Disconnection

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ABSTRACT
This project aims to explore our self perception by disconnecting and rerouting our visual and auditory perception from our body. It does so, by letting one person slip into the role of the observer. Another person becomes the receiver. The receiver's perspective gets replaced by the observer's, giving him control over your vision and sense of hearing.

Author Keywords
Augmented body; Perception; Video; Binaural Sound

ACM Classification Keywords
J.5 Arts and Humanities: Media Arts—*video, sound, perception*; J.4 Social and Behavioral Sciences: Psychology

General Terms
Design, Experimentation

INTRODUCTION
This Concept was developed during the 8 week project course "Augmented Body". The course consisted of several workshops. One of them, called the "Blind and Deaf-Workshop" led us to our final idea. In this workshop, we had two walk for 3 hours through the city of Gothenburg in pairs of two students. One of us was blindfolded, the other one had earplugs. Each of us was taken away one of our most essential senses which then had to be replaced by the other person somehow.
Focusing on altering the humans natural senses and perception with the help of digital artifacts, we came up with the idea of constructing two devices, which let people merge their perspectives, creating a whole new body experience for its users.

TECHNICAL IMPLEMENTATION
Our Prototype consists of two connected parts:

1. an observing helmet with a videocamera and a binaural microphone and
2. a receiving helmet with a head mounted display and a stereo headphone.

Figure 1. Two persons wearing both helmets.The White one is the observer helmet. The helmet of the receiver is red.

The observing helmet has a small HD 720p web-camera attached on the top and two mono microphones located next to each ear in order to obtain a binaural recording. Both camera and microphones are connected to a laptop computer to filter the signals and apply several video and audio effects.

The receiving helmet is composed by a pair of video-glasses with a 640x480 resolution display and a pair of headphones. The video-glasses are placed inside a welder mask in order to have a totally dark environment to eliminate all external stimuli.

The system projects the perspective of the observer on the receiving person and, at the same time, aims to cut

the receiver's senses and perception off from his body, giving him a feeling of disorientation and loss of control. It does so, by displaying the camera of the observer's helmet on the head up display of the receiver's helmet. The same happens with the binaurally recorded sounds. The observer is meant to keep the receiver always in the sight of his camera but he is free to decide on his movement and thus on the projected perspective. Binaural sound and visual effects are implemented to radically enhance the experience of separation and sensorial ambiguity.

For the first demonstration, only three video effects were implemented. The first is just about turning the transmission black and white and is constantly applied. The second one is triggered depending on the sound and consists in a sort of rippling noise directly proportional to the loudness of the sounds perceived by the microphones. This adds a feeling of a synaesthetic experience to it. Finally, a kind of slow motion filter is randomly triggered every once in a while: the images are slowed down in a way that every quick movement of the camera produces a sort of melting between the new and the previous ones.

EXPERIENCE

The experience for the receiver is hard to describe: First, you have to get used to give up control over the movements of your head. Your senses are not controllable anymore. All you can do is to close your eyes. After just a few minutes you loose the sense for your body. You feel like observing a distant scene but hardly that it is you who is the main actor of that scene. When you touch an object, it all comes back. The presence of your body returns and you recognize that the one you are observing is still you...