A Controlled Accident: Imagining virtual reality as a catalysator for self-exploration.

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ACM Reference Format:
Joakim Vindenes. 2019. A Controlled Accident: Imagining virtual reality as a catalysator for self-exploration.. In *Proceedings of ACM Conference (Conference'17).* ACM, New York, NY, USA, 5 pages. https://doi.org/10.1145/nnnnnnn.nnnnnnn

ABSTRACT

In this position paper, I discuss an existentialist design approach towards Human-Computer Interaction (HCI). The aim of existentialist design is to not dominate the user experience, but rather to design for a controlled accident in which the medium itself is explored, and one's self through the medium, where the overarching purpose is the exploration itself. This line of thinking is inspired by existential philosophers such as Kierkegaard and Heidegger, and its aim can be illustrated in how Kierkegaard discusses life not as a 'problem to be solved, but a reality to be experienced.' The hope is that such an approach towards technology escapes the somewhat limited view of technology as simply a tool to get from A to B, and that technology may be seen as a lens through which reality can be presented free from an otherwise culturally enframing narrative. The aim is therefore to design technology as a catalysator for a more original revealing of truth. The paper illustrates this with an example of the employment of Virtual Reality (VR) technology in sensory deprivation tanks.

Conference'17, July 2017, Washington, DC, USA

ACM ISBN 978-x-xxxx-xxxx-x/YY/MM…$15.00
https://doi.org/10.1145/nnnnnnn.nnnnnnn

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INTRODUCTION

According to Martin Heidegger's technology criticism, the essence of technology is not itself something technological. Put way too short, technology is rather a way that we understand the world, or in Heidegger's words, 'a way of revealing' (Heidegger, 1977). What we reveal in this technological framework, that is, what we deem as true, is not necessarily the truth, but only 'correct' relative to the framework itself. Thus, the common correct definition of technology – that technology is a human activity and a means to an end – although correct relative to the technological narrative, is not necessarily true. For Heidegger, these two definitions must not only be combined, as in that it is a human activity to think of means to ends, we must also recursively look on how this activity impacts the way we look at the statement itself.

It is the mindset of thinking in terms of means and ends, of interpreting and enframing things within this technological framework, which is the essence of technology according to Heidegger. When Heidegger speaks of 'revealing', he means what is presented as true and brought forth into that way of revealing. In the case of the technological framework, what is revealed is within the narratology of 'man versus nature', which is a fundamental view that reveals the world as such. For Heidegger, the danger is that man himself cannot escape his enframing, and that it 'may be denied for him to enter into a more original revealing'. Heidegger's brief comment towards a solution to this problem – although he explicitly states that modifying technology can never be the answer – is a different kind of technology, or techne, poiesis; the Greek word for both art and technology. Here he refers to art, as art is not fixed in terms of interpretation or the straight rules of means to ends, and A's to B's, and may, therefore, bring a more original revealing – or at least another narrative that provides another revealing.

Martin Heidegger contributed to the existential and phenomenological tradition of Philosophy in the mid-1900s. Although he never lived to see Information Technology, his philosophy on technology is not necessarily concerned with the details of different technologies, but rather what technology is in its essence. In this way, his works may still influence the design of artifacts in Human-Computer Interaction (HCI) in the 2020s. But how can existential philosophy benefit the research of the relationship between humans and machines? How can such a critical view of technology in its essence benefit the design of technology?

EXISTENTIALISM IN HCI

> "Arguably, methods and approaches appropriate for creating usable, enjoyable, and practically useful products and services, cannot be assumed to be also appropriate for addressing the issue of how technology is related to the most fundamental aspects of human existence" (Kaptelinin, 2018).

Kaptelinin (2018) presents a broad overview of previous existential approaches to the field of HCI. The paper is further contributive and practical in that it approaches a framework compatible with where HCI is today. Kaptelinin (2018) writes that previous attempts at employing existentialism in HCI research has not been very popular, and argues this is because it is 'too distant from traditional HCI problems and concerns, and too abstract to provide concrete support for analysis and design' (p. 1). This is a danger for any approach inspired by an underlying ideal, and something which this position paper also is subject to. For instance, Kaptelinin (2018) discusses Karlstrøm's (2006) paper as criticizing the 'problem-solving attitude of HCI'. As this paper will present a similar approach, it should, therefore, immediately comment on how problem-solving itself can be undesirable.

We may therefore begin by restating the points of Heidegger and Kierkegaard: the problem-solving can itself be a problem. In relating to the givens of existence, the solution is not necessarily to define them as problems and find strategies to eliminate them. An approach can, however, be to explore them and see them for what they are, and thus enter into a more authentic relationship with them. Problem-solving as an attitude may provide the illusion that a fix is possible by pushing through. Thus, existentialism may claim that it is not the givens of existence that is the problem, but rather how we relate to them, either as problems or something else. The standpoint, therefore, is that problem-solving may be the real problem, as it enframes the world as something that can be solved. This is correct relative to its own framework, but in cases of how we relate to the givens of existence, this need not necessarily be true. This is further coherent with the way Kaptelinin (2018) discuss existential psychotherapy: there is not one solution to it, and that may mean that we require technology that is far more open, adaptive and exploring. It may be that in these situations technology need not provide a solution, but perhaps even on the contrary be an important tool to re-instate the problem for a more clear inspection, and by means of this lay grounds for establishing a different relationship towards it.

The aim of such a technology will rather be to open up the world for new possible interpretations, than aiming for one specific function. The question that would be explored by interaction with such technologies is whether technology can help us break a certain narrative, or put in Heideggerian terms, whether technology provide us a more original revealing. In the next section, an example of a technology that can be used this way is presented.

SENSORY DEPRIVATION IN VIRTUAL REALITY (VR)

In VR, presence is often defined as the degree to which the subject feels present in the virtual world. What is interesting to note, is that this naturally has to be viewed relatively to the degree that the subject feels present in the physical world as we usually receive information from both our physical and our virtual environments. There can thus be two separated approaches to designing for presence in virtual reality environments: one is to provide sensory stimulus of the virtual environment, and the

other is to block sensory stimulus from the physical environment. Both approaches work towards the same goal of immersion – the encapsulation of the user in the Virtual environment (VE).

Obviously, the principle of adding and removing sensory experience go hand in hand; by equipping a Head-Mounted Display you are blocking the physical impressions and replacing them with virtual impressions, all the while shielding for incoming light from the surroundings. Blocking light, however, is not the only way to deprive the senses of information from the physical environment. The inclusive ness of the immersion can also be achieved by sensory deprivation through floatation tanks.

FLOATING IN VR

Floatation chambers, or sensory deprivation tanks, are pools of water with copious amounts of epsom salt. The tanks are sealed for any incoming light and sound, and the air- and water temperature is equal to that of your body. When you lie down, you will feel how the salt makes you float even though the pool is very shallow. As you lie there, you notice how the ripples you created when lying down start to slowly subside as you sink down into weightlessness. After a while, because of the air- and water temperatures are the same as that of your body, you can no longer pinpoint where the water ends and the air around you begins. In fact, it gets hard to distinguish anything from anything else, including your body from the air and water. There is really nothing that is easy to grasp as isolated, save perhaps your breath. And as the minutes go, with total physical relaxation and lack of much sensory impression at all, things may start to change.

The most significant, explicit change one may notice in the tank is that after a while your bodily self-consciousness is not what it used to be. Your mental model of where your body is in relation to the world around you starts to become blurred. Normally reinforced by tactile stimuli of air and water (of varying temperatures), and visual and auditive stimuli from the environment, your body model is now lacking information on which to create it. Your sense of spaciousness has also changed – that is the feeling of your position as defined relatively to say, the walls, mountains and sky has disappeared. You now really experience nothing around you, but neither any edges to this lack of information of your surroundings. You may get the feeling of floating in empty space, but where are you in all of this? What, in this stream of conscious experience is matter and what is mind?

EXAMPLE EXPERIMENT

To exemplify the ideas discussed in this paper, I imagine the following experiment. A user employs a VR HMD that is connected to biometric sensors, e.g. EEG, GSR, heart rate, breathing, etc. A connected computer visualizes the feedback through abstract imagery in a 3D visualization. The direct effect is that an abstraction of the users state is projected externally, but the application do not do a hard classification to moods in the form of emoticons. Rather, the user can meditate and explore the visualization as the floating continues, and can establish a way of exploring the technology through

relating to both the medium and through it themselves. It would further be interesting to use eye tracking technology as a way of navigation in the vast, abstract visualizations. If one travelled towards where one saw, one could even be interactive while lying still in the floatation tank. This could also possibly have curious effects on which parts (perhaps the eyes), we identify with our selves âĂŤ perhaps the placement of our self could be altered by changing the agency for transportation. My interest in such a prototype or such a future experiment, would be to which extent it could open us up to the direct here-and-now experience, and attempt to have experiences beyond the traditional subject-object hierarchy. It is existential in the sense that it seeks to delete the traditional narrative. I hope this position paper can be a starting point to discuss this approach to HCI.

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