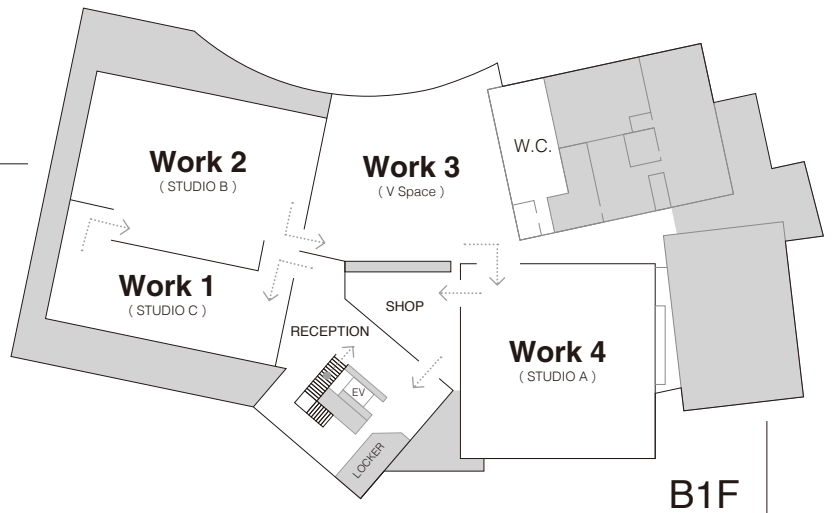


Continuum Resonance

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Floor Plan

This exhibition explores the technical and expressive possibilities of "PolyNodes" through four exhibition spaces of different shapes, presenting new relationships between acoustic technology and three-dimensional spatial expression from both real-time generation and pre-design perspectives.



STUDIO C

Work 1 PolyNodes Installation Debug Views

In this space, the visitor's position data and the spatial characteristics data of the exhibition area are analyzed, and through complex parameter control, real-time sound generation and output are performed. The projected visuals display the sensor information and the operation of "PolyNodes". This creates a space where one can concretely understand the effects and functions of "PolyNodes".

STUDIO B

Work 2 PolyNodes Visualization

This work analyzes visitor position data and spatial characteristics data of the exhibition venue to generate real-time acoustics through complex parameter control of "PolyNodes" (especially using the "Black Hole" parameter). Additionally, synthesizer and drum sounds are added to produce the final acoustic output. The projection visuals are generated in real-time using "PolyNodes," the generated sound, and sensor data.

*Black Hole: A parameter within "PolyNodes" that activates non-linear spatial effects.

V Space

Work 3 PolyNodes Augmentation

This work generates sound using "PolyNodes" by analyzing dynamic data (visitor movement, camera footage, etc.) and static data (architectural space characteristics). Furthermore, the shadows of the three-dimensional objects operating inside "PolyNodes" are projected onto the walls, visualizing and expanding them into audiovisual expressions. Additionally, here it is also possible to experience AR (Augmented Reality) technology through a special display.

STUDIO A

Work 4 Synthesis of Body-Space-Music

This space utilizes a specially shaped area with an exceptionally high ceiling, using spatial measurement data, dancers' physical movement data, and pre-created "PolyNodes" sound sources as materials. With the themes of body, space, and music, it develops a unique expression that is only possible in this particular space. Visitors can experience an immersive audiovisual environment that makes full use of multi-projection techniques.



VS. web site Special Page



VS. instagram



This exhibition consists of works created using mathematical algorithms, music programming, and 3D architectural data. These works are installed in various spaces of "VS."

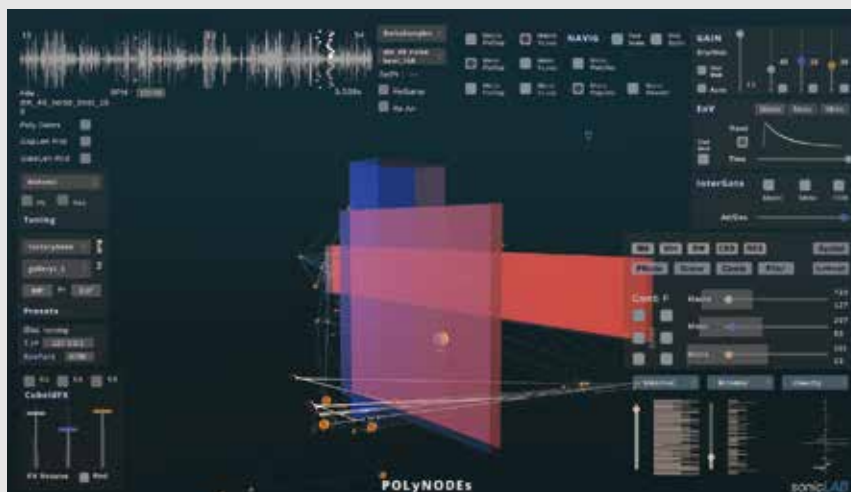
Daito Manabe places great importance on exploring the relationship between mathematics and music as the foundation of his artistic activities. One of his influences is the Greek contemporary composer Iannis Xenakis's "Music and Architecture" (1971). At "Expo 58," Xenakis, in collaboration with architect Le Corbusier, created an experimental and innovative work that filled the entire space with organic light, color, video, rhythm, and electronic acoustics. This was a pioneering expression that could be considered the origin of media art.

In this exhibition, Manabe extensively uses the groundbreaking 3D audio software "PolyNodes" (2024), which he co-developed with Sinan Bokesoy (artist/composer). This software allows for extensive design and visualization of sound movement and changes within a 3D space. By dynamically controlling the position, intensity, and tonal changes of sound within the space, and simultaneously applying these adjustments to the visual elements accordingly, it creates an immersive experience where sound and visuals are fused. This enables viewers to experience an unprecedented audiovisual space.

"PolyNodes" is an innovative tool that revolutionizes music production and 3D sound design. It was jointly developed and introduced in 2024 by Sinan Bökesoy (artist/composer) and Daito Manabe.

This system was developed with an approach that sets it apart from conventional DAWs (Digital Audio Workstations), featuring a groundbreaking mechanism that visualizes sound in 3D space and enables intuitive operation. While it allows for the creation of new sounds without the need for music theory or advanced programming skills, it also provides a production environment for experts with deep knowledge of acoustics to visually express their insights and explore new possibilities in sound design.

The software automates the generation and modulation of sound through algorithms and rules, creating soundscapes and acoustic structures that unfold along a time axis through design modeling, without direct human input. In addition to linear geometric concepts, it incorporates parameters such as Black Hole and White Hole to accommodate non-linear changes. Generative sound synthesis is not defined solely by model complexity, algorithmic manipulation, or the latest AI techniques. Rather, it is characterized by its ability to intuitively reflect the designer's thinking as software that accurately grasps and embodies acoustic design elements such as timbre evolution, acoustic interactions, and structural nuances of sound.



PolyNodes Operation screen

*Generative audio synthesis tool

Music tools that automatically generate and modify sounds using computer algorithms. The design of the algorithm itself becomes the composition process, expressing the evolution and interaction of sounds. These tools embody the designer's vision through various technologies, pioneering new frontiers in music production. They represent an advanced creative approach that fuses technology and art.



sonicLAB official web site
 (<https://www.sonic-lab.com/polynodes/>)
 ©sonicLAB

For this exhibition, I initially contemplated a comprehensive display of works spanning the past two decades, aiming to reexamine the trajectory of my individual artistic endeavors. However, inspired by Tadao Ando's architecture, I pivoted towards a novel challenge.

The foundation of my creative process is rooted in mathematics and music. During my university years, I was profoundly influenced by Iannis Xenakis's seminal book "Music and Architecture," which catalyzed the germination of my current artistic pursuits. Since that formative experience, I have diligently studied various methodologies, accumulated diverse experiences, and explored multifaceted forms of expression.

For this exhibition, "Continuum Resonance," I have chosen to fully leverage the potential and spatial characteristics of this building to create a new work that reinterprets the origins of my creative process within a contemporary context. Through a dialogue with Ando's architectural space, VS., I aspire to produce an innovative piece that synthesizes my cumulative experiences with cutting-edge technological advancements.



Profile

Daito Manabe

Artist, Programmer, Composer.
Established Rhizomatiks in 2006.
Founded Studio Daito Manabe in 2022.



<https://daito.ws/>

Creates works by reexamining and combining familiar phenomena and materials from different perspectives. Rather than aiming for rich expressions such as high resolution and high realism, he focuses on the intrinsic fascination found in phenomena, the human body, programming, and computers themselves, which can be discovered through careful observation. His work explores the relationships and boundaries between humans and machines, analog and digital, and real and virtual. He is active in various fields, emphasizing these aspects in his creations.

In this exhibition, unique audiovisual installations are featured in each space of VS. (Works 1-4).

The audio and visual elements of each space are created based on the 3D audio design software "PolyNodes"*. Through this system, we provide an integrated experience of architectural space data, viewer movement data, and generated sound.

Xenakis's Installation as a Source of Inspiration

One of the inspirations for "PolyNodes" comes from the thoughts and methods of Iannis Xenakis (1922-2001). "PolyNodes" was developed by greatly expanding Xenakis's ideas from a contemporary perspective while integrating various concepts. A pioneering example of media art by Xenakis is the Philips Pavilion at the 1958 Brussels World's Fair (Expo 58). Xenakis, who was in charge of architecture, space, and acoustics, created a unique geometric architectural form that fused organic internal organ shapes with mathematical hyperbolic paraboloids. Furthermore, by dispersing 425 speakers on the interior walls, he created a unique acoustic space. Later, Xenakis developed the idea of spatial acoustic particles and created the "Polytope" series of electronic acoustic-optical installations (1960s-80s). Also, for the "Steel Pavilion" at the 1970 Osaka Expo (Expo '70), he composed the tape music "Hibiki-Hana-Ma" for a ring-shaped music hall with 1,008 speakers distributed throughout the space.

Creation of a New Acoustic Space

"PolyNodes" extends traditional 2D waveform representation into 3D space, enabling the exploration of continuously changing spaces. This software has been released as a plugin available to everyone, providing the latest technology for 3D acoustic space generation. This work, "Continuum Resonance," utilizes the "PolyNodes" system to explore various possibilities, challenging to fuse architecture, music, and technology in new ways.

Daito Manabe New Installation

"Continuum Resonance"

Support : Grand Green Developer

Special Equipment Support : TAKENAKA Co., Ltd.

Production Credit

STUDIO C Work 1 PolyNodes Installation Debug Views

Direction·Music Composition·Sound Design & Programming·Visualization	Daito Manabe (Rhizomatiks, Studio Daito Manabe)
Sound Programming	Sinan Bökesoy (sonicLAB)
Co-composition	Hopebox
Software Engineering·Visualization	Yuta Okuyama
Visualization	Ayumu Nagamatsu
Software Engineering	2bit
Production Support	Keke (Studio Daito Manabe)
Production Management	Kosaku Namikawa

STUDIO B Work 2 PolyNodes Visualization

Direction·Music Composition·Sound Design & Programming·Visualization	Daito Manabe (Rhizomatiks, Studio Daito Manabe)
Sound Programming	Sinan Bökesoy (sonicLAB)
Co-composition	Hopebox
Software Engineering·Visualization	Yuta Okuyama
Visualization	Ayumu Nagamatsu
Software Engineering	2bit
Production Support	Keke (Studio Daito Manabe)
Production Management	Kosaku Namikawa

V Space Work 3 PolyNodes Augmentation

Direction·Music Composition·Sound Design & Programming·Visualization	Daito Manabe (Rhizomatiks, Studio Daito Manabe)
Sound Programming	Sinan Bökesoy (sonicLAB)
Co-composition	Hopebox
Visualization	Ayumu Nagamatsu
Software Engineering	2bit
Console Furniture Design	Takahito Hosono (OFF-FLAT)
AR Engineering	Tatsuya Ishii (Rhizomatiks), Futa Kera (Rhizomatiks)
Production Support	Keke (Studio Daito Manabe)
Production Management	Kosaku Namikawa

STUDIO A Work 4 Synthesis of Body-Space-Music

Direction·Music Composition·Sound Design & Programming·Visualization	Daito Manabe (Rhizomatiks, Studio Daito Manabe)
Sound Programming	Sinan Bökesoy (sonicLAB)
Co-composition	Hopebox
Visualization	Satoshi Horii (Rhizomatiks)
Motion Capture Dancer	Shingo Okamoto
Motion Capture Engineering	Yoshitaka Homma (Crescent), Takaya Fukushima (Crescent), Kei Minoura (Crescent)
Motion Capture Session Management	Takao Inoue (Rhizomatiks)
Production Support	Keke (Studio Daito Manabe)
Production Management	Kosaku Namikawa

Curatorial Advisor	Kazunao Abe (Tokyo Polytechnic University)
Space Planning Advisor	Kenichi Togawa (burr)
Space Design	Takahito Hosono (OFF-FLAT)
Architectural 3D Scan	Tadayuki Suzuki (Crescent), Kazumasa Yasuda (Crescent)
Modeling	Masahiro Kadokawa (Cuddys Pic), Yasuhumi Matsuura (Cuddys Pic)
Architectural 3D Scan Coordination	Takao Inoue (Rhizomatiks)
PR Design	Hiroyasu Kimura (Rhizomatiks), Takuma Shukuin (Rhizomatiks), Yuko Nagamatsu
Archival Filming and Shooting	Muryo Homma (Rhizomatiks)
Translation	Naoki Ishizuka (Rhizomatiks)
Project Management·PR	Rina Watanabe (Studio Daito Manabe)
PR Support	Tomoko Yotsumoto (Rhizomatiks)
Project Management·Produce	Takao Inoue (Rhizomatiks)

VS. Joint Partnership

Chief Executive Producer	Takuya Nomura	Promotion Planning	Yuuki Kashimoto (Creative Universe), Ryo Ikeshima (Playable)
General Manager	Daichi Yabe	General Production Management	Junpei Haga (Totalmedia Development Institute)
Project Producer	Yukiko Tasaki	Interior Construction	GODO
Project Manager	Ritsu Fukumoto	Space Construction (Video)	TAKENAKA Co., Ltd.
Operation Director	Shigenobu Kobayashi	Space Construction (Audio)	Hiroyasu Sato (Eastern Sound Factory), Shuhei Hanai (871DESIGN), Ryo Kozuki (artical)
Assistant Manager	Ayaha Tanaka	Space Construction (Lighting)	Yanase Lighting
		Operation	Sold Out

Related Event

VS. SOUND NIGHT Sunday 22 Sep 19:00 - 22:00
venue : VS. Saturday 28 Sep 19:00 - 22:00