

VR Glasses

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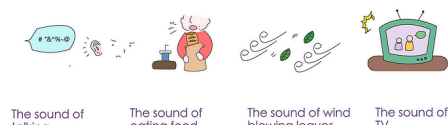
This project was also completed in 2018. This is a project I made when I first came into contact with interactive design. I want to complete VR glasses that can recognize sound decibels by sensing. Some people with hearing impairment can achieve some interactive effects through the visual display of the glasses, for example, they can sense the existence of sound.

DESKTOP RESEARCH

FACT

The outside influence

There are some of the sound cannot be listened by the deaf people so that those can cause many outside influences for them.



The sound of talking.

The sound of eating food.

The sound of wind blowing leaves.

The sound of TV.



The sound of pouring out of the water.



The barking of cats and dogs.



All kinds of music.



The sound of cooked food.

There are 360 million deaf people in the world. They are about 5% of the world's population, of whom about 32 million are child. Their life are very inconvenient due to various kinds of external factors and internal factors.



It is the people with hearing impairment in emotional regulation and self-perception.



The people with hearing impairment cannot talk and speak well because they have no chance to hear others.



The people with hearing impairment will have a worse mood than normal people because they cannot have the ability to enjoy sounds like others.



The people with hearing impairment will be more likely to become angry because of the inconvenient in their life.

The inside influence

There are some of the navigate influence caused by the impairment of hearing.

RESEARCH

QUESTIONNAIRE

Here are two examples about the needs and feelings of deaf people in different age



"I'm a 12-year old boy, I have congenital deafness which brings a lot of troubles to me. I cannot hear like other child and talk to them. I wish one day I can feel the sound."

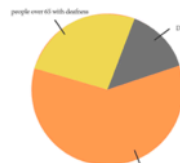


"I'm 24 years old now and I still stay at home without a job. The deafness brings me deep depression and that leads me feel upset everyday."

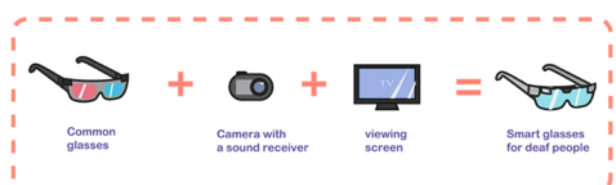
-The research chart of people with hearing problem



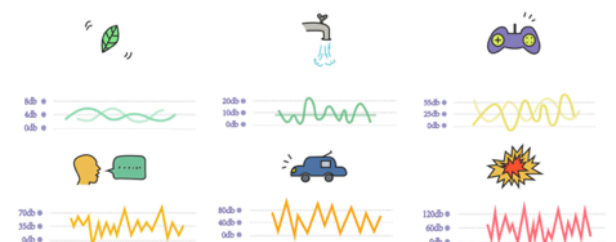
The carrying rate of deafness genes is 4-5%. That is, about four to five out of every 100 people carry the deaf gene.



IDEA



DB SIZE EXAMPLE

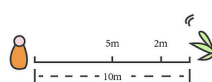


IDEATION

IDEA 1

problem The distance from people to the sound is changeable

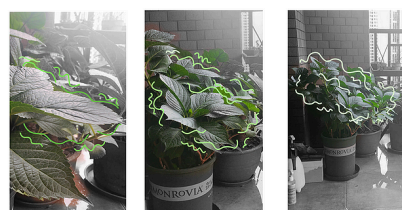
solution We can change the size of the sound waves to show the sound in different distance.



Change with distance

As people get close, the sound will be louder so that the color of the wave is darker.

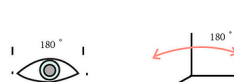
As people get far from the subject, the sound will decrease and the color of wave will be lighter.



IDEA 2

problem People's viewing angle is 360° so the monitoring range must be defined

solution We should define the distance as the normal range of people's sight.



180° views for eyes

The glasses will automatically identify the sound sources in 180-degree views.

All the sound sources will have waves besides and contained in the scene.



IDEA 3

problem There are so many sound sources in one scene

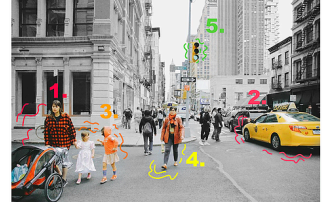
solution Only the nearest Top.5 sound sources can be detected by the glasses.



Automatic identification technology

The glasses will identify the top.5 sound sources and set the waves according to distance.

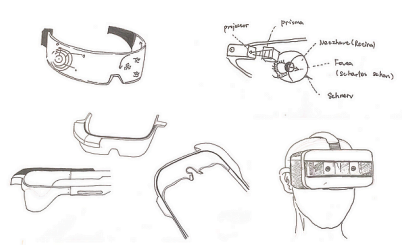
Also when the sound sources change, (the sound sources will move) the top.5 will also change.



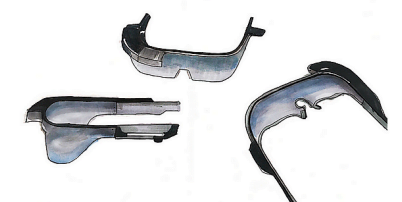
DEVELOP

DECISION

-Preliminary sketch

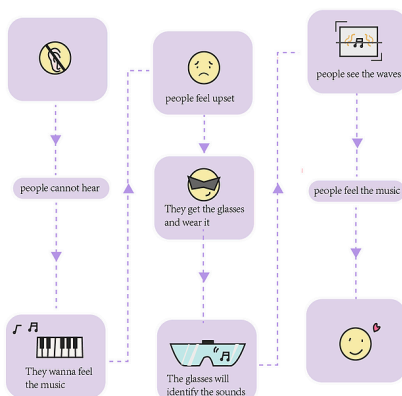


-Design sketch



DECISION

There is a flow chart from people's need to the use of the glasses. People's needs come from their curiosity and psychological balance, so they will use some tool like the hearing-aid glasses. After the help of the tool, they may feel much better to be a normal man and reach a balance in their heart.



-3 simulation scene about people who wear the glasses.

Scene 1. Bustle street



Scene 2. Friend's home



Scene 1. Music hall



Visual simulation

This is a simulate scene (in New York city) in a people's eyes, the people has hearing problem and he wears the glasses.

The Fifth sound sources been marked with sound waves with different colors through the distance.

In this case, the people there can successfully feel the sound.

