Innermost Echoes

DANNY HYNDS, Keio University Graduate School of Media Design
AOI UYAMA, Keio University Graduate School of Media Design
GEORGE CHERNYSHOV, Keio University Graduate School of Media Design
LADY DINGDING ZHENG, Keio University Graduate School of Media Design
MICHAEL POGORZHELSKIY, Keio University Graduate School of Media Design
TATSUYA SAITO, Keio University Graduate School of Media Design
KAI KUNZE, Keio University Graduate School of Media Design
KOUTA MINAMIZAWA, Keio University Graduate School of Media Design

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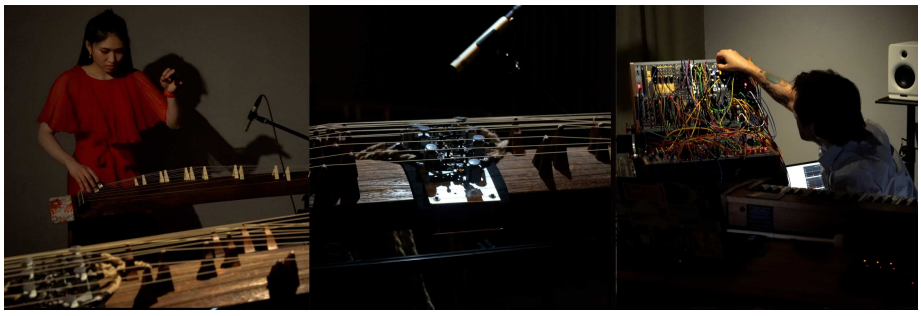

Fig. 1. Performers and the robotic koto from the first public performance at ANB Tokyo.

1 PROGRAM NOTES

Innermost Echoes is a performance work which utilizes performer physiological data as a novel input mechanism to introduce a new form of hybrid improvisation alongside a robotic koto which sonifies this data in a communicative feedback loop and a Eurorack system which will serve as a bridge between the passive physiological data and the active performance. By introducing this form of input, our improvisational performance challenges the traditional approach to live performance by creating a closed loop between our emotions and the performance itself. In a sense, we are

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improvising with our own presence and perception. We believe this new kind of performative dialogue can challenge existing hierarchies within live music performances.

2 PROJECT DESCRIPTION

Innermost Echoes is an improvisational performance work for koto, Eurorack synthesizers, and a robotic koto. It seeks to examine the relationship between performers and their own presence through the utilization of real time physiological data and challenge current hierarchies in music performance. We wish to develop new performative dialogues and ideas on what it means to perform live. Current performance practices are often based predominantly on the direct communication of the performers through their respective instruments, where one voice is not always in control [1]. When we introduce the performer's physiology as a gestural language, we aim to define a new methodology of presence-based improvisation.

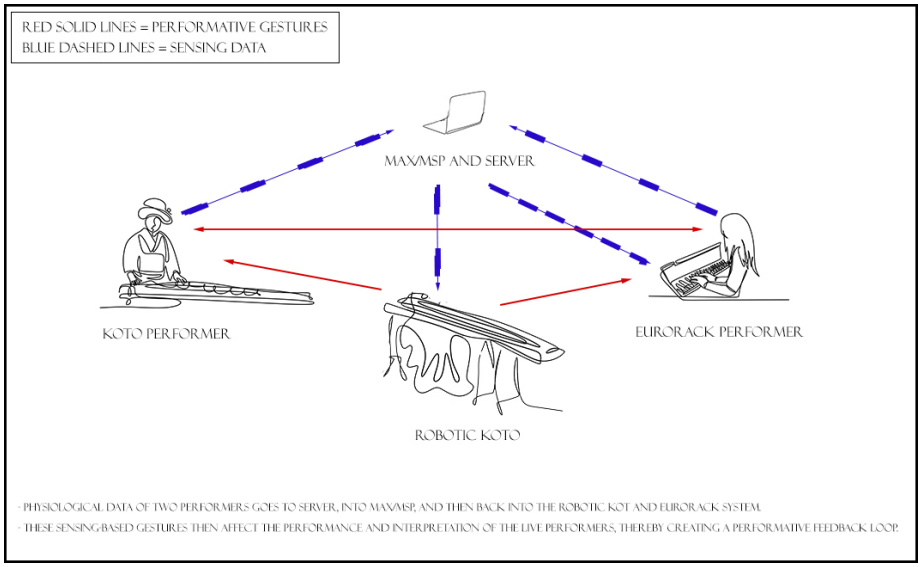

Fig. 2. Performance Diagram Indicating Flow of Data and Performance Gestures

The performers wear custom built sensing wristbands and elastic breathing bands around their chest to gather physiological data consisting of EDA (electrodermal activity), HRV (heart rate variability), and respiration rate. This data is then sent via OSC to a laptop running Max/MSP which applies this live data to the robotic koto and the Eurorack system. These data streams and occurrences of synchrony between the performers' data are then sonified and used as an indicator of the current state of the performers, thereby forming a new unspoken dialogue between the two.

In designing the robotic koto, we leaned heavily on an antique and recycled aesthetic. The koto itself was purchased for almost no cost at a second-hand shop. Although there are several "imperfections" such as cracks along the bottom side, we found this to give it an interesting sonic and visual identity. Up-cycling this old instrument was one of the early inspirations for the design aesthetic. We carried this design approach over into the rest of the design, such as utilizing much of the electronics and cabling from previous projects and junk sections of secondhand stores. While this

was not our initial plan for this project, it quickly became a large part of our design approach to utilize as much as we could with what we could save from being discarded and forgotten.

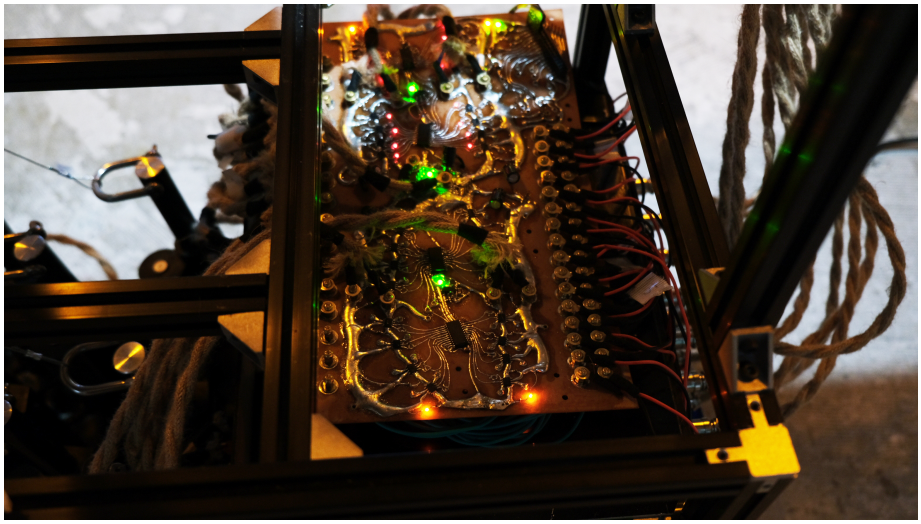

Fig. 3. Image of the Control Board

3 MEDIA LINKS

- Video: https://youtu.be/OI6VO-ZUeoY
- Audio: https://soundcloud.com/anonymous-nime

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REFERENCES

[1] Bruce Ellis Benson. 2003. *The improvisation of musical dialogue: A phenomenology of music.* Cambridge University Press.