Bubble Trigger

A systematic interactive installation using the bubble as a metaphor to explore the space in communication

Communication is one of the most important aspects of human society. This experimental installation series uses bubbles to shape the abstract concept of communication. Controlled by programming, different states and characteristics of the bubble are matched with the space for speaking, listening and thinking during real-time communication.

2023.5-2023.6   Individual Work

STARTING POINT

This project started from the extrovert-dominated culture in the society, which refers to the environment where extrovert traits and behaviours are highly valued and encouraged while it may cause loss of personal growth and pressure to introverts.

DESK RESEARCH

● Two perspectives

Public's perspective: There is a need to "help" introverts change themselves.
Introverts' perspective: Belief there is something wrong with themselves.

● A common error

There is a misunderstanding between introversion and shyness. Introversion is a preference, while shyness stems from distress.

● Influence

-Decreased productivity and creativity: Pushing introverts into constant social stimulation may hinder their ability to concentrate.
-Loss of personal growth opportunities: There is a risk of neglecting unique strength introversion has, such as deep thinking, active listening, and introspection.
-Emotional and mental stress: Forcing introverts to constantly engage in social activities or behave like extroverts can lead to increased stress.

MOTIVATION

Since introversion is not a personality flaw, and everyone should be allowed to act, behave and live in line with real innate abilities, desires, and thinking models, I'm seeking a way to create a mutually inclusive environment through design.
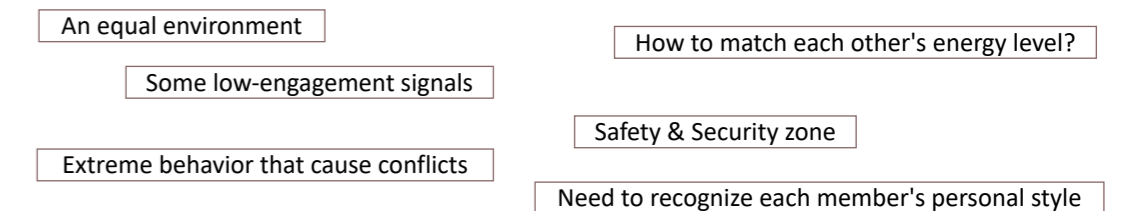
INTERVIEW

In order to get detailed insights, I narrowed down this question to a specific scenario, workspace, since it's one of the most common and normal social occasions and always causes conflicts due to the difference in personalities.

Table 1
Reports of negative responses to introversion at work.

Reference: McCord, M.A. and Joseph, D.L., 2020. A framework of negative responses to introversion at work. Personality and Individual Differences, 161, p.109944.

Key points from12 interviews with people who have rich experience in group work

- An equal environment
- Some low-engagement signals
- Extreme behavior that cause conflicts
- How to match each other's energy level?
- Safety & Security zone
- Need to recognize each member's personal style

CONCEPT DEVELOPMENT

After analyzing the key points I got from the interview. I found all the elements are actually about the space and border between individuals in the communication.

Gender
Personality   Profession
Cultural Background
...

Communication
Space

Since personality is only one part of the communication, in the next stage, I expanded the focusing point to the space in communication.

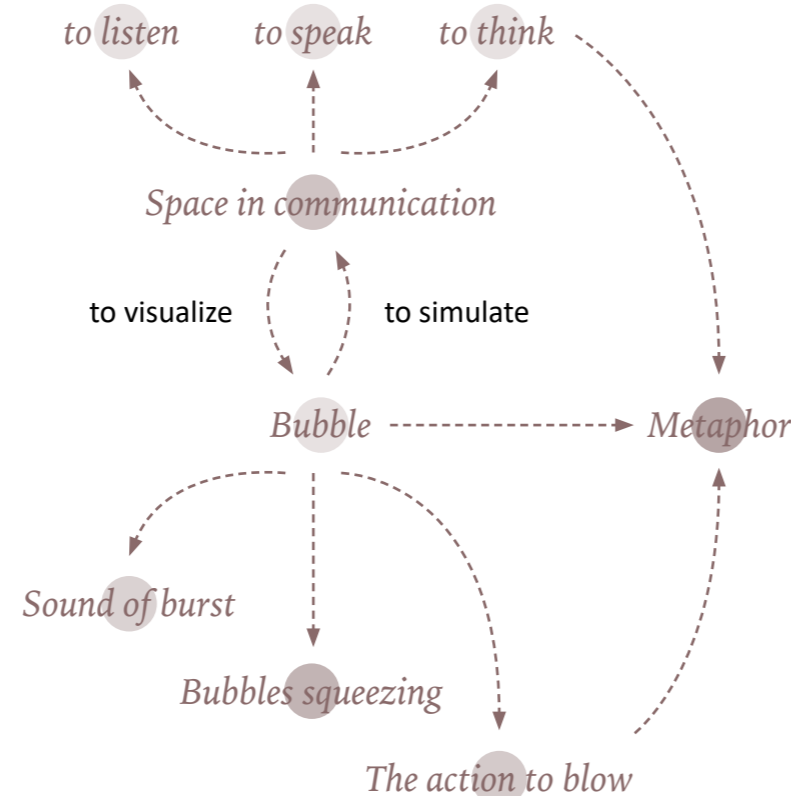**HMW** make people reflect on the current extrovert-dominated culture through empathy?
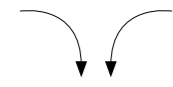
HMW create a work space that is conducive to collavoration between people with different personalities?
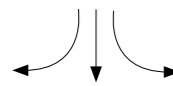
HMW provide an opportunity for people to explore the border of space during the communiation while getting real-time feedback?

● **Meso**

● **Micro**

● **Macro**

CONNECTION WITH BUBBLES

Bubble is the air we blow when we speak, which made it a suitable way to give the communication a shape.

to listen   to speak   to think

Space in communication

to visualize   to simulate

Bubble ------ Metaphor

Sound of burst

Bubbles squeezing

The action to blow

In order to better visualize this intangible concept, I chose the bubble as a metaphor.

The space in communication is further divided into three parts, the space to listen, to speak and to think.

SKETCH
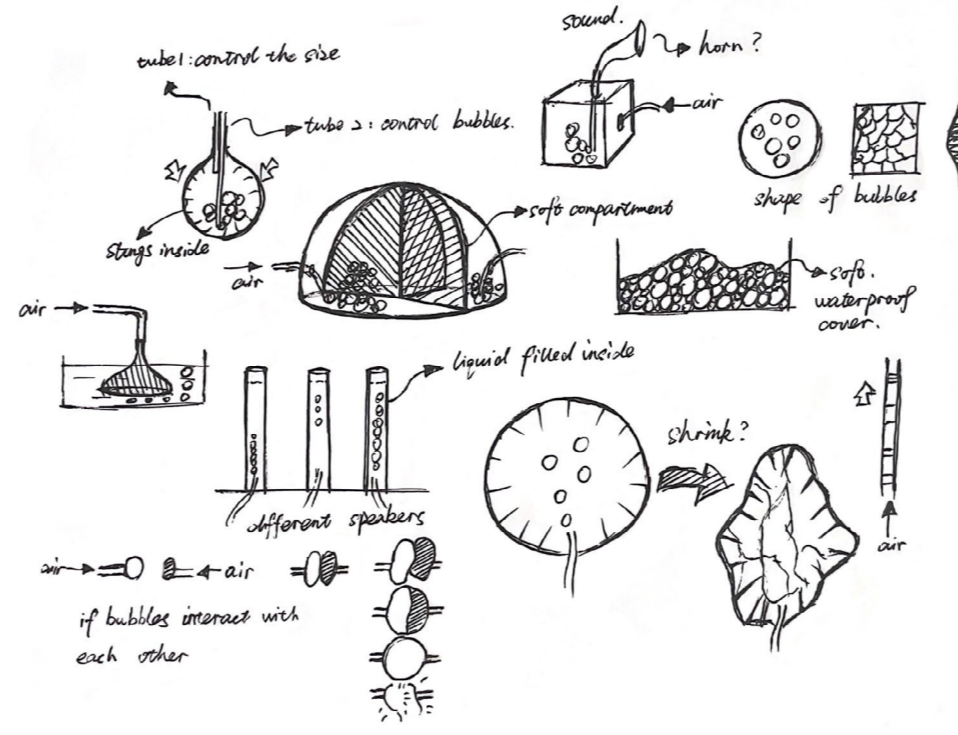
TECHNICAL SUPPORT

● **Data collection**
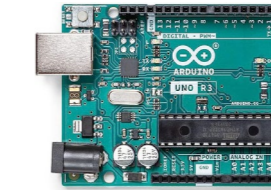
Analog Sound Sensor   Ultrasonic Sensor

● **Bubble creation**

Air Pump   Relay   Solenoid Valve

● **Main control**

Arduino Uno

Space to speak   Space to think   Space to listen
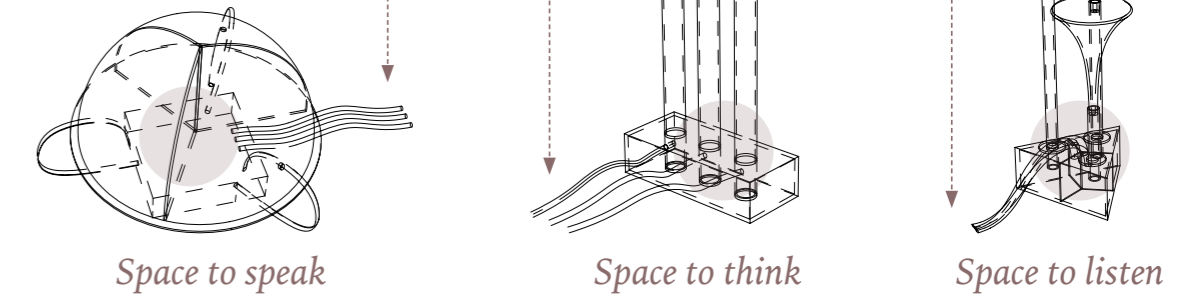
Bubble trigger is a systematic interactive installation, which allows every three people to join together to explore the different aspects of communication space.

Through combining into one system, if you find something does not seem right in one part, you can always find clues from the other two.

Bubble Trigger combines interactive installation with behavioural experiments and behavioural research. Unlike most interactive installations used to convey the designer's concepts, the final outcome of Bubble Trigger is entirely participant-driven and gives participants an opportunity for exploration and self-reflection.

Space to speak

The interior is separated into three incomplete spaces by soft dividers.

When participants are speaking, the bubble inside will expand, squeeze, fuse with each other or even extend into the other two spaces.

Just like the invisible space among communicators.

Space to listen

Using ultrasonic sensors to determine whether the participant is still focusing on the conversation.

Bubble will be created in the bottom container. The sound of bursting will be amplified through the horn structure.

Like a reminder, are you still listening?

Space to think

The action of speaking triggers the bubbles to rise from the bottom and naturally float to the top.

If someone exports the ideas for a long time without pause, bubbles will be crowded inside.

Are you leaving enough space for others to think about and reflect on your opinions?

A provided topic booklet for easily starting a conversation.

Microphone with built-in sensors to capture data.

-Speak   -Pause   -Focus point

● It is not

A tool for judging engagement

● It is

An experience to explore the most appropriate communication pattern

FEEDBACK

- It made me think about the conversation itself.

- It's interesting to see how the bubbles blended into each other, it was like our ideas were combining.

- I can feel this installation is becoming part of our communication.

- I subconsciously paused when I saw the tube was full of bubbles.

POTENTIAL

Through using bubbles as a metaphor and combining with educational goal and fun, more meaning and aspects of communication can be explored, such as the communication pattern of people from different cultural backgrounds and genders.