The Decelerator Helmet

In an increasingly hectic, overstimulated and restless environment the calls for deceleration are omnipresent. The inconceivably amount of information and influences in our everyday lives leads in many cases to an excessive demand.

The Decelerator Helmet offers an experimental approach to an essential subject of our globalized world. The technical reproducible senses are consigned to an apparatus which allows the user a perception of the world in slow motion. The float of time as apparently invariant constant is broken and subjected under the user’s control.

In the inside of the helmet the video-signal of a camera and the input of a microphone are processed by a small computer. The slowed down images are displayed right before the user’s eyes via a Head-Mounted Display and simultaneously shown at a monitor on the outside.

In three different modes the lapse of time can be influenced through a remote control: In the auto-mode time is slowed down automatically and re-accelerated after a defined interval. The press-mode allows the specific deceleration of time and in the scroll-mode the user can completely control the speed of the elapsing of time.

The idea to decouple the personal perception from the natural timing enables the user to become aware of his own relationship to time. The helmet works as a reflection-bubble to think about the flow of time in general and the relation between sensory perception, environment and corporality in particular.
The technique of the Decelerator extends the awareness of time and transforms the concept of present in a constructed, artificial state. On a different level the helmet dramatically visualizes how slowing down under all circumstances causes a loss of actuality and as an idea is inconsistent with its environment. It doesn’t help to change the speed of your perception of the environment, if the environment stays in the same time.

The helmet raises the general question how technology will shape our senses in the future. The project unintentionally explored how this shift to a personalized perception could change our view of the world and eventually will lead to an detachment of our global convention of reality.
The idea for the project was born in an Interaction Design course at the University of Arts in Bremen, Germany. The course, taught by Prof. Tanja Diezmann, was called Back on focus – Less is more and dealt with topics concerning the increasingly hectic, overstimulated and restless environment we are living in.

For me the approach using the technology that causes the overstimulation, to achieve the opposite, a focusing on the essentials, was the most interesting part in the first phase of the project. I didn’t want to develop an interactive concept or service to make an users live easier, or less complicated but to offer an experimental approach to think about this relevant subject of our globalized world.

I am for sure not the first one with the idea how it would be to slow down time or at least the perception of it, but I just found people thinking about it and nobody who simply tried it to see what actually would happen. So I started this as an naive experiment with an open outcome. In the beginning I was hoping the result would eventually be really relaxing or somehow useful.

I began tethering up a laptop and a camera on a bicycle helmet, walking around, just in contact with the surrounding through the technological filtered perception. During these first experiments I explored a strange feeling: The knowledge about the discrepancy of your actual environment and what you percept from it. This quality is hard to describe in a text or video and can best be experienced when wearing the actual Decelerator Helmet, slowing down your environment. While wearing it and moving around, you start waiting for the pictures to catch up, to follow you to the place you know you should be, which will never happen. You are drawn in a spiral of delay, waiting and disorientation that shows you the physical limitations of the concept.
After the course I started researching in theories of perception, the role of the upcoming technologies of slow motion and time lapse in the history of cinema and its impact in media theory from McLuhan over Bourdieu to Benjamin.

I started understanding the meaning of my approach not only to concerning the slowing down of perception, but in general perception filtered through technology, decoupling you from reality. Thereby was born the idea of the physical appearance of the Decelerator Helmet, as a *reflection-bubble* in which the relations between sensory perception, environment and corporeality are disputed.

Finally I experimented with different ways of accelerating the time again, to cope with the delay and come back to real time, to reset. Therefore I developed a small remote control with different ways to influence the flow of time. Also I added an external monitor, mirroring the users perception to the outside. It engaged people to interact with the user, getting a glimpse of its function and start making their own thoughts.

After the first rough prototype I made a second more advanced version with a new netbook. For the inside I developed a construction of laser cutted acryl to fix the computer, the helmet and the camera in the inside of the metall sphere and the display at the outside.
During my work on the project it gained a lot of not expected, curious interest from many people somehow in contact with it. The first impressions were always very enthusiastic, but after the people tried the helmet or thought about it for a longer time the negative implications described above came clear. But this started people thinking, talking and exchanging about their views on the topic of deceleration, perception and reality. The comments reached from simple fantasies to complex intellectual thoughts about the implications of perception being subjected under the user’s control. Also the helmet dramatically visualises what happens when one part of our perception is enhanced: it displaces another part. Another simple example is a pair of binoculars: If you look through it you see things far away you couldn’t see before, but you can’t sense what’s next to you anymore.

Apart from its social and cultural relevance the decelerator helmet raises the general question of how technology will shape our senses in the future. No matter if you think about it in a short-term view (Google Glass) or a more long-range, futuristic one (cybernetic organisms) an increasing influence of technology in our perception is almost inevitable. In the same movement where technology is increasingly dissolving into our everyday surroundings, digital enhancements will come step-by-step closer attached to our body and our perception.

What comes with a technological filtered perception is also the possibility to personalize your perception as you (or someone else) wants it to be. The Decelerator unintentionally explored how far this personalization can go, before you are lost in your own personal reality. You can’t interact with an environment you perceive different than it is. If in the future everybody’s perception is filtered through a digital layer that you are not aware of anymore that let you just see what you wants to see, will this lead to an detachment of our global convention of reality and thereby our possibility to interact with it? What happens when technology will enable us to perceive our environment just as we want to perceive it? And is this good or bad?
The core of the helmet is a modified netbook on which runs a program written in the visual programming environment VVVV. It receives input from the remote control, regulates the speed of the video stream and sends them to the Head-Mounted Display and the external monitor.

For the video playback of the camera is used a library based on the VLC player. The remote control is a modified wireless mouse, which is connected to a little USB-plug in the inside of the helmet. The slide control knob on the remote-control defines the actual mode of the helmet (auto, press or scroll) by the combination of pressed mouse buttons and interprets the interactions of the scroll wheel accordingly.

The external display is the original monitor of the netbook, mirroring the images the user sees on the video glasses in the inside of the helmet for people on the outside.
After I uploaded the English version of the documentation video it was featured by designboom.com and then received a lot of not expected interest. So far the video was watched around 300,000 times on Vimeo. Also it was published in several magazines and shown on some exhibitions.

- Rehabilitation Research Center Villa Berretta - Italy (12.03.14)
- Techkriti Festival - India (07.-09.03.14)
- WEAVE Magazin - Germany (20.1.14)
- Deutsche Welle, Shift - Germany (13.1.14)
- Installation Magazin Vanguard - Los Angeles, USA (Issue 23)
- Salon D, PASSAGEN - Cologne, Germany (16.1.14)
- Deutschlandradio Kultur - Germany (25.11.13)
- push.conference - Munich, Germany (25.-26.10.13)
- Annual Multimedia Award, Students (10.13)
- Imagine Science Film Festival - New York, USA (14.10.13)
- World Summit on Innovation and Entrepreneurship - New York, USA (9. - 11.10-13)
- Innovation by Design Award, Category Concepts - New York, USA (02.10.13)
- Explosive Festival - Bremen, Germany (22.09.13)
- Fast Company Magazine - USA (Issue 10.13)
- This Happened... - Hamburg, Germany (06.09.13)
- FORM Poster - Germany (Issue 08.13)
- The Pitch! - ARTE Creative: OPEN OUTPUT (07.13)
- Viewpoint Magazine - London, UK (Issue 32 - The Vision)
- Talkshow Ansichten, Radio Bremen (20.06.13)
- TV-Show Buten un Binnen, NDR - Germany (05.06.13)
- OUTPUT Award Selection (2013)
- Toolkit Festival 3 - Venice, Italy (09. - 14.05.13)
- Weser Kurier - Bremen, Germany (10.05.13)
- Enter Festival 6: Biopolis - Prague, Czech Republic (02. - 12.04.13)
- neural magazine - Italy (Issue 44 - print and digital)
- Computer Bild - Germany (Issue 7)
- BestOf HfK Exhibition - Bremen, Germany (11.12 - 02.13)
- PAGE Magazine - Germany (Issue 08.12)
Made by Lorenz Potthast, 2012
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Integrated Design, University of the Arts, Bremen

Project Website:
http://www.lorenzpotthast.de/deceleratorhelmet

Vimeo link:
http://vimeo.com/lorenzpotthast/decelerator

More images:
http://www.lorenzpotthast.de/downloads/images_deceleratorhelmet_lorenz-potthast.rar

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Lorenz Potthast is a Designer with an artistical approach and a technological interest. He prefers working interdisciplinary, conceptual and likes to question the existing, rethink it, or use it in a new context.

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