

# Y/A GLOVES

by Yvonne Götzl & Azucena Sanchez

# ARTIST STATEMENT

What are we more afraid of, the idea we have about technology or the actual technology around us? The man has come to the world to imagine, to create his own reality in his mind and let it be free. Technology then becomes fiction and fiction becomes our future. Through the creation of two hand devices we are creating a pair of gloves that will help us enhance our senses and perceive our environment with different eyes, ears and hands. We will disguise our hands and trick our mind perception of things.

The hands are the perfect connection within our bodies and what surrounds us, we have the power of touching. Our reality becomes part of technology and viceversa. But what happens when technology starts to catch up with reality and what happens when we expect more of technology and the future than what we are able to actually comprehend? Through the hands we disguise our senses and through G/A Gloves, we disguise and show a fictional part of technology.

-Azucena

Since technology captured the entertainment industry (- or the other way round??) both together became a bigger and well nourished Cyclopes during the last decades. Especially the enhancement of the human body and perception through technology is a maxim we all are following and love to experiment with. We accept buggy technology - main thing is to upgrade, and we love to discover new features that are hidden behind those plastic-touchscreen-sensor-devices. The term of Virtual Reality, that started as a nerd-science-slot soon became socially acceptable- through devices like VR glasses or datagloves. In the late 1980 the technological glove was a futuristic device of the 8 bit Video Games.

What would happened then if we had to choose between technology and nature? We want to create two devices that will be attached to the hands (something similar to a glove). Both are going to give the human being the sensation of enhancing their touch. I am not very familiar with so many electronics so what I want to create is something simple. The devices will be connected directly to the fingertips through little sensors that will give the human little strokes on each one of their fingers. According to the materials that people touch the reaction of the strokes will be higher or lower.

-YV

*„Der VPL DataGlove ist der am weitesten verbreitete Handschuh. Er ist sehr leicht und bequem zu tragen, da er aus Nylon hergestellt wird. Als visuelles Feedback wird eine virtuelle Hand simuliert, die man im Display sehen kann, sobald sich der DataGlove im Gesichtsfeld befindet. Es werden zwei Sensortypen verwendet: Zum einen Flex Sensoren, die auf der Glasfaseroptik basieren, um die Fingerbeugung festzustellen und zum anderen den Polhemus 3Space Isotrak, um die absolute Handposition bzw. -orientierung im Raum festzustellen (vgl. Abschnitt 6). Mit diesen beiden Komponenten ist es möglich, Handgesten für die Interaktion mit Graphikbildern oder Robotern zu duplizieren.“*

Birgit Labusch und Fin Schuppenhauer (1995)

<http://labusch.de/vortraege/vr/index.html#SECTION00061000000000000000>

## BACKGROUND



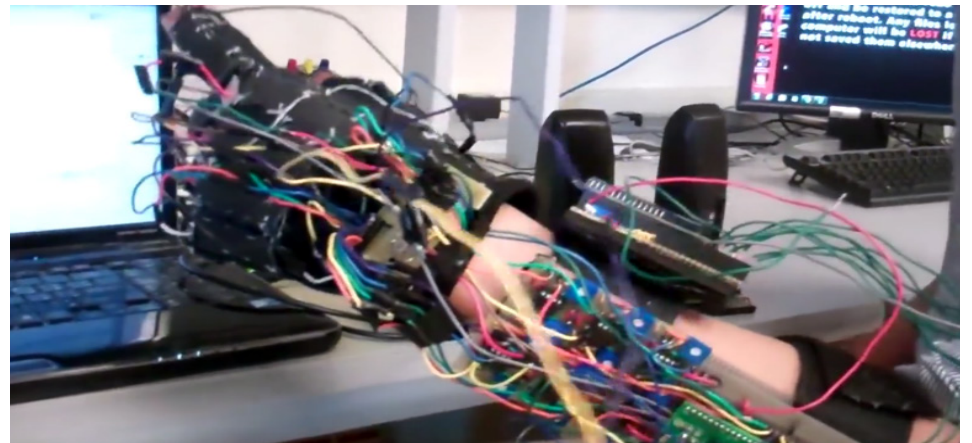
Power Glove Nintendo. 1982, Thomas G. Zimmerman



## Data Glove - Wearable Technologies



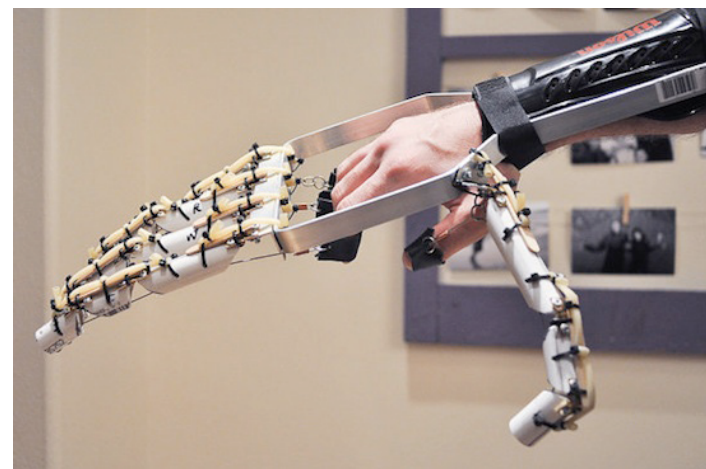
VR and Data Glove. 1982, Thomas G. Zimmerman



## Sign and Speak Glove



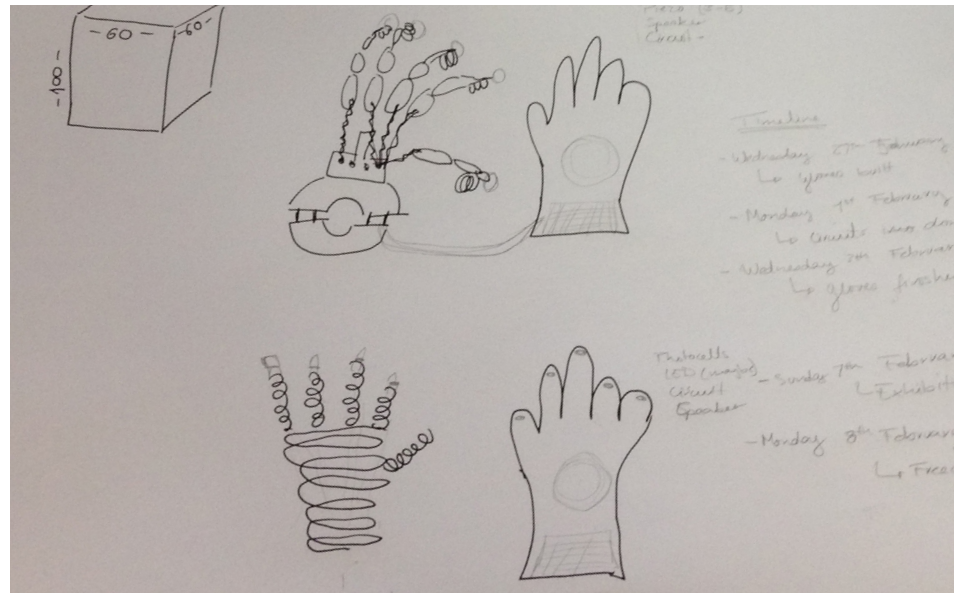
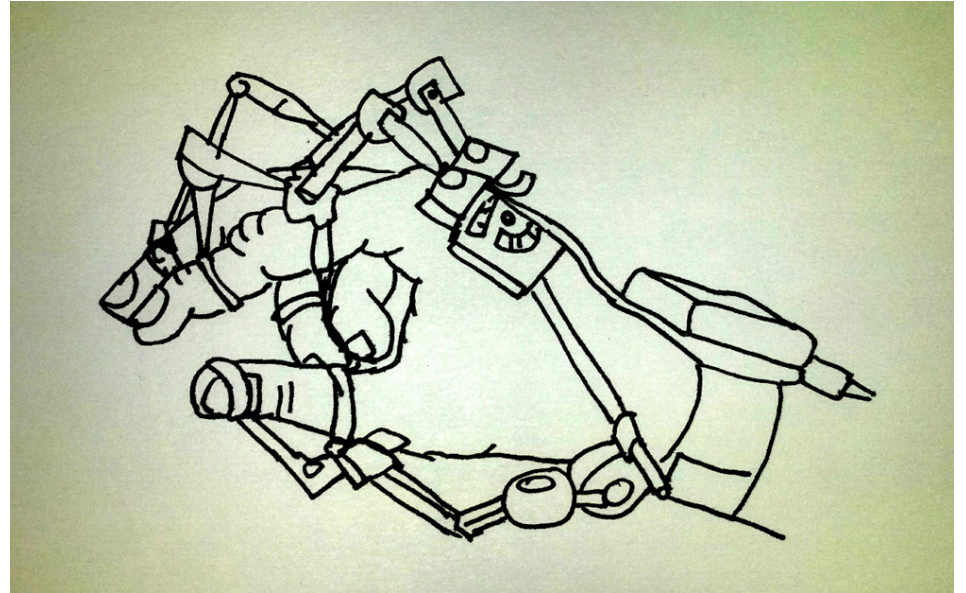
Sculpture by Ai Weiwei



# IDEA

Create two devices (gloves) that will develop an idea of fiction in people's mind through the enhancement of their senses. These two devices were to be made out of different materials, one was going to be made with metal parts and other one with natural materials such as branches and leaves. A seminar involving circuits and different chips for electronics related to sound led to the further development of the gloves. Both were now going to be built with metal parts and two different circuits were going to be installed in both of them including an input and an output. The idea was going to be kept, how do people react to metal "enhancing" their senses? What idea do people have about technology and are they afraid of it?

Both pair of gloves were going to include metal and textile in their composition. One glove was metal and the other one a more normal, textil hand with the incorporation of a speaker and other electronic circuits. Both gloves allowed human to perceive sound interacting to their environment and with their body. People was going to be able to perceive a different range of sounds throught the room with their own hands. They would have mobility and the decision to touch or not to touch, to listen or to remain in silence.



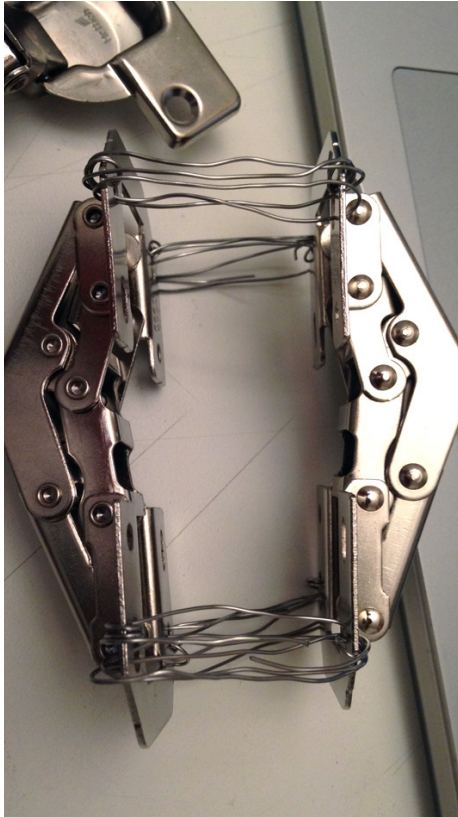
# DESIGN

## A GLOVE

INPUT: Light

OUTPUT: Sound

This hand was built out of metal parts that man can easily find in a construction products store. It is built out of screws, door hinges, metal wire, cables and LED's. It's aesthetic was similar to the steampunk genre. It was a kind of industrial, science fiction based glove.



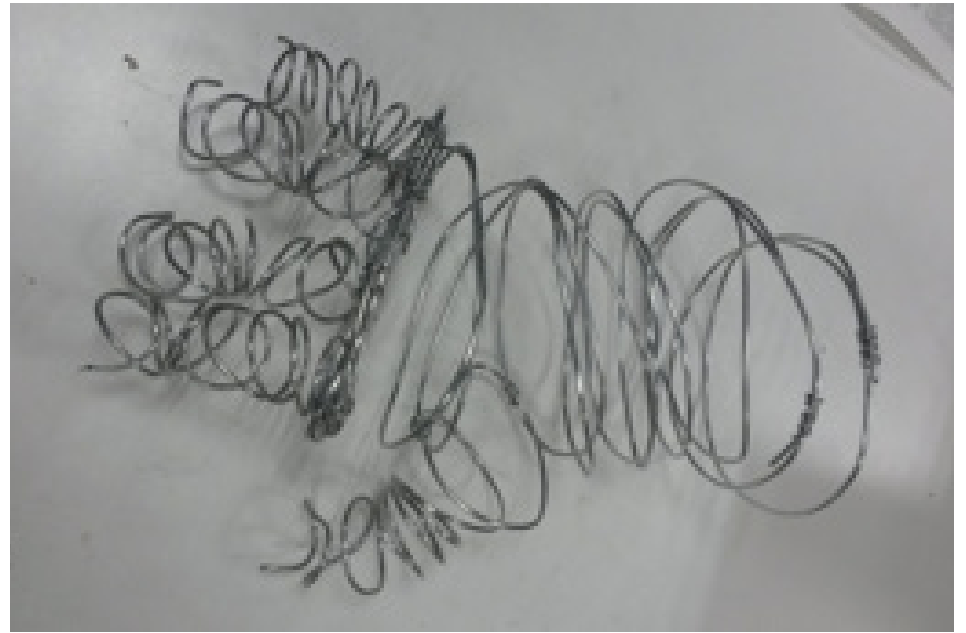
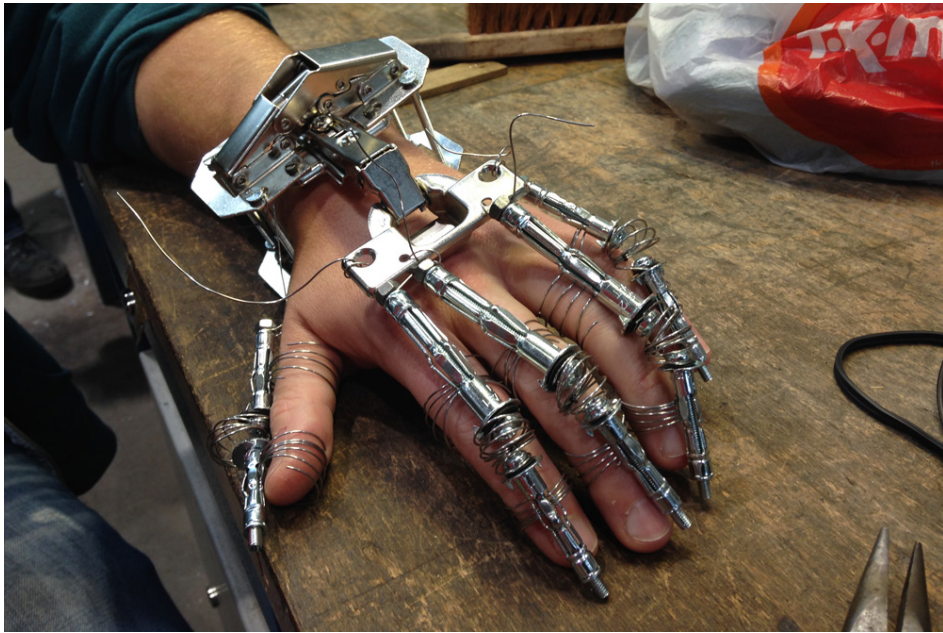
## Y GLOVE

INPUT: Recorded Sound

OUTPUT: Sound

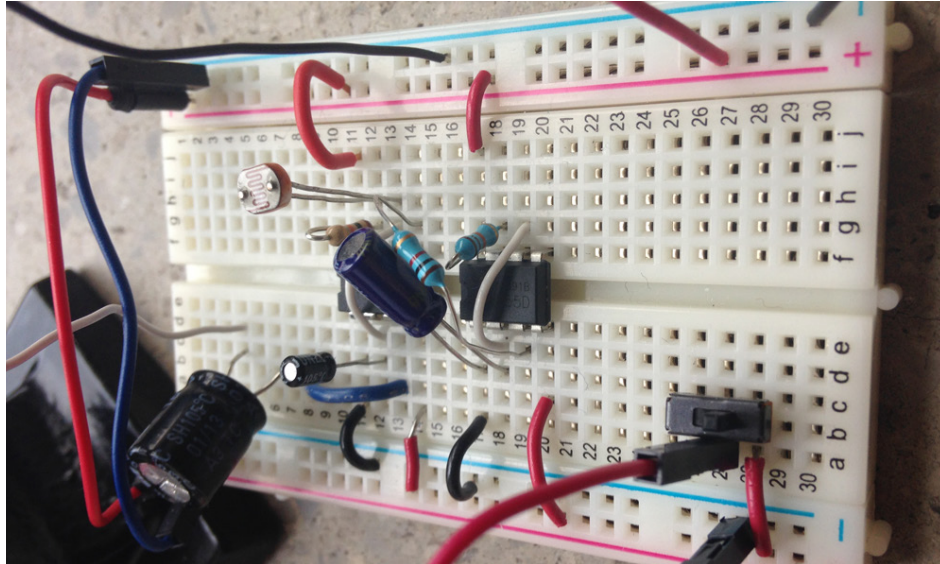
The design was based in a human hand modeled with resin. First a human hand was covered with plaster, once it was dry it was filled with resin this one would give us the model of the hand. To create the correct size and shape of the hand the model was wrapped with metal wire.



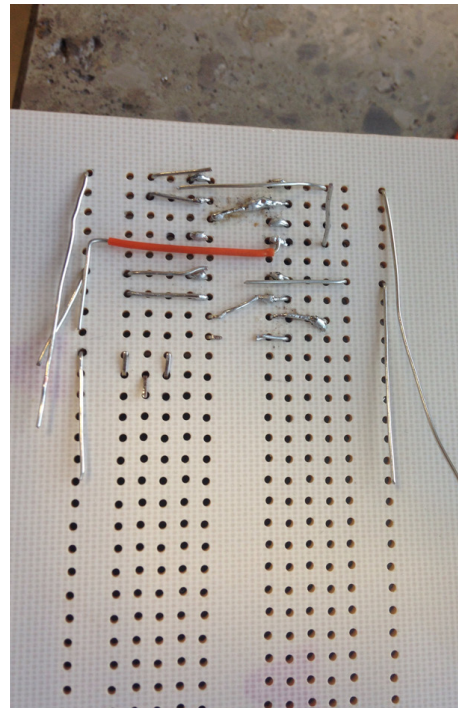
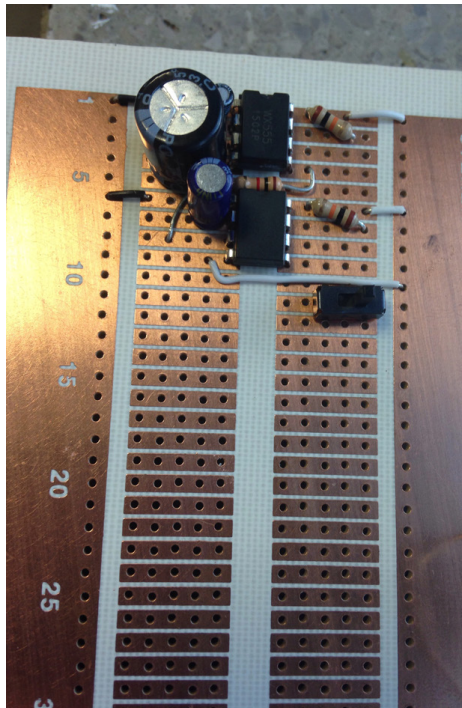


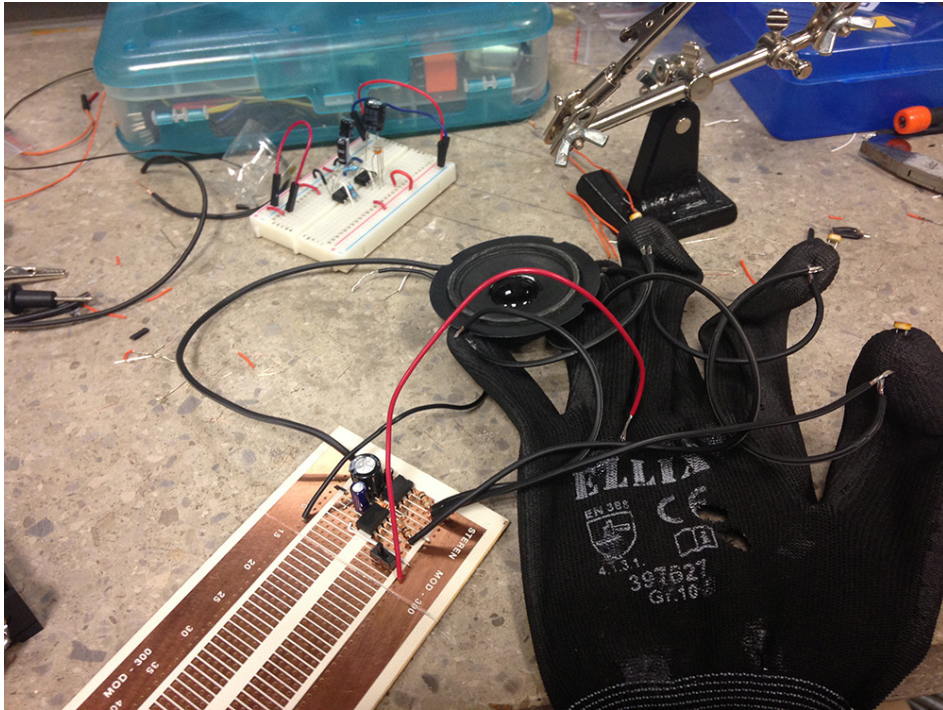
# ELECTRONICS

## A GLOVE



Two circuits were created with the 555 timer chip. One was the timer and the other was the modulation. Photocells or light sensors were included to make sound react to light. The circuit was attached on the top of the textile glove that also had a speaker on the palm of it and the photocells were placed on the fingertips. According to the movement of the hand, sound generated with electronics was going to come out of the speaker/palm of the person. LED's were attached to the fingertips of the metal glove to enhance the reaction of photocells and by means of sound. The battery and switch of the LED's were carefully placed in the components of the whole metal glove and since metal is a conductive material it was easy and at the same time dangerous to connect the whole system. The LED's were connected in a parallel circuit so in case one of them failed the other ones would still continue giving light.





Left Textile/Speaker Glove

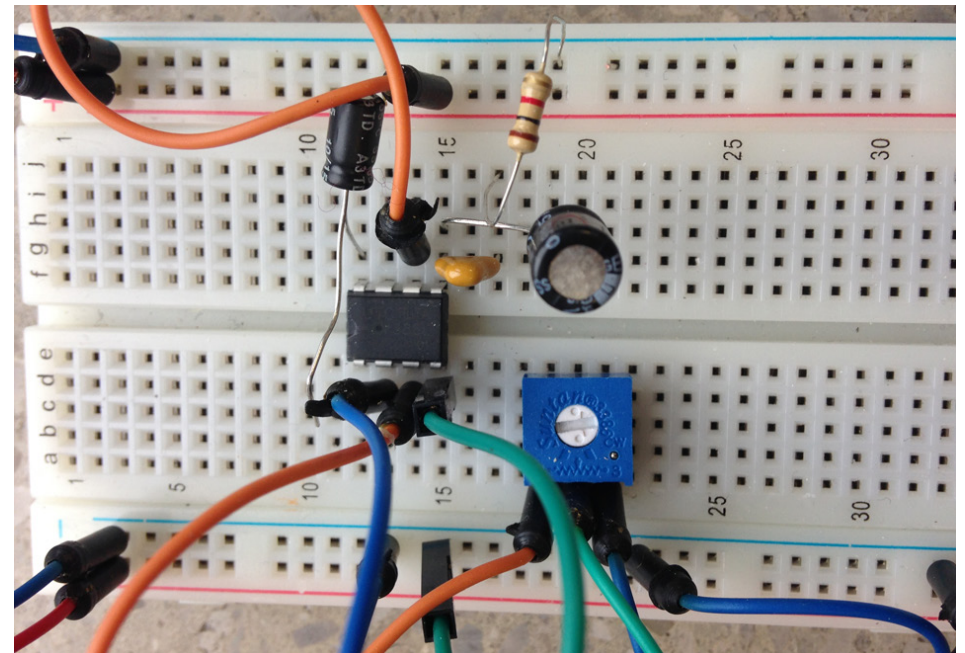
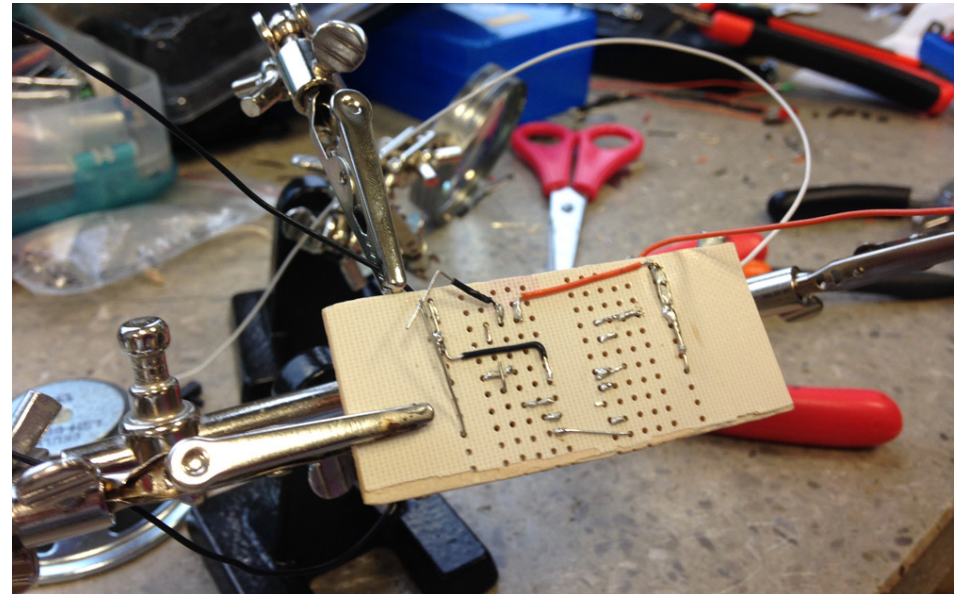


Right Metal Glove

# ELECTRONICS

## Y GLOVE

The fingers of this glove had a very round shape therefore its own aesthetic led to the incorporation of piezos on top of the fingertips. This piezos were all wired in a parallel circuit and the cables were placed in what would be the palm of the glove, simulating the veins of a hand. This small circuit is then the input for a more complex circuit including a LM386 audio amplifier chip, which as its name says it, it amplifies the sound waves recorded by the piezos. An on and off switch was incorporated into the circuit which was also attached to the top of the textile glove. The speaker was also in the palm of the glove because Some research and experimentations with a speaker placed in different parts of the body showed that man can feel and perceived the sound in different tones and volumen according to were they place it.





## EXHIBITION



It is obvious we come from a natural world for artificial purposes. We have come from earth to create fiction, to imagine the future, sense our present and decide our past. In order to feel connected with the world we touch things, but a device as simple as gloves may change our mind very easily about our perception of the world. We are no longer satisfied with the world we are living in, this is why we are always looking a way to enhance our senses. Fiction then becomes reality, technology becomes natural and we end up forgetting how unexpected nature can be. We have will, we have freedom, do we choose technology or nature? Either way we always end up lost in our beliefs and in our own fiction.

## EXPECTATIONS

How will people react to the different gloves?  
Will people destroy the fragile DYI electronics?  
Will people be interested?  
Do they care about the devices?  
Will people be afraid of trying them out?  
How much explanation will be given?  
What kind of people would be interested?



## INTERACTION



People from different backgrounds tested the gloves (engineers, artists, musicians, PR-People, children)

They all had different approaches in sensing and using the gloves:

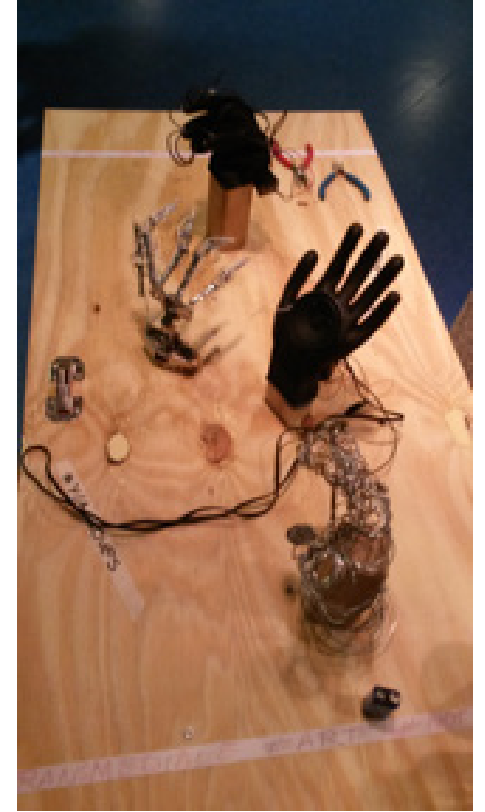
- Feeling/ hearing experiencing environment and materialities
- Playing it as an instrument
- Communicating with others/ shared experiences  
? You take one glove, I take the other?
- Take it as an accessory/ involving the glove into self perception/ take a selfie

Some visitors where disappointed because they expected a higher technical functionality?  
So what are the functions?



At the beginning we had difficulties with the stability of the DIY electronics.





## THINKING FORWARD...

Many more ideas came to mind after Transmediale. Watching how people react to the gloves was very interesting. Maybe they thought of them as a relief between everything that was going on around. The piece in the end was playful, experimental and entertaining. After all the stress and the gloves not working out perfectly, things were fine. Though the concept of listening to our surroundings did not work out as expected, the concept of relocating sound in the space was achieved. Y/A Gloves have potential. Most people were expecting more things to happen and many gave us different ideas of how to turn them into special devices of music composition through the environment. Something is for certain, the gloves need to be better built so they will look fragile but be strong enough to go through all the hands that held them. As a first test they worked out well and now we know in which details we need to pay special attention.

About the concept, it does not seem to be clear enough, many explanations about them were given and for some people they did not make sense. The idea of having them displayed as part of a fictional piece of technology was not what really happened. They did not enhanced the senses but they helped people understand and play around with sound and resonance.

Y/A Gloves have the potential to have a better structure, to be stronger. More experimentation can be done when it comes to electronics, perhaps conductive ink or wire can be incorporated into the system. The sound can be either more annoying or more carefully design so it can properly react to the environment and give us a wider range of sounds when we talk about movement. The important thing is that people were very intrigued and entertained with them. Some of them were delighted with their simplicity, some others were expecting more but one thing is for sure, they have a huge potential for experimentation.

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