

# Title: Morph

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## 1 PROGRAM NOTES

Morph is an audiovisual performance that explores live hybrid sound design, with the use of electric guitar, acoustic drums, electronics and live coding. This iteration of Morph is performed by Timo Hoogland (drums, code) and Lina Bautista (guitar, code). While playing they both code live using the Mercury language via the collaborative coding editor Flok. During the piece they explore how their instruments can extend beyond their own sound by controlling each others sonic output. Morph is an ongoing research between Rafael Andrade, Timo Hoogland and Lina Bautista.

## 2 PROJECT DESCRIPTION

Morph represents an exploration into the realm of hybrid instrument design within music performances. At first, Morph was a collaboration between Rafael Andrade, who plays the hybrid instrument known as the Knurl, and Timo Hoogland, who plays acoustic drums and programs electronic music. In this iteration Hoogland continues the research in collaboration with Lina Bautista, who plays electric guitar and live codes electronic music. Their goal is to dive into the interplay of combining sound and gestures of their instruments, to find new forms of musical expression. In this 10-minute live audiovisual performance, they create different musical outputs by connecting the sound and gestures from their instruments together, through the use of the open-source live coding language mercury. During the progression of the piece they explore how their instrument can extend control outside of the instrument itself by controlling each others output.

The acoustic drums are extended with contact microphones attached to the heads of the snare drum and bass drum. The electric guitar's clean signal is captured as well. These signals enter a Max/MSP patch and with the help of the FluCoMa package the sound is analysed for onset detection, pitch detection and envelope following. Other parameters such as the note-density and the amount of hits in a specific time frame are also derived from the sound. These values are used in real-time and send via OSC-messages to the Mercury live coding environment.

At the same time the acoustic drums are also captured via a condenser microphone and send together with the processed electric guitar to the direct inputs of the Mercury environment where further processing is applied through

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Fig. 1. Rehearsal of Morph by Lina and Timo in 2024

the code. Over the course of the performance different ways of controlling each others sound are explored. For example the envelope following is used as a gating system on the sound from the guitar to only allow signal to pass when drums are played, making the guitar sound more percussive and synchronised to the drums. Vice versa, rhythmical patterns from the guitar are used to control sustaining sounds from the drums such as brushing patterns on the snare drum and cymbal swells. A bass synth is added programmed in Mercury and controlled by both the drums and the guitar through the onset and pitch detection to add a 3rd instrument to the performance that responds to the live input.

Both performers have a close connection to the live coding scene, being part of the Netherlands Coding Live and TOPLAP Barcelona communities and participating in various events organised together within these communities. By including live coding they can have more space for the morphing sound to be adjusted in real-time allowing room for the composition to have some improvisational aspects and be changed based on the live interaction between the musicians. They use the collaborative coding environment Flok, developed by Damián Silvani, allowing them to both adjust and evaluate the code when necessary.

The music is complimented with generative visuals, representing the sound interactions produced in this improvisation. The visuals are programmed with Max/MSP and GLSL. They consist of a vector-field of particles that interact with the sound. Parameters such as attraction, repulsion, speed and color are modulated by the sound analysis. The visuals represent the interaction between the instruments, making the particles flow in one or the other direction based on who is controlling who.

### **3 MEDIA LINKS**

- Morph at NIME 2024: <https://www.youtube.com/watch?v=SXl8asBUsg>

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