4] the authors argue that their design proposals could, among other things, be seen as “complex hypothetical statements for debate.” This is a good stance, but still not used in practice as much as I want to.

What could then be done in a larger scale? An international quarterly publication dealing with the purely philosophical, social and cultural aspects of contemporary HCI-related research is perhaps not such a bad idea. There the much needed debate could take place, research closely examined and opinions vented.

It is time to end where we started and to make the bold statement that the ultimate form of the design researcher would be the one of a mirror – not only getting a clear and sharp introspective view of him- or herself, but also reflecting the images of others. This dual visualization is bound to raise internal questions from which the HCI community hopefully develops in a sincere, humble and intellectual stringent way. The conclusion of all this? The ideal state of design research would be where both Nico and Socrates reign in harmony with each other.

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