Gateway to the Inner Self

Concept

Life goes faster and faster. We do not seem to have time to listen to what is happening inside. It seems as though a lot of things are happening unconsciously. They remain unnoticed. We are not aware of our inner state. When we start listening we get valuable feedback on what situations influence us in which ways. When we practice we can learn more about ourselves and be more aware of us and everything around us. Awareness of our inner self can help us take a step back, breath and relax in times of great stress and pressure.

For meditation I like to go on what I call sallies – journeys into the subconscious. I close my eyes and see myself at an imaginary place. During these travels I visit different places and meet various people with who I interact and have discussions with. Through those interactions and through suddenly appearing new situations I can learn a lot about myself and what occupies my mind. Even though one could argue that this is only imagination I believe that this imagination is in itself a connection to deeper parts of oneself.

In my project I concentrate on the aspect of self-development. By creating a protected environment you can enter a space that is shielded from the outside world where you can be concentrate on your thoughts and listen to your body. This gives you the time and calmness for a personal analysis. The room represents your inner state and projects it out onto the walls, reveals that what is hidden inside out into the open for you to see it.

Implementation

I built this personal space on top of Jie Qi’s novel architecture book (http://vimeo.com/16413972). This is a life-sized pop-up book that you can open up and step into. This construction gives a person the possibility to go in and close the doors and be in a protective den, cut off from the outside.
In the inside of the book I attached columns of Philips Color Kinetics Lights. The lights grow like liana from the ground to the top and over the head. Those lights are individually addressable and can change in color and in brightness. For the project I created a C++ library to address the lights.

To create a more closed space I attached diffusing paper to the windows. This has the effect that people from outside can not see who is inside and what is happening. However, they can see changes in the color from the outside in order to become curious of what happens inside.

I found that the signal of the EDA sensor is somewhat better and more robust if it is measured at two fingers (as opposed to the wrist). Therefore I sewed the sensor onto a Velcro cable tie. They are connected through snap fasteners and cables.

For the software implementation I created a Bluetooth message interpreter for the EDA sensor signal. The EDA sensor sends its signal to the laptop computer that analyzes the signal and adjusts the EDA values adaptively to retrieve the minimal and maximal value for each individual. The arousal levels are mapped to different colors. A value near the minimal EDA value will result in a blue color, a value near the maximal EDA value will result in a red color. Green is the neutral color. The signal is updated for each message received from the EDA sensor and send to the Philips Color Kinetics lights. I implemented a smooth transitions of colors in the light visualization. A color propagates from the bottom to the top and over the head.
of the person standing in the book, emphasizing the transformation between high and low arousal levels.

Experiences

I performed an informal study to test the experience by inviting eight people into the light room. I asked them to perform certain tasks while measuring and visualizing their corresponding arousal level. Among the tasks were for instance: inflating and popping a balloon, cheating in a card game, mediation on calmness, listening to relaxing music, eating chocolate, and playing with a stressball as well as being pinched.

I recorded several videos showing how these tasks are affecting the skin conductance and change the light room's appearance.

Different people have a different variance in skin conductance level. One person was pretty stable over the whole period of time and his minimal and maximal values for the skin conductance where not so far apart. Other people have a higher variance in their skin conductance. This may of course vary dependent on the mood and sleep of that person.

I was surprised to find that a few people could control themselves very well. One person could relax herself after blowing up the balloon by breathing deeply. She
turned “blue” even before I could start the relaxing music.
Another person and I we meditated in the light room. First I asked that person to blow up a balloon to be “red” then we sat calmly to try to go to “blue”. After three minutes the room was “blue”. I pinched the person and the room turned red. It was interesting to talk to someone else for who I turned on the relaxing music to relax. I was happy that the music helped him relax but he told me that it was not the music but the thoughts he was having at that moment. So I asked him again to relax without the music and it worked. He was thinking of his family far away.

Other people did not seem to be able to control their relaxation. One person tried to relax but could only get to “green” - the neutral state. I put on some relaxing music, which she did not realize in the beginning but this made her relax. She was thinking of a massage room. She told me that even though the colors showed “blue” she herself did not feel as if she was so relaxed.
When I asked another person to relax he could not do it. He was looking at the lights and probably expecting them to change and go “blue” and this affected his level of arousal. While explaining that to him, he suddenly turned “blue”, either it was too boring or too complicated to follow.

In general blowing up the balloon let the skin conductance level go higher except for one person who blew up the balloon with deep breaths and very calmly. Playing with the stressball had also a rise in skin conductance as consequence.

As suggested on this website “Galvanic Skin Conductance Sensor: http://www.extremenxt.com/gsr.htm” I tried out a simple lie detection test. I held a game card in front of the person. It was a three of spades. First the person should tell me what she sees. In the next step she should lie when I ask her what she sees. This test unfortunately did not show any large rise in skin conductance.
So we tried a different approach. During a conversation the person should try to lie to me without letting me realize that. When suddenly the lights turned from a bluish color to green I realized that the person was preparing to lie and detected that.

It was funny to see that a person who had been stable around his minimal skin conductance value suddenly rose when I started speaking German. This effect did not happen when I spoke French.