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1 PROGRAM NOTES

This performance features "O —," a Digital Musical Instrument (DMI) that integrates linear and circular conceptions of time, drawing inspiration from Western teleological[1, 2] and Eastern, particularly Chinese, philosophies[3, 4]. The project takes shape as a multi-movement co-composition. The instrument incorporates dual time representations—a linear and a circular LED light board—paired with up to nine light-sensor embedded cubes, each housing an empty patch with protocols and triggers. By working on composing with the instrument we wanted to explore this intimate relationship between entangled time and compositional ideas.

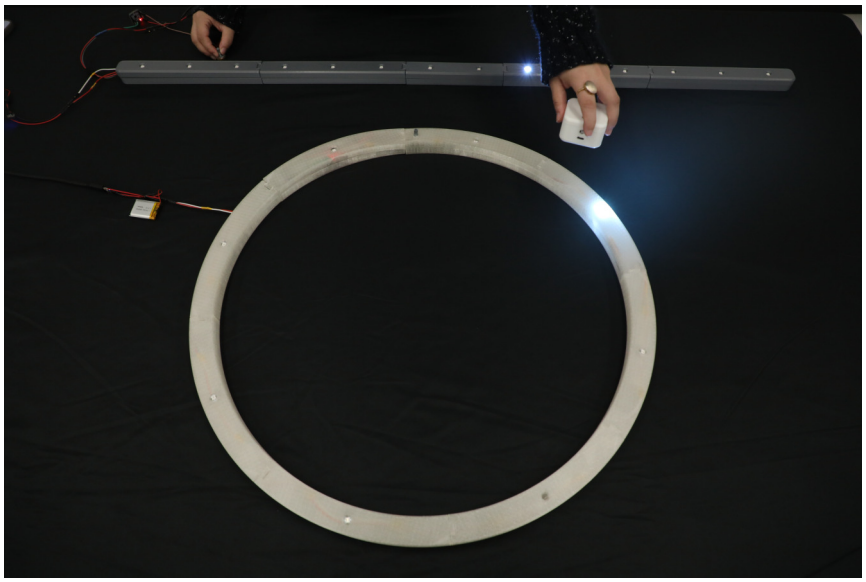

Fig. 1. O —

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2 PROJECT DESCRIPTION

This project seeks to explore these intricate dynamics by integrating a conception of time into “O 一” - from the English characters O and the Chinese 一, pronounced “yi”, a novel Digital Musical Instrument (DMI). The interface’s design incorporates dual time representations —a linear and a circular boards paired with nine light-sensor embedded cubes, sending messages via OSC[1] to control sound algorithms.

The interface is composed two boards: one circular - “O”, and one linear - “一”, metaphorically reflecting Eastern philosophies and Western teleological perspectives, respectively. 3D-printed chassis enclose a custom designed PCB with WS2812 LED strips, and harnesses ESP32-WROOM-32 chips for Wi-Fi-enabled control functionalities, allowing for real-time adjustments. Central to the technical architecture of this DMI are interactive boxes, each outfitted with an LDR sensor, ment to act as triggers when illuminated by lights from the boards. The boxes utilize either an ESP32 Mini board or a Xiao ESP32 sense, powered by individual batteries, facilitating portable and responsive interactions. Such interface is designed to be coupled with a software counterpart for sound generation.

Using the DMI, the two composers freely choose their preferred platform for composing, which is *Supercollider* and *PureData*, aligned with their usual practice. This approach results in a collection of time-based musical works. We composed two pieces using O 一. These pieces were composed in parallel with author 2 - an Italian composer - and author 3 - a Chinese composer - closely collaborating with the main designer author 1. The project takes shape as a multi-movement co-composition. Author 1 will perform the two movements in a live performance.

3 TECHNICAL NOTES

The performance last around 5 minutes with two movements, performing time depends on the improvisation and loop layering. For performance implementation, the performer requires: a standard stereo sound system, a projector or screen for visuals (optional), a table for placing the instrument, supporting dim lights and Wifi Network.

ETHICAL STANDARDS

The paper aligns with the NIME ethic code. The Music is developed using open sources platforms (Pure Data and SuperCollider). Furthermore, the paper wishes to contribute to cultural diversity within NIME debate. Please note that an Ethical Standards section is required for all NIME submissions.

REFERENCES

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[1] https://opensoundcontrol.stanford.edu/