

Let It Out: Speak as in Freedom

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ABSTRACT

- A sound installation helps the audience participate in the music performance.
- The performance creates a new open systems environment for the public. There is an interaction between the audience and the performance by means of text messages. This can lead to greater participation amongst the artists.
- This system contributes towards understanding the characteristics of the space and communicating with the environment through the text messages sent to the space.

Keywords

Interactive sound installation, Audience participated performance, Open public communication

1. Introduction

As a way of communication, people use speech, written words, and non-verbal gestures. We choose 'environment' as one communication tool among many. 'Let It Out' is an interactive sound installation that is built for musical performances in many kinds of spaces and environments. People can become involved in the performance by sending messages from their mobile phones. These messages move around in the space and disperse through the environment. The audiences in this environment can contact the performer and the surroundings by using SMS. The performer can also communicate with the audiences by managing the direction, size and motion of the text messages, which appear in that particular space. Both the audiences and the performer can have a chance to communicate with the surroundings as well as with other members of society.

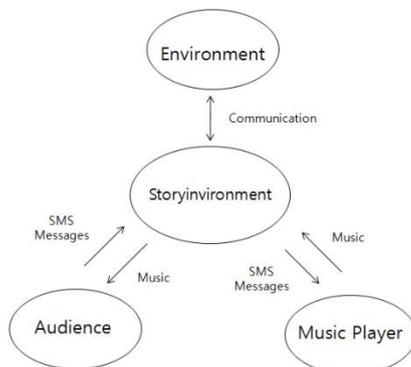


Figure 1: The flow of communication ways in 'Let It Out'



Figure 2: A performer communicates with audiences and environment through 'Let It Out'.

2. Motivation

Before starting this project, we considered the following three questions.

- Do people communicate well enough within our society?
- How can we intervene in this society as an artist or an engineer?
- Under these circumstances, what messages can we give?

The incentive to start this project came from difficulties in communication, which range from personal interactions to the social and political issues.

2.1 Do people communicate well enough within our society?

KAL Crashed in Guam in 1997

Two hundred and thirty-one passengers and crew members were killed in the Boeing 801 that crashed in Guam in 1997. The crash was, at least partly, due to the traditional Korean value of respect for authority figures because, according to the black box recording, the vice captain felt unable to speak up about the captain's missed judgment even though he noticed the urgent need to make a change. The second that he spent being obedient to his elder turned out to cause a terrible tragedy.

The Jailed Blogger, Minerva in 2009

An influential Internet economic controversialist named 'Minerva' had been posting articles online about a 'Financial Crisis in Korea'. As the experts in the government kept providing incorrect economic values, Minerva pointed out their faults, and many people agreed with his words and began to pay more attention to his attitude. However, he was prosecuted for spreading false

information about the government's economic policy. This is an example of inappropriate communication between the government and the immaterial world, Internet.

Likewise, there are cultural, social, and political obstacles blocking communication in Korea. Sometimes, these are strange and even dangerous. Our project was initiated to answer the question: "Would it be possible to expand communication through the social intervention of an artist or an engineer?" Between 'Freedom of Expression' and 'Repression of Expression', we hope to offer a good alternative type of communication in the form of social intervention of the arts and other techniques.

2.2 Indirect Social Intervention by Artists

In Korea, many artists use direct and offensive methods of political and social intervention. For example, one student at Industrial Design Department in KAIST was upset about the new unreasonable policy set forth by the president at KAIST. He made stickers with a complaint message, and distributed them to all students on campus. In addition, many film actors and musicians in Korea still try to intervene with the political and social activities by picketing or directly addressing the public about their opinions. According to these cases, straight speeches and aggressive expressions can offend the listener, so we suggest an alternative way of communication between the artist and the public.



Figure 3: Artists' direct social intervention. (Left) Sticker with a complaint message (Right) Picketing by a famous film actor

2.3 The Meaning of the Message in a Specific Space

Space and message have a correlation. For example, a picket is common in political demonstrations. For a demonstration to be effective, demonstrators choose a place where they want to express their opinions. Even if nothing is on the picket signs, we may be able to intuitively understand what the demonstrators want to speak out. From that point of view, a message has a subordinate relationship to the environments. However, the important thing is that the government only care about the meaning of the message and not the action of the demonstrators. Thus, due to the inadequacy of the institutional system, this project recommends a new form of communication that is achieved by computing technology and performance.



Figure 4: The effect of message on pickets

3. Design Process & Development

The purpose of 'Let It Out' is to provide a different communication style through music and technology. The message in the space interacts with the performer. Here are three questions related to technology:

- 1) How do we spread message through a space?
- 2) How do we receive SMS messages sent by the audience and transmit them to the installation 'Let It Out'?
- 3) How does a music performer interact with the message?

To answer these three questions, we tried various experiments.

3.1 Spreading Messages into Space

To spread messages in different directions, we used a projector to project captured messages and many convex mirrors to reflect them. Because of the properties of convex mirrors, the projected image is altered by various effects, such as distortion and segmentation. We dispersed reflected images effectively throughout the space by using different angles as well. Also, we made use of blur and highlight effects by controlling the focal distances between the project and each mirror.



Figure 5: Dispersion of images throughout the space

3.2 Capturing SMS

The audience's participation is the most important element in this project. We chose an easy communication tool, SMS(short message service), which most people can use through their cell phones. By using MSN messenger, we can get messages from friends' cell phones. Therefore, we could also get these messages by utilizing a network packet analysis tool in the computer. Also, we used a java

library, 'jpcap', for capturing network packets. These captured messages are transmitted to the program that can print texts through serial communication.

3.3 Interaction Between Performer and Messages

From the 'Let It Out' system, the performer can control the movement of the letters. The velocity and movement of motors is directly connected to the volume of the music signal. As motors rotate, the position, shape, and focus of projected messages respond. Also, by using 'Processing', we analyzed music signals transmitted through a microphone to make motors respond to the sound of musical instruments. Because each musical instrument has its own vibrating property, we tried to extract the specific frequency bandwidths of each musical instrument, and then the volume levels of these bandwidths were transmitted to a microcontroller by a wireless network. Thus, the motors to which the mirrors are attached rotate in response to the values.

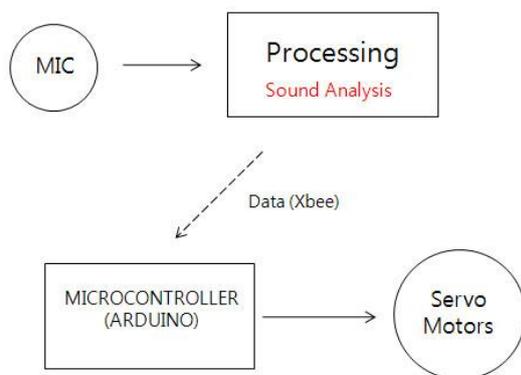


Figure 6: Interacting process between performer and messages

4. Performance with 'Let It Out'

4.1 Music Description: How to Interact with Music

In order to present our theme, liberal communication, one of the most significant issues in this project was the production of the sound components. We decided to use a live performance of Geomungo, a type of Korean zither instrument that has played an important role as head of the Korean traditional ensemble as well as a tool for scholars training in self-discipline and mind control. This traditional device also represents the uniqueness of society in Korea. It was full of repression of the weak, especially for women, who were strictly forbidden to reveal their thoughts. This instrument was sometimes used to present their grief, as this timbre corresponds to those people's emotions. For that reason, this instrument became representative of our culture. The sound of the Geomungo, made by plucking its string with a plectrum, interactively responds to our system. After picking the instrument, its sound lingers in the surroundings. At the same time, the audience can send text messages to an assigned number, which connects to the system. After receiving the message, the system projects the letters of the message into the surroundings. Then, the performer improvises musically as the floating message displays all around the space. Therefore, the participation of the audience, the performance of the instrument, and the operation of the system all interact in real time.

4.2 A Place for the Performance

Having communication in a nearby and familiar space preferred to in a meaningful and social space. Thus, we performed in various places at our university (KAIST).

1) The entrance of the GSCT main building (Graduate School of Culture Technology), KAIST – this is the place where the participants of this project study, so we set up the place to communicate with other students in our department.

2) The stairway between the GSCT building and the building of School of Mechanical Engineering – this stairway connects two different departments, so we tried to have a different form of communication with performance near a stairway.

3) Women's washroom – in this place, a distinction is made between men and women. Although it is not familiar for men to have performance in this place, we tried to deliver our messages and to interact with women.



Figure 7: Performance at the entrance of the GSCT main building, "meaning of communication"



Figure 8: Performance in women's washroom, "a digital encounter"

Before beginning the performance, we informed the audience of our cell phone number. We found that most of participants were willing to transmit messages that were appropriate for the atmosphere of the space. Thus, we expect that people would communicate socially and politically by exchanging messages in social and political places, such as a city hall and the government' complexes.

5. Conclusion and Future Work

We propose a new approach for communication in our

environment, and for indirect social intervention through the performance of a musician who observes the messages that are compiled through this system. There are two facts that we noticed in the performance. Firstly, the audience actively sent SMS messages to '*Let It Out*'. Also, the performer who played the Geomungo spontaneously reacted to the messages so that she also managed and controlled them while spreading them through the environment. Audience members were not afraid to send their own messages into the public space. It seemed that they regarded these activities as entertainment, and they all became lively as they began to participate. Furthermore, these messages motivate the musician to play the instrument enthusiastically in various tempos and rhythms which indicates that she also actively participates in this performance as she noticed her ability to control the messages in the environment, based on her own musical intention. We notice that our project '*Let It Out*' achieves our purpose, which is to offer a new way of communication and indirect social intervention by artists.

With just a few moving elements and one sound source input, the project '*Let It Out*' makes communication available in any space. This is adequate for an indoor performance with one musical instrument, but it is also possible to develop further. By using separate actuators attached to the mirrors, it can spread messages into the environment in various other ways, and the space can be larger. We expect to inspire more active participation when we use more than a single sound input, which will enable us to process each source and vary the sizes or motions of the typography. In addition, the performance can be applied to a larger space with a stronger ANSI lumen projector, which we expect to maximize the effect of the social intervention.