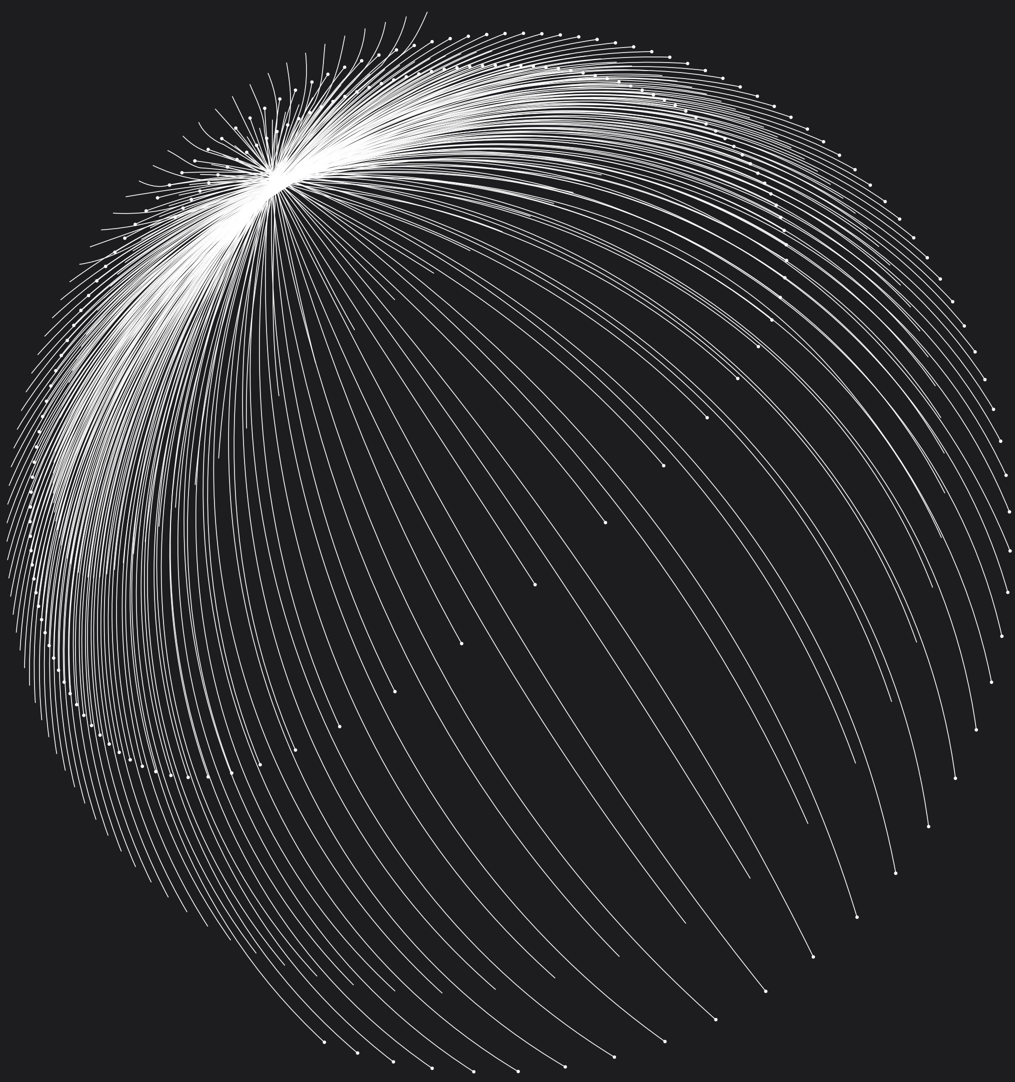
Embodied Interaction Studio
2024©

sonica



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AI for music generation

(A)Concept definition

What do we have to do to innovate in the context of AI generated music production?

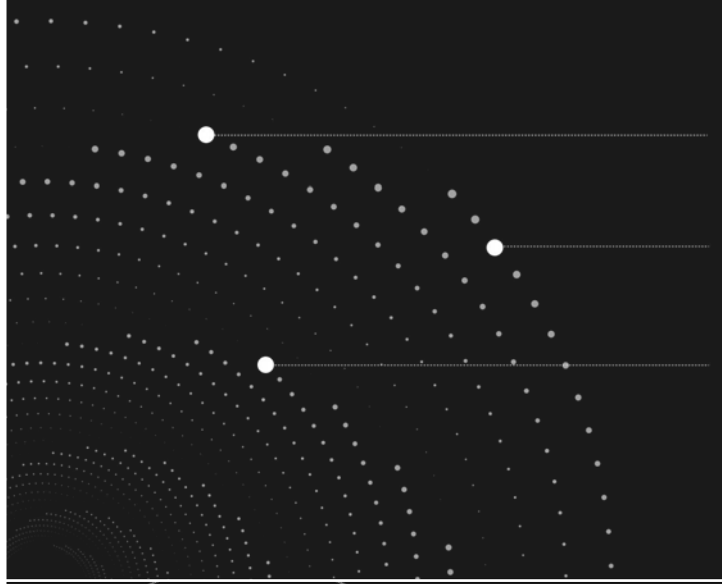
Ethnography research insights / requirements

From the previously conducted research on AI music generation emerged a specific area of improvement and innovation: the integration of an AI system that allows for music generation within existing streaming platforms.
This system aims to engage users with varying levels of musical expertise, broadening the scope of individuals involved in music generation. It seeks to accompany users on their creative journey, offering support or serving as a wellspring of inspiration.
A central aspect of the design process is the development of a tool focused on assisting users in their creative projects.

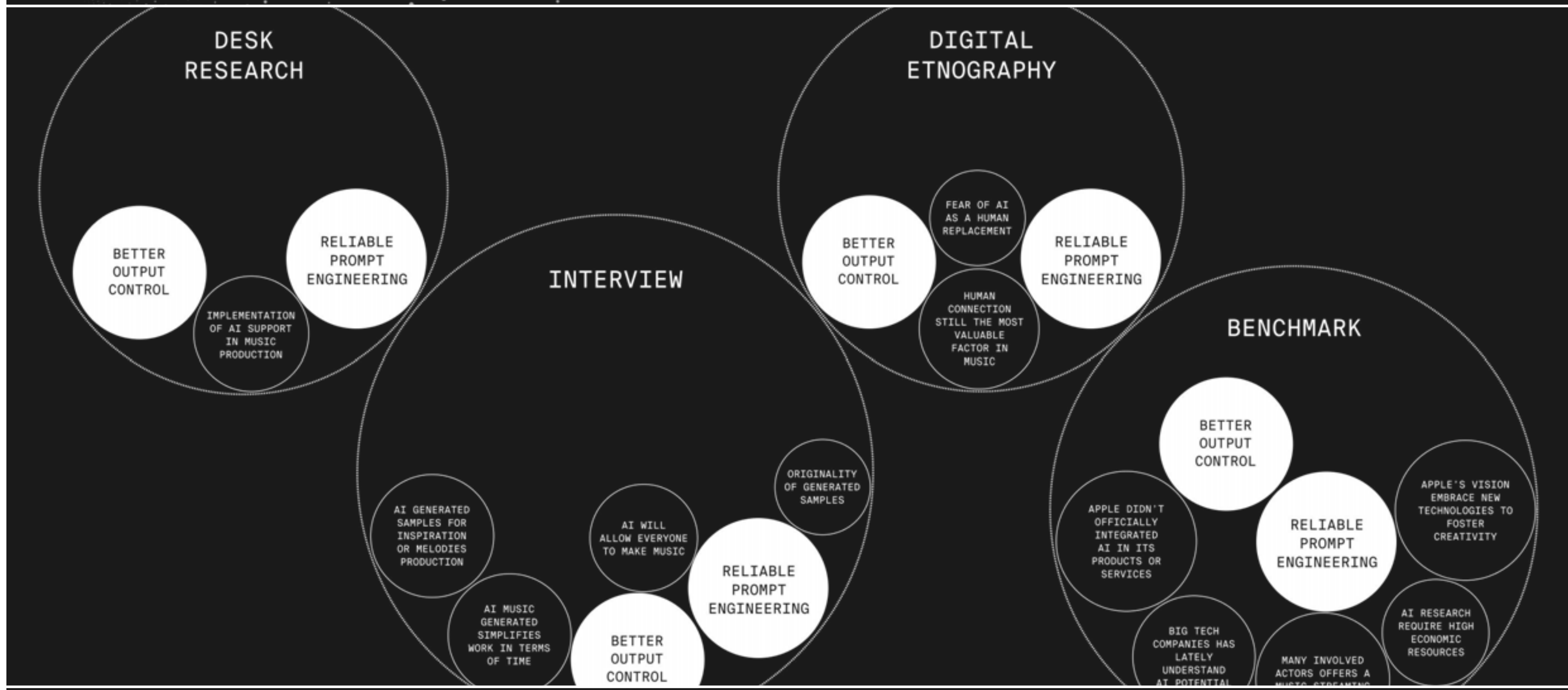
This tool should enable users to explore and experiment with diverse prompts beyond traditional text-based ones. The goal is to facilitate the generation of high-quality outputs that closely resonate with the diverse forms through which creative ideas manifest in the human mind.

Moreover, the design should prioritize the creation of a system that empowers users with precise and user-friendly control throughout the creative process and over the final output. This system should require no specialized technical knowledge in IT or musicology, ensuring accessibility and ease of use for all users.

Which are the most suitable tools?



SUBJECT	GOAL	TOOL
Who	Finding users, communities	• Digital Ethnography • Benchmarking
Where	Pages, forums, conversations	• Digital Ethnography • Scraping on Social media • Scraping on forums/blogs
Why	Motivations, values, needs	• Semi-structured Interviews • Digital ethnography • Literature review • Scraping on digital environments



Final Brief&Client /

CLIENT SELECTED

Apple

FINAL BRIEF

What do I have to do to innovate in the context of AI generated music production?

Introducing within existing streaming platforms a system deeply rooted in the realm of generative music production.

The system's aim is to engage users across varying levels of musical expertise, broadening the scope of individuals involved in music generation. It seeks to accompany individuals, offering support throughout their creative journey or serving as a wellspring of inspiration.

Central to the design process is the development of a tool focused on assisting users in their creative endeavors. This tool will enable them to explore and experiment with diverse prompts beyond traditional text-based ones.

The goal is to facilitate the generation of high-quality outputs that resonate closely with the diverse forms through which creative ideas manifest in the human mind.

Moreover, the design will prioritize the creation of a system that empowers users with precise and user-friendly control throughout the creative process and over the final output. This system will

(A)

Case studies research

Parameters and features

After having identified the topic area, our first step was to research some case studies that would help us in the concept definition phase.
We defined some parameters and features that could help us with identifying good and relevant case studies:

✦Unconventionality: Objects that allow the production of music and sounds in an unconventional and different way from what we are used to.

✦Reduced dimensions: we were mainly looking for objects that are easy to handle, that might also be portable and usable on the go.

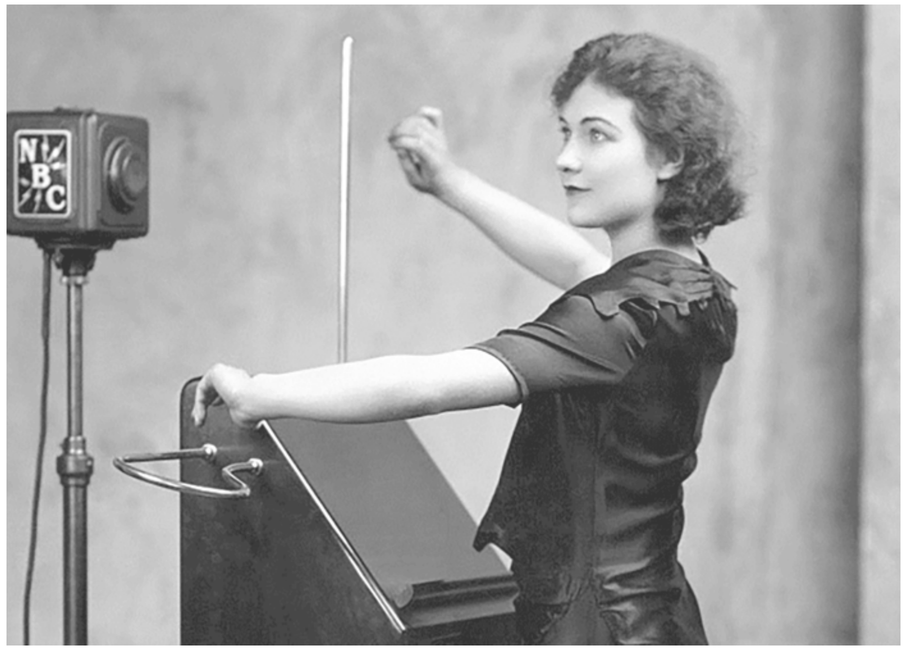
✦Ease of understanding: objects that have features that are easy to understand both on the physical side and on the theoretical one.

Amongst many different ones, we selected six that were the most appropriate and useful for us and our theme and objective:

01

Mogees, by Bruno Zamborlin

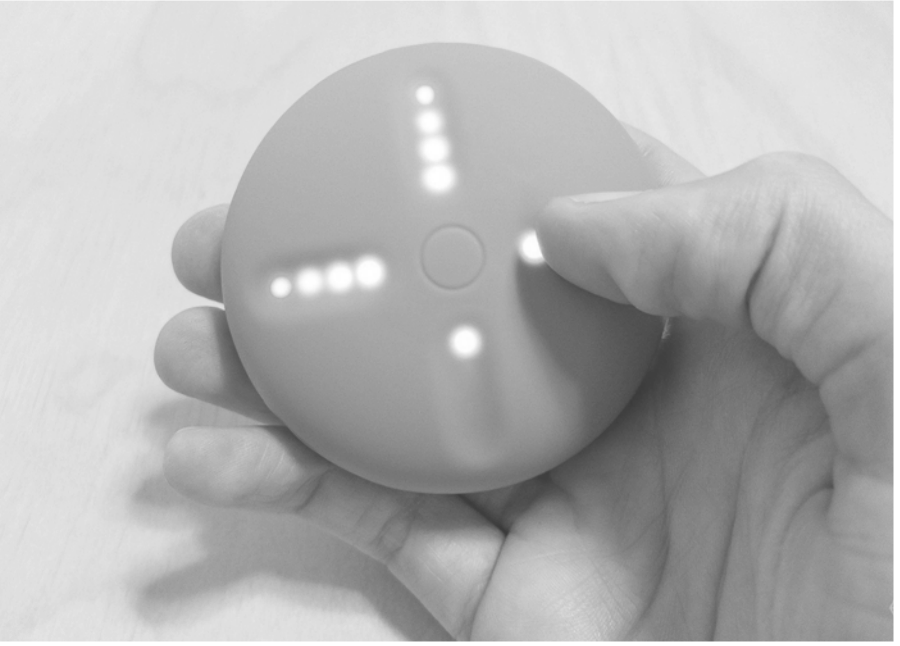
Born on Kickstarter, Mogees combines a vibration sensor, the first designed to work with a smartphone, and innovative music software. This system detects the generated vibrations and uses advanced gesture recognition technology, allowing different types of taps and scratches on various surfaces to be associated with specific sounds. Everything is highly customizable and can be used with standard audio equipment and computers.



02

Theremin, by Léon Theremin

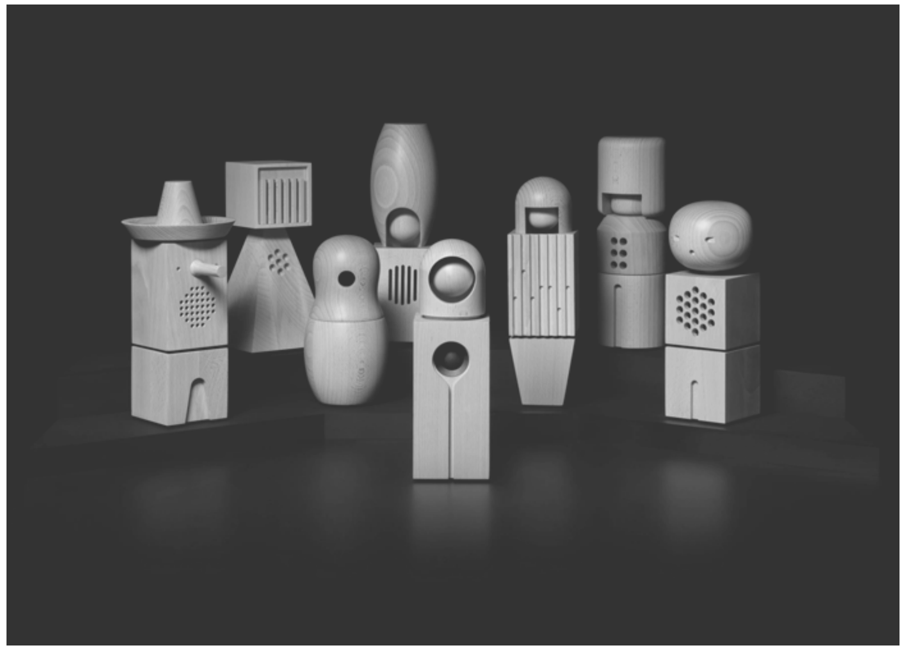
The theremin is an electronic musical instrument known for its distinctive, eerie sound and unique method of play. Invented in the 1920s by Russian physicist Léon Theremin, it is played without physical contact. Musicians control pitch and volume by moving their hands near two metal antennas: one for pitch (vertical) and one for volume (horizontal). The theremin's haunting tones have made it a favourite in film soundtracks, particularly in science fiction, and it remains a fascinating and innovative instrument in both classical and modern music contexts.



03

STEM, by Kano Computing

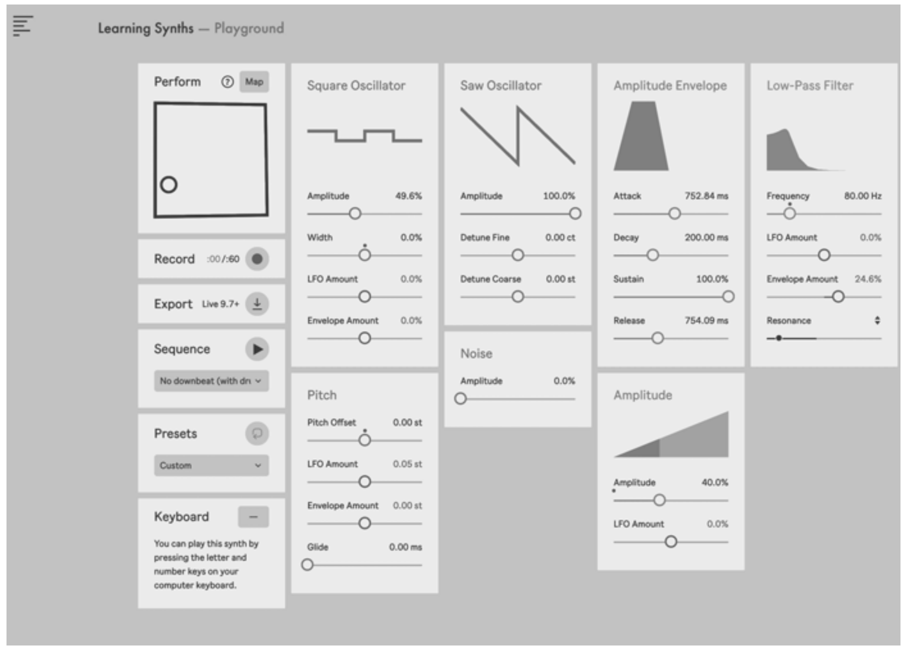
The Stem Player is a portable music device that allows users to interactively remix and customize their favourite tracks. It features touch-sensitive controls and a sleek, handheld design. Users can isolate and manipulate different "stems" or components of a song, such as vocals, bass, drums, and melodies, enabling a highly personalized listening experience. The Stem Player supports a variety of audio formats and offers a new way to engage with music, making it a versatile tool for both casual listeners and music enthusiasts.



04

Choir, by teenage engineering

The Choir by Teenage Engineering is a vocal synthesizer designed to bring a unique choral experience to music reproduction. Inspired by cultures and characters from around the globe, each doll in the Choir collection has its own distinct vocal tonality. While each doll is assigned a specific voice type, they can adapt their vocal range to deliver dynamic solo performances. When multiple Choir members are placed together, they communicate and recognize each other, creating a cohesive choral experience.



05

Learningsynths.ableton, by Ableton

LearningSynths.Ableton is an interactive online platform designed to teach the fundamentals of synthesis and sound design. Developed by Ableton, this user-friendly resource offers hands-on lessons that guide users through the basics of creating and manipulating sounds using synthesizers. Through engaging, browser-based modules, users can explore key concepts such as oscillators, filters, envelopes, and modulation, all while experimenting in real-time.

06

PO-33 KO, by teenage engineering

The Pocket Operator is a micro sampler featuring up to 40 seconds of sample memory and a built-in microphone, perfect for creating music on the go. These small, ultra-portable music devices deliver studio-quality sound and offer a range of functionalities. Each model can be used individually, in combination with other Pocket Operators, or integrated with other compatible gear. Key features include a microphone for sampling and 40 seconds of sample memory.

(A)

Core features

After analyzing these case studies, we tried to identify the core features that we wanted to always keep in mind and prioritize during the concept creation phase, as we found many interesting aspects in each of the products we examined.

✶Experimentation

We decided this to be one of the main features of the concept, as we liked the idea of creating something that would allow users to explore music and try out different things without trying to make sense of what they were doing rather than playing an instrument.

✶Control

Even though we want experimentation to be the core feature of the concept, we still care about the user being in control of what they are doing: it is important that even though they are experimenting they still know what they need to do and what outputs are produced through different inputs.

✶Accessible production

This feature is connected to control, as we want users of all skill levels to be able to produce a musical output.

✶Bodily approach

Along with experimentation, a physical approach is another feature we wanted to keep as a main characteristic of the concept. Instead of the traditional ‘touching’ the instruments, we wanted the interaction to concern a movement that has to do more with the way the body reacts to music and to the way music makes us feel.

✶Creativity

This is a key element of the concept, as we want it to leave creative freedom to the user, while also guaranteeing them a pleasant to hear output that they can later reuse and manipulate, if they want.

✶Inspiration

This is also an element that is very important to us, as we do not want the output to be a final result, but an inspiration for the user to later develop more music or just for them to play around with and gain new perspectives into the music world.

(A)

Preliminary research / understanding music production and stems

Synth, beat, vocals, bass, guitars. And more.

As one of the first steps of our research, we stared learning about music and its many components.
In music production different musical stems are layered to create a complete full piece.
Each layer has a distinct role and contributes to the overall sound and texture.

✦Beat, the basic unit of time in music, typically represented by a drum pattern or rhythm section. It provides the rhythmic foundation and drives the tempo of the piece, helping to keep all other musical elements in time.

✦Bass line, a low-pitched sequence of notes that often follows the root notes of the chord progression. It underpins the harmony and rhythm, giving depth and groove to the music.

✦Harmony, the harmonic framework of the music that is created when multiple notes are played simultaneously. It supports the melody, adds emotional context, and enriches the overall sound.

✦Melody, a sequence of notes that are perceived as a single, coherent entity. It is often the most recognizable part of a song, carrying the lyrical content and emotion.

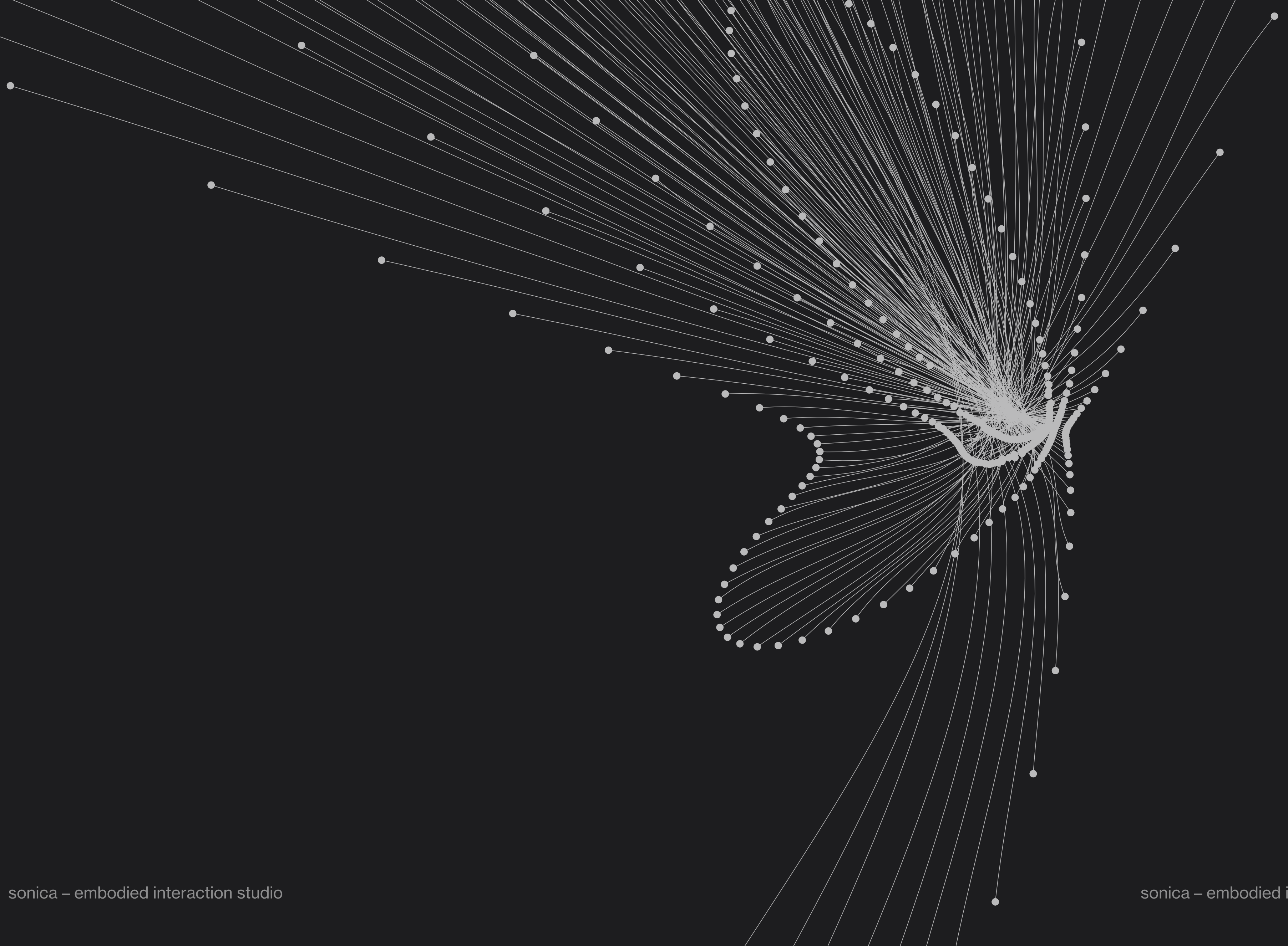
✦Vocals, or the human voice part in a piece of music. They convey the lyrical content and are the focal point of the song, delivering the message and emotional impact.

✦Synths (short for synthesizers), are electronic instruments capable of producing a wide range of sounds. They can be used for melodies, bass lines, chords, effects, and ambient textures, adding unique timbres and sound effects.

✦Guitar riff, a short, repeated musical phrase played on the guitar that often serves as a main thematic element in a song.

Design a new gesture interaction aimed to support users in their creative music endeavours.
This tool will enable them to explore and experiment with diverse synth and percussion prompts throughout the creative process, the AI counterpoint melody will arrange the final output.

This system will require no specialised technical knowledge, ensuring accessibility and ease of use for all users.



(A)

Interaction exploration / what we tried and what we decided to work on

The three explored interactions

While exploring the many possibilities for interaction that would satisfy the brief, we selected three main gestures and movements to associate to the production of sounds.

✦On the go
In a scenario of re-contextualization, a disruption strategy to destabiLize preconceived notions of the matter at hand, we explored a scenario in which the user is outside from their home – for example on social transport – and they want to generate music as inspiration can come at very different times and in the most random places.
The question we asked ourselves was: is it possible to imagine music production behaviors in unusual contexts?
In order for it to be socially acceptable, we imagined the interaction to be small and discrete, not too loUd and not very visible, so for it to happen through the use of fingers in a small handable device.

✦Scenographic
In a scenario based on the strategy of changing bodily sensations through artifacts, that disrupts everyday rules of engagement, we analyzed a context that is outside the home in which users use their arms and legs to produce sounds while moving freely, for example while walking or dancing at a party—in a socially accepted behavioral way. As an exploratory question we asked ourselves: what part of the body are generally involved when dealing with music? We started from the idea of producing a beat with one's foot and then explored more movements to assoCiate them to different sounds, like moving one's arms to generate a melody.

✦Focused
For this scenario we imagined the interaction to happen inside the home of the user, maybe with a friend or a family member. With this scenario we adopted the strategy of altering the technology to explore new ways of using technology for design.
What we asked ourselves wAs: how can we innovate music production processes through the use of different and more intuitive prompts that do not require any musical knowledge or skill?
The possible interaction we imagined was air drumming and the movement of the hands like an orchestra director in order to produce music.

Methodology

Re-contextualisation, imagine the user displaced in inhabitual contexts. Outside home, on public transports. Socially accepted, not loud, not much visible

Implications

Is it possible to imagine music production behaviours in unusual contexts? Inspiration comes while traveling on public transports, on their way to work. Small and discrete actions through the use of fingers.

On the go

Methodology

Changing bodily sensations through artefacts, new imagined use of the technology, disrupt everyday rules of engagement. Outside home, legs/feet movements. Socially accepted.

Implications

What part of the body are generally involved when dealing with music? They have in mind a rhythm and they start to beat its time with their legs. Light beat of the time with legs.

Scenographic

Methodology

Altering the technology, exploring new ways of using the technology for design. Inside home, maybe with a friend. Intuitive and affordable actions.

Implications

How could we innovate music production processes through the use of different and more intuitive prompts? They want to experiment with music production. Air drumming and free movement of the hands.

Focused

(A)

We intend to explore new ways of using alternative technologies for current solutions. This involves reflecting on emerging spaces for innovation, such as advancements in artificial intelligence, physical and natural interactions to make the experience relevant and accessible for a wider range of users.

Strategy definition – altering the technology &re-contextualisation

(A)

User definition

Music enthusiasts
Individuals with a deep appreciation for music, often exploring new genres.

Professionals
Skilled practitioners who have turned their passion for music into their livelihood.

Anyone
Who has a basic knowledge of music and its production, and isn't afraid to try new things.

Unsolved needs
Individuals interested in new ways of creating music through gestures and looking for inspiration in different ways than they are used to

Context where the activities take place
Inside one's home, or wherever inspiration comes.

Characteristics and behaviours
Curious about music, wanting to try new things
Interest in finding new ways for inspiration
Intrigued by AI music creation

(A)

We adopted more of a Design with Intent approach.
This method focuses on creating intelligent, collaborative objects that actively enhance the user's creative process. This was strongly linked to the AI being present in our project, which invites users to pair the modules to create music and generate a cohesive output.
This section details how our Design with Intent philosophy guided our prototyping, ensuring our products is not just innovative but also immediately useful and impactful.

Our prototyping approach

Objects with Intent
Everyday things and objects having intelligence and agency for becoming collaborative partners

Research through Design
A way to experiment with future practices and experiences using objects that might be

(A)

Strategies of estrangement

Re–contextualisation

By introducing intuitive and straightforward actions, the conventional approach to music creation changes in favour of a new dimension of gestural interaction in music generation

Changing bodily sensations

×

Enactments

×

Altering the material

Through the implementation of new gestures and of AI, we want to create a new approach to music production that is different from the usual one because of how technology is used

(A)

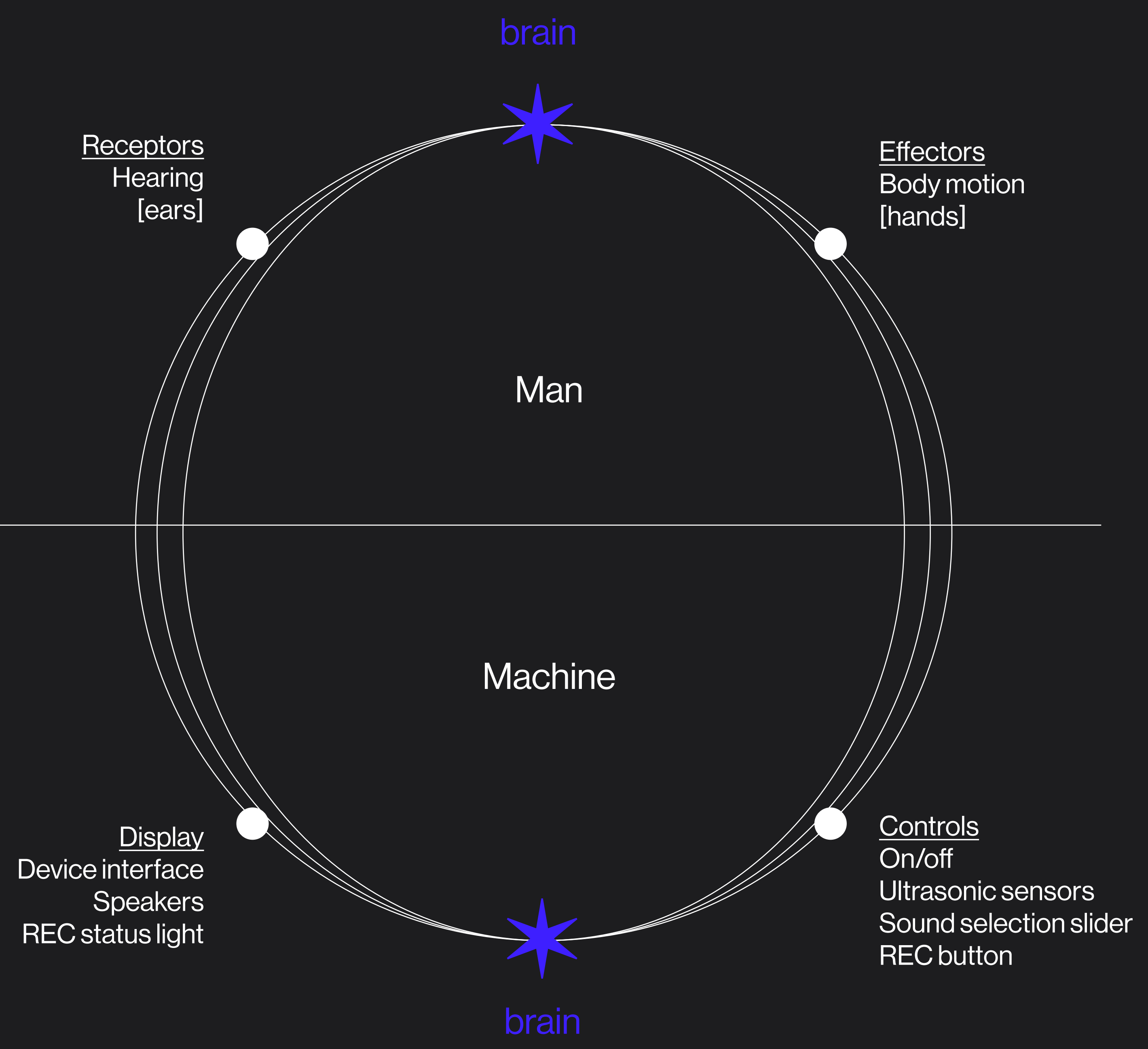
Interaction Brief

Interaction model diagram

The way we designed both interaction is to make it them as intuitive and easy as possible for the users, and because of this we also tried to make them similar to each other in terms of input and general gestures.
The main output, sound, is produced when the user moves their hands over the device(s), and it can be hears through the speakers.
There are different controls that have different outputs:

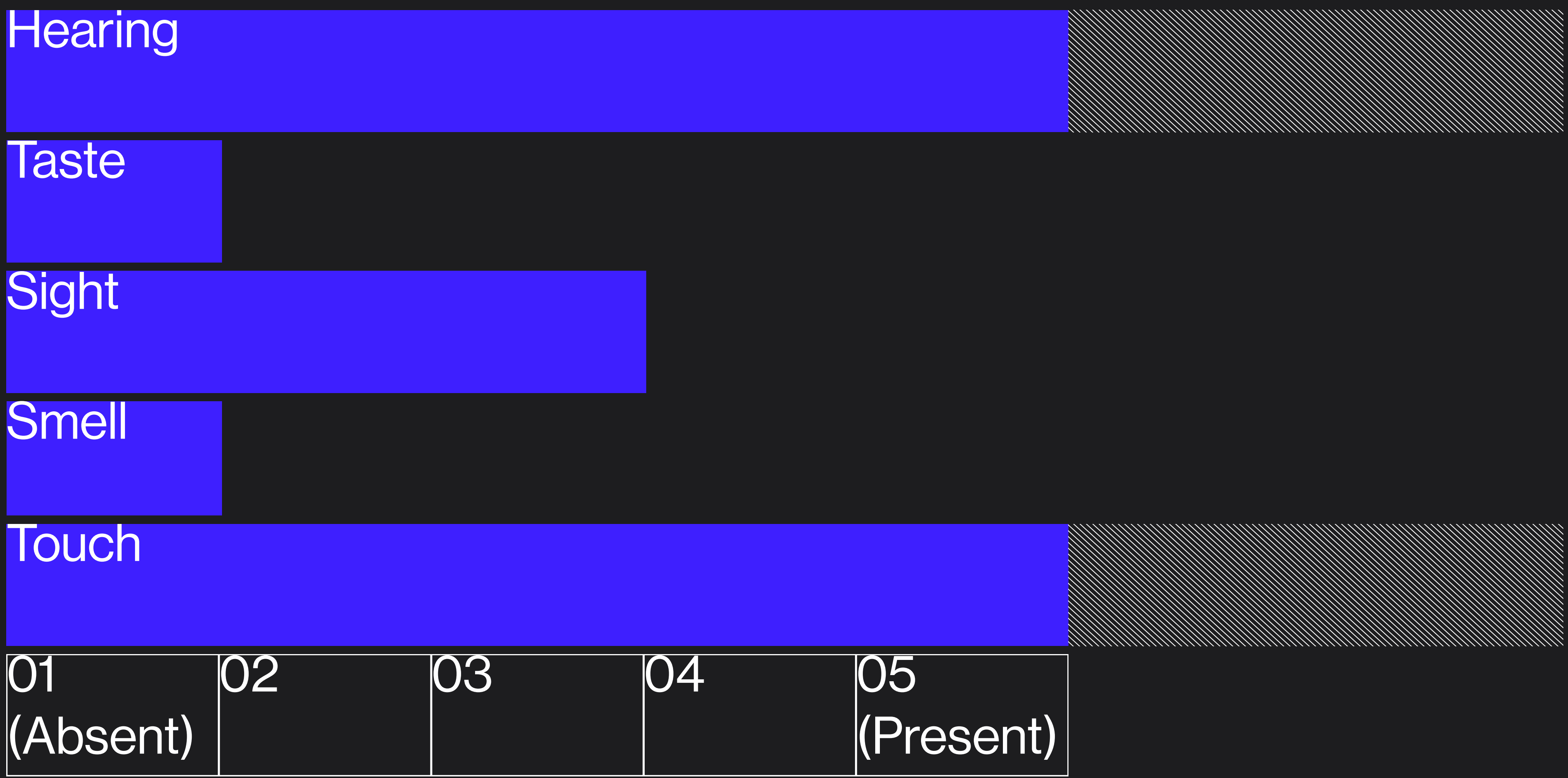
✦On/Off slider → turns on or off the device
✦Ultrasonic sensors →detect hand movements and produce sound → speakers
✦Sound selection slider → allows the user to select different sample sounds
✦REC button → when pressed, starts or stops recording → status light

Model of interaction



(A)

Sensory involvement



This sense is used in a more intangible way, through the movement of the hands users can generate sounds and manipulate them.

The mainly stimulated one, as it is both an output and a feedback of the interaction between the user and the device.

(A)

How users will manage coupling between action and function at any step?

▼ Scheme function – reaction
4 main steps of interaction

Step 1

Input/Output ON/OFF

Sliding a button turns on the device

Step 2

Input synth basics

Hand motion too high → no sound
Hand goes up-down → octaves up/down
Hand goes right/left → notes on the keyboard

Step 3

Input percussion basics

Hand motion too high → no sound
Hand reaches the sensor → emits beat

Step 4

Input REC

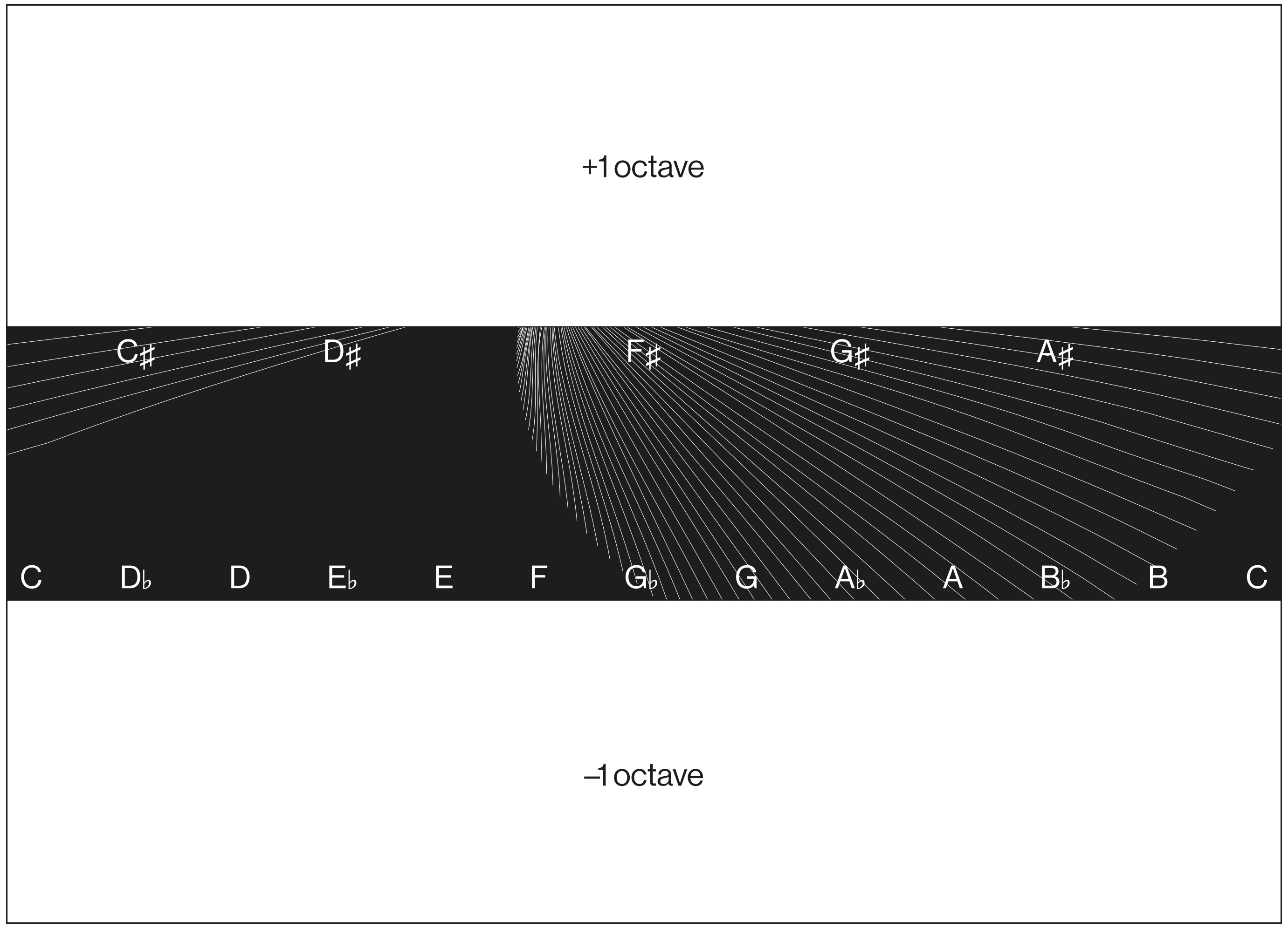
Button pressed → blinking light turns on

(B)Interaction development

Study of free hand movement in relation to our two parameters – synth and beat

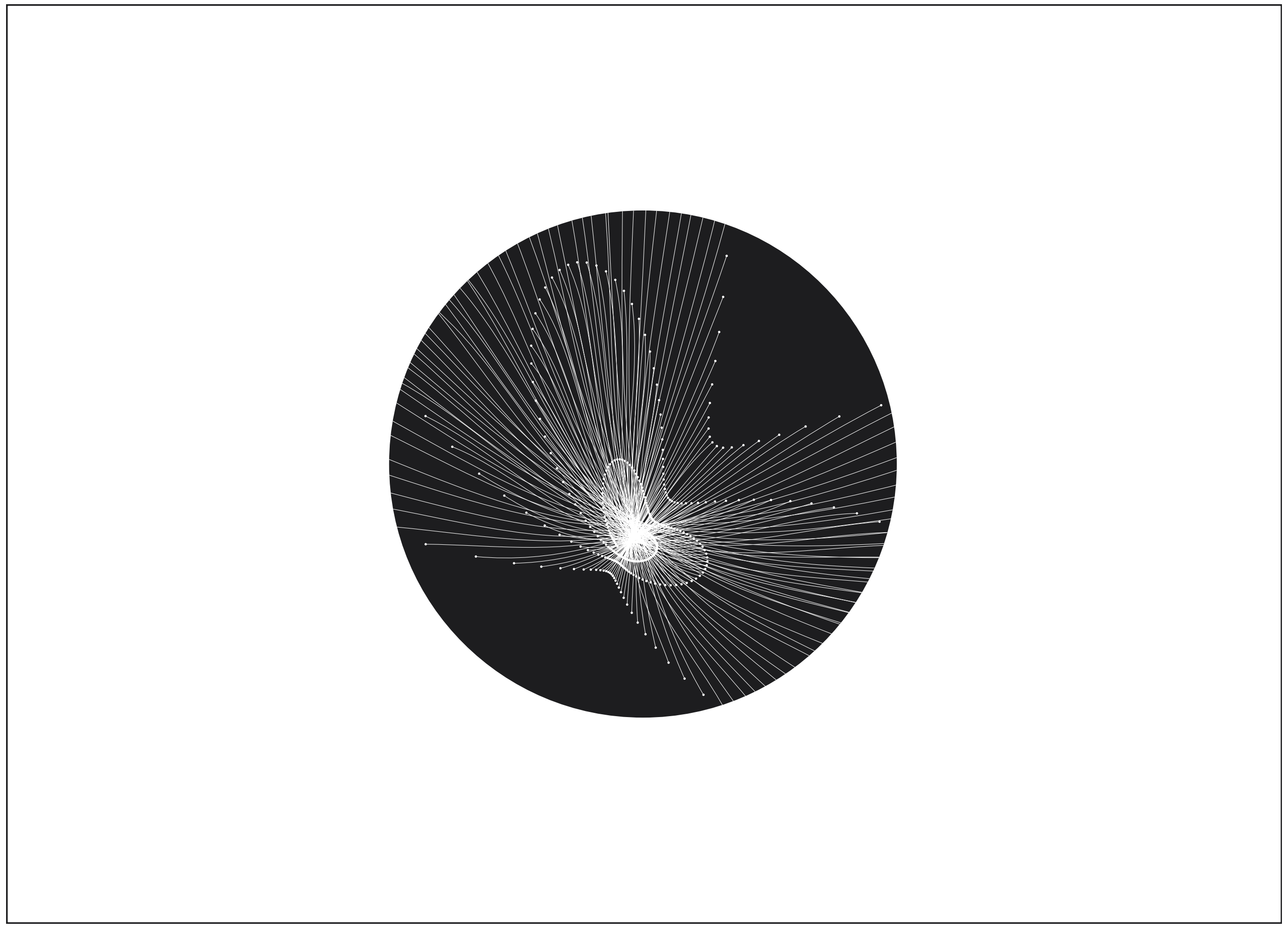
Pitch [synth]

Through the interaction with the device user can regulate the note's pitch.
The output would be an experimental base sequence of notes.



Beat [percussions]

Through the interaction with device users can produce beat sounds.
The output would be an experimental base sequence of beat sounds.



(B)

Testing the interaction / Objectives

What we used

To carry out the tests without having a working prototype was a bit of a challenge for us, as we had to simulate every step of the interaction.

We made two cardboard boxes with the two main affordances printed on them: the area of the sensors and the pairing affordance on the side—a blue rectangle.
To simulate the interaction we used Garage Band for the beat sound and the website https://learningsynths.ableton.com/ for the synth sound.

✶Critical

Understand if the users would interact with the devices the way we expected them to and if they would understand how to produce the synth and the beat on their own.

✶Important

Understand if the essential shapes we created corresponded to the output the users were expecting to obtain.

✶Nice to have

get insights about the reactions and feelings the interaction produces in users

(B)

Testing the interaction / Methodology

For our first round of user tests, we were very interested in knowing if the way we imagined the interaction to happen was actually how users would perform it.
To obtain good results that could lead us to meaningful insights, we created a user testing plan.

01

Set camera to record
Send Google form to user

Sign agreement to record

02

Personal questions

What's your age?
What's your educational background?
Which level of knowledge do you have in music field?
Do you play any instruments?
Do you define yourself as somebody who is prone to experimentation with technology?

03

General description of the project topic
Brief description of stems

(B)

▼ Main step of the user test
User interacts with the product

04

User gets familiar with devices

Which device you think is for producing beat and which one for the synth?

Users are then prompted to start the test with the device they prefer

05

Task per task execution

Synth input
Beat input
Pairing the devices
SEQ evaluation + motivation

06

Notes from think out loud
Notes from observing
Failure/success
Number of attempts

(B)

Testing the interaction / Results

20 total tested users

20–70 age range

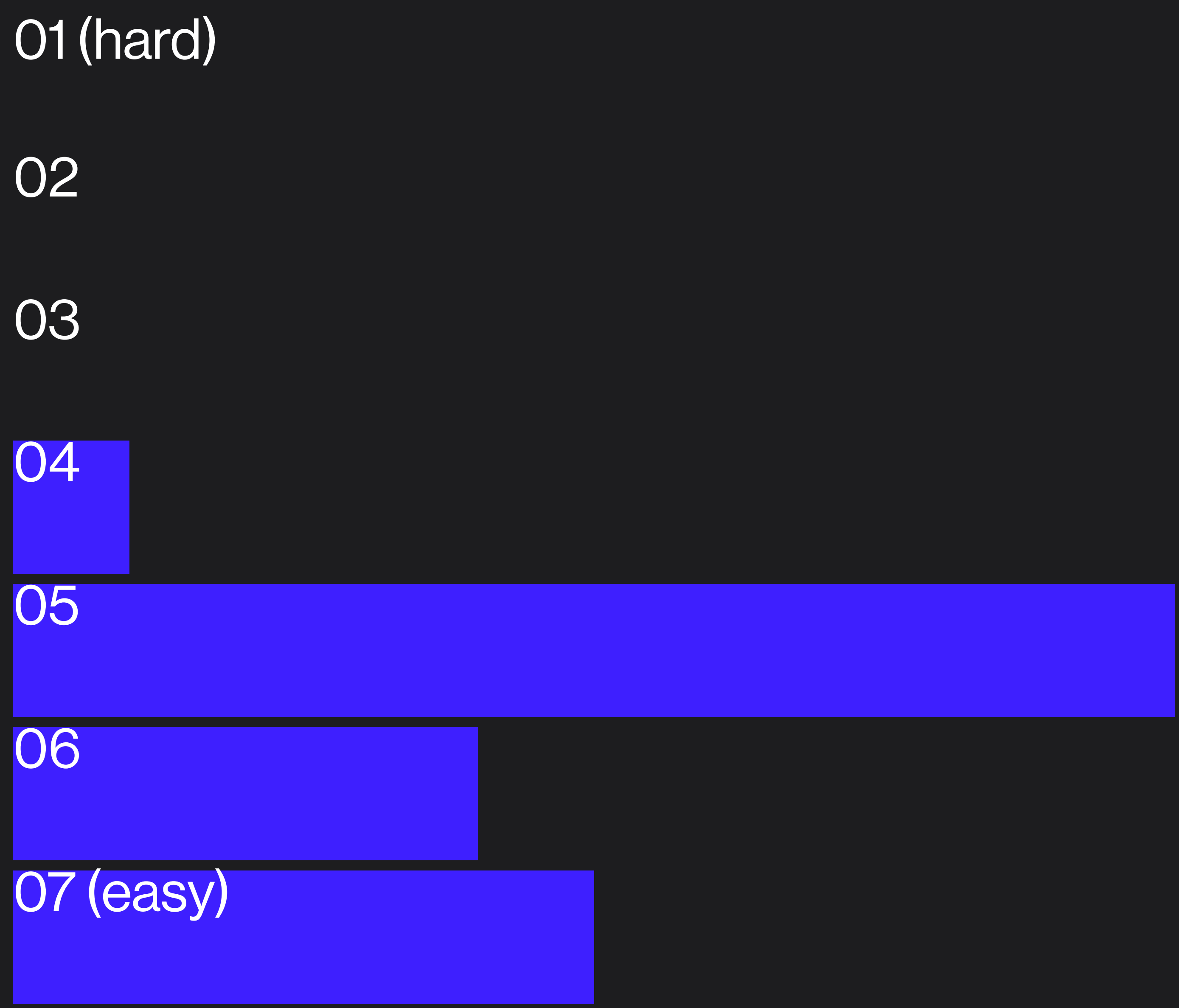
13 with low music literacy

7 with high music literacy

Synth

How did you find synth interaction? – SEQ score

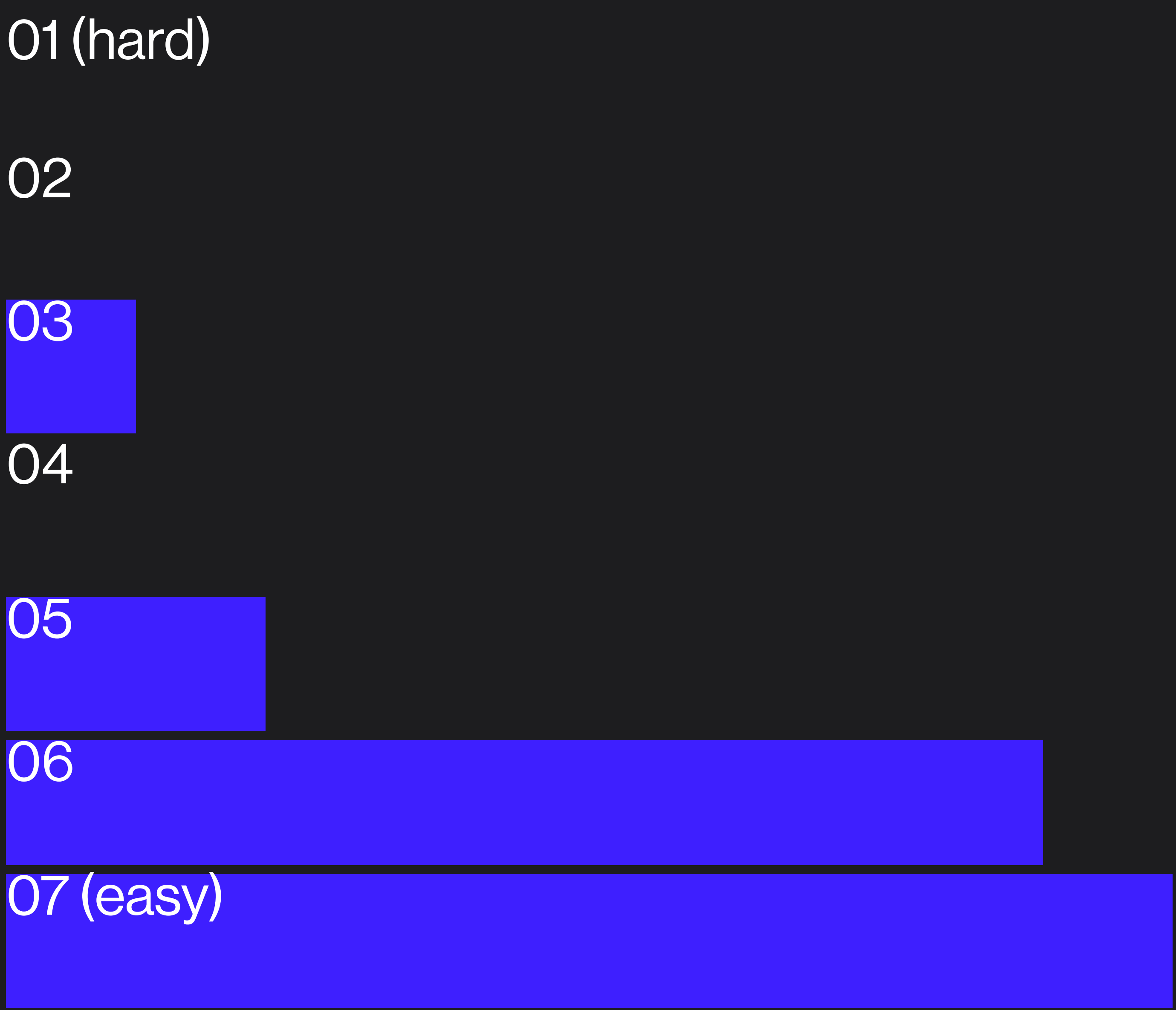
▼ Single Ease Question — SEQ
20 responses



Beat

How did you find beat interaction? – SEQ score

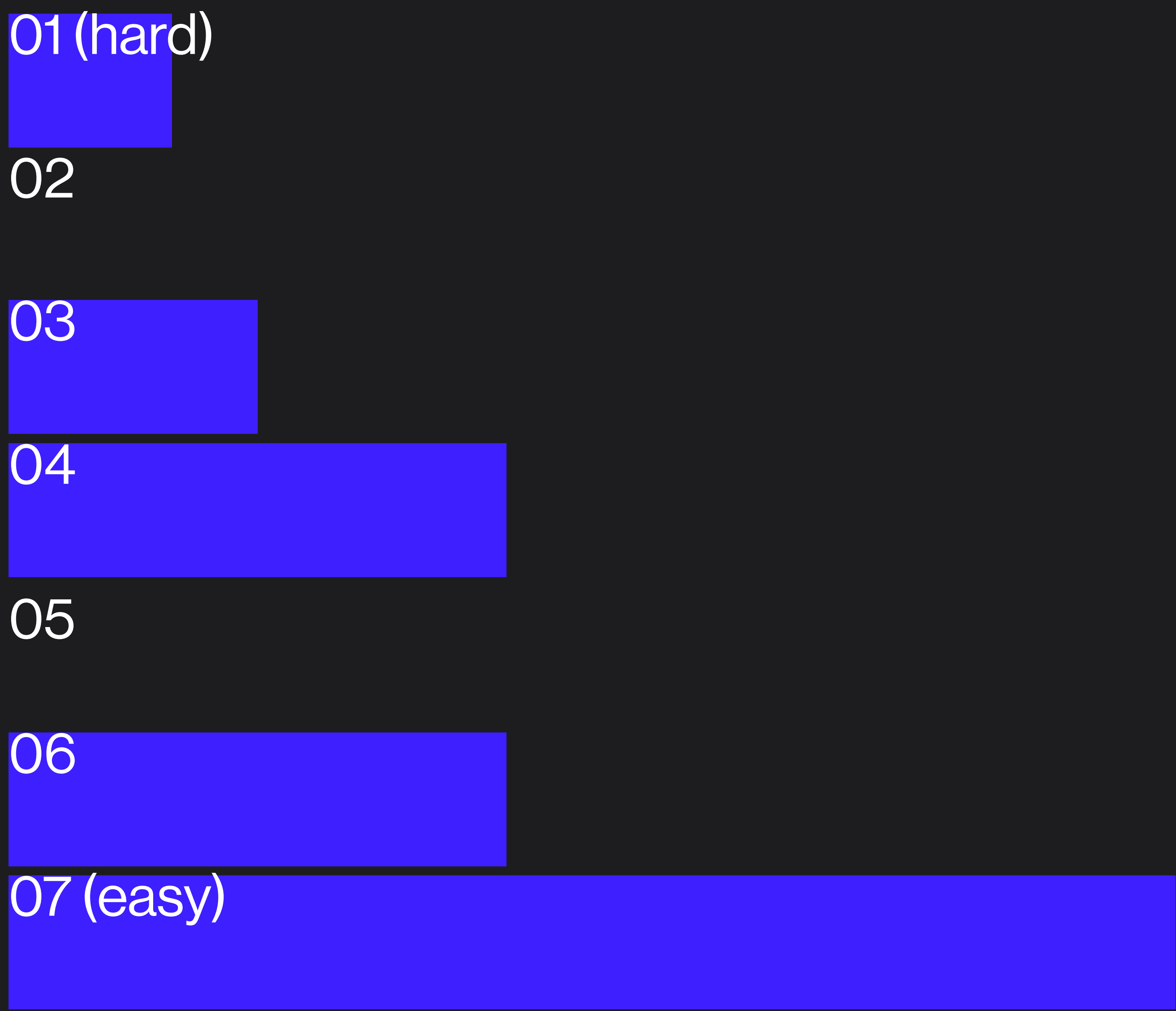
▼ Single Ease Question — SEQ
20 responses



Pairing

How did you find beat interaction? – SEQ score

▼ Single Ease Question — SEQ
20 responses



(B)

Phase 1 / Interaction Takeaways

Synth input

Affordances/symbols that make it clear that the synth works in two directions

Make it clear that the synth interaction needs to be hands free

Make it clear how the sounds changes during the interaction with the synth

Beat input

Make it clear that the beat interaction needs to be hands free

Add the option to have more sounds in the beat device

Pairing

Make the pairing gesture more clear through affordances

Make the affordances more visible

Others

Clarify the management of the instrumental output post–production

(B)

Testing the affordances Objectives

What we tested/ What we used

After the first user tests, we noticed that the main issues we were facing had to do with the affordances of the two devices.
After realising that the problem with people wanting to physically interact with the objects had to do with the fact that the boxes felt lightweight and did not suggest in any way that there were sensors and delicate components, we decided to leave that part to another session of user testing and to focus more onto the other affordances: pairing and sound selection.

In order to make this session quick but very effective at the same time we printed the affordances on paper and displayed them on the table.
We then moved them as people were interacting with them to simulate the different feedbacks and asked them to pick which they thought would work better with the interaction we asked them to perform.

✶Critical

Understand if the affordances we though of worked and if they suggested the right interaction

✶Important

Get insights into what type of affordance worked best for each interaction we had planned

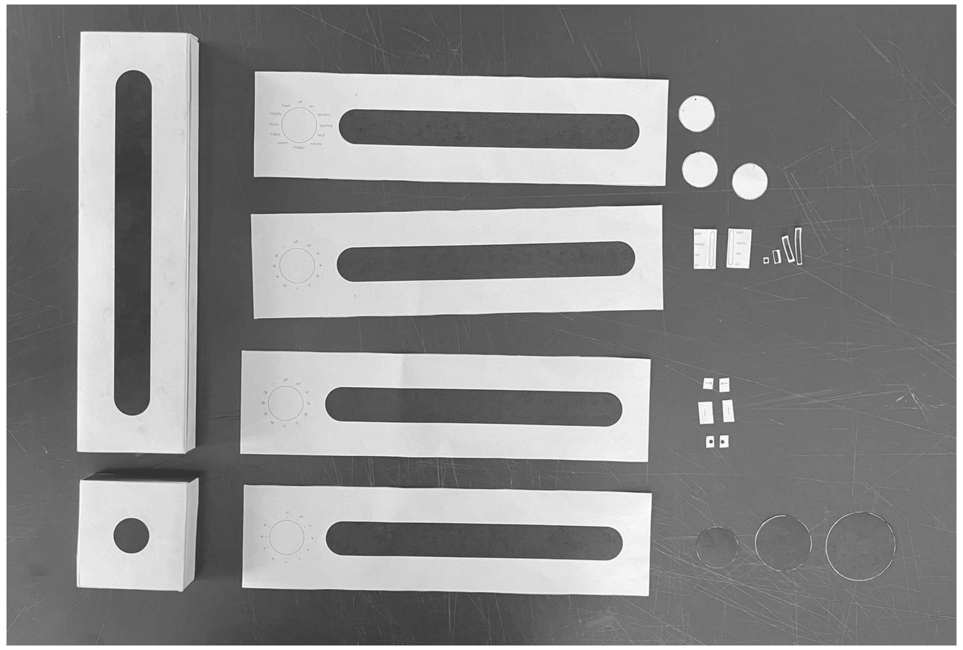
✶Nice to have

Get insights about the reactions and feelings the affordances produce in users, and if they make them feel in control of the system

(B)

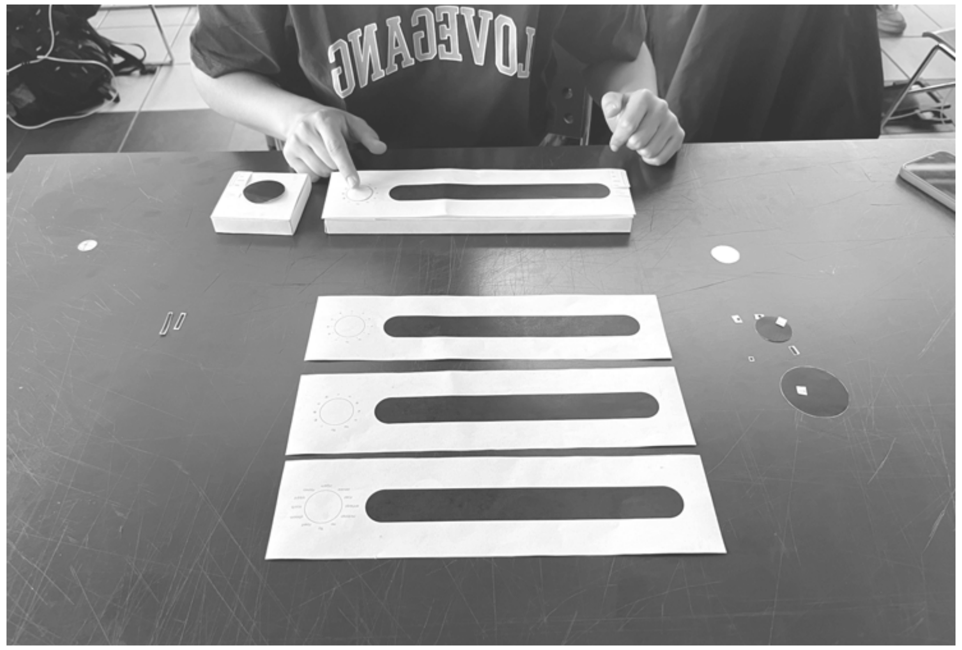
Testing the affordances / Methodology

01



Tested elements

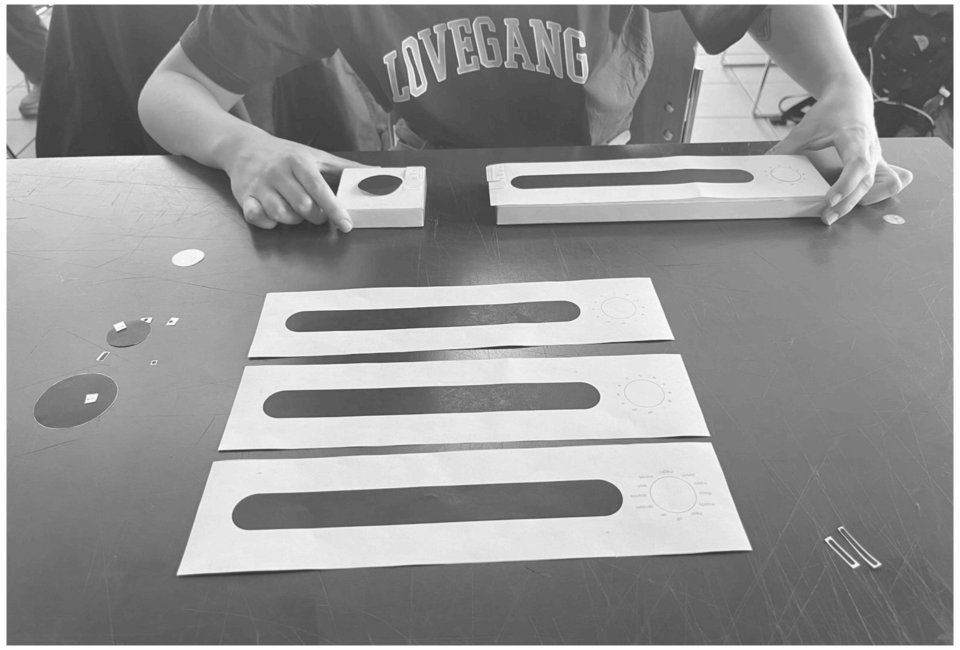
02



Choose affordances and test

While testing, we had people interact with these low-fi prototypes and we changed them based on the way they interacted.

03



Pairing trial

We tried many different options for the same interaction and asked users which one they preferred.

(B)

Phase 2 / Affordances Takeaways

Pairing affordances

Any type of tested affordance works, they just need to be visible

The understanding of the affordances depends to how much people look at the device

Symbol-sound match

Many users preferred to have symbols instead of names for the different sounds as it makes them feel more creatively free

Knob

The knob for many users felt too related to changing the volume of the device

Slider

More than half of the users we tested said that the slider is better as it makes them feel like they are changing a parameter

(C)Coding

How we build the code Arduino × MAX

Communication between Arduino IDE and Cycling MAX

During the coding phase, we focused our efforts on creating a functional and user-friendly output. Our goal was to ensure that the interaction with the devices is intuitive, allowing users to easily understand how they work through direct use, without needing to comprehend the underlying code that produces the sound.
The Arduino IDE part comprehends just the initialisation and configuration of the ultrasonic sensors, defining their trigs and echos pins; later on we defined the maximum distance of the area the hand would be recognise in – that is to say 50cm. In the synth module every distance is converted into musical parameters (c, g, d, a, e and b chords); in the beat module the code just recognise the presence of the hand converting it in a binary string of 0 and 1 (the 1 triggers the beat sound and plays it).

Opening the serial port in Arduino, we allowed the communication between the IDE software with the Cycling MAX 8 software. This one is fundamental to receive an actual audio feedback while interacting with the sensors. For the synth we tried to order all the chords in a way that the user can recognise them as they increase their pitch while going from left to right and from down to up, while for the beat was easily make it play a custom beat sound wether the hand was *air-beating* the module or not.

Synth module / Arduino IDE coding

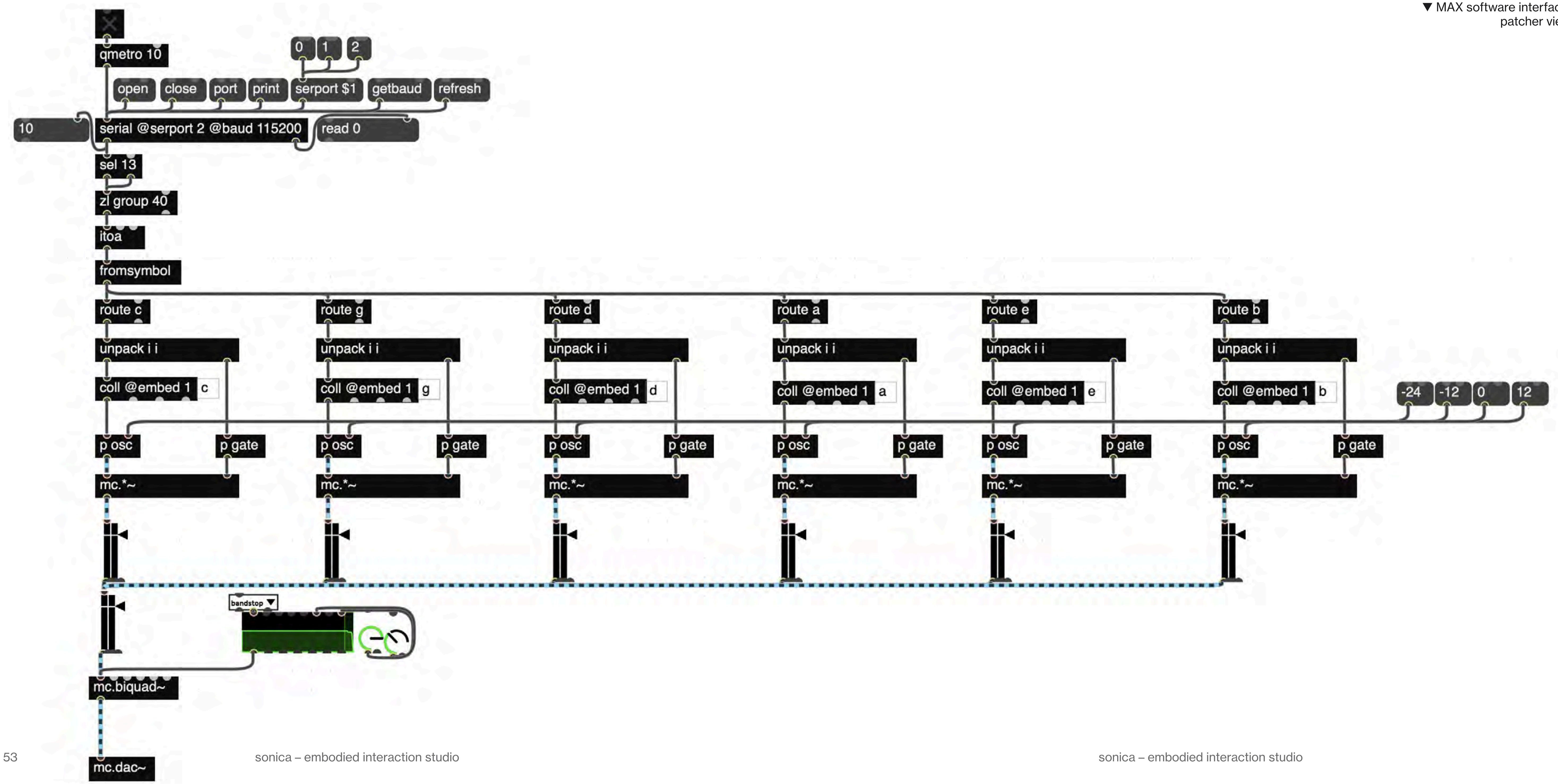
▼ Code for Arduino NANO with six ultrasonic sensors

```
#include "NewPing.h"
#define MAX_DIST 449

const int TRIGS[6] = {1, 3, 5, 7, 9, 11};                  // define trigs pin#
const int ECHOS[6] = {2, 4, 6, 8, 10, 12};                 // define echos pin#
const char FIFTH[6][2] = {"c", "g", "d", "a", "e", "b"};   // parameter strings

char strout[20];

NewPing sonars[6] = {
        NewPing(TRIGS[0], ECHOS[0], MAX_DIST),
        NewPing(TRIGS[1], ECHOS[1], MAX_DIST),
        NewPing(TRIGS[2], ECHOS[2], MAX_DIST),
        NewPing(TRIGS[3], ECHOS[3], MAX_DIST),
        NewPing(TRIGS[4], ECHOS[4], MAX_DIST),
        NewPing(TRIGS[5], ECHOS[5], MAX_DIST),
};

void setup() {
        Serial.begin(115200);
}

void loop() {
        for (uint8_t i = 0; i < 6; i++) {
                unsigned int value = sonars[i].ping_cm(); // get dist in cm
                delay(50);
                if (value < 50) {
                        sprintf(strout, "%s %d %d", FIFTH[i], value % 12, 1); // gen param string
                        Serial.println(strout); // write output
                } else {
                        sprintf(strout, "%s %d %d", FIFTH[i], value % 12, 0); // gen param string
                        Serial.println(strout); // write output
                }
        }
}
```

(C)

Synth module / Cycling MAX coding

▼ MAX software interface patcher view



(C)

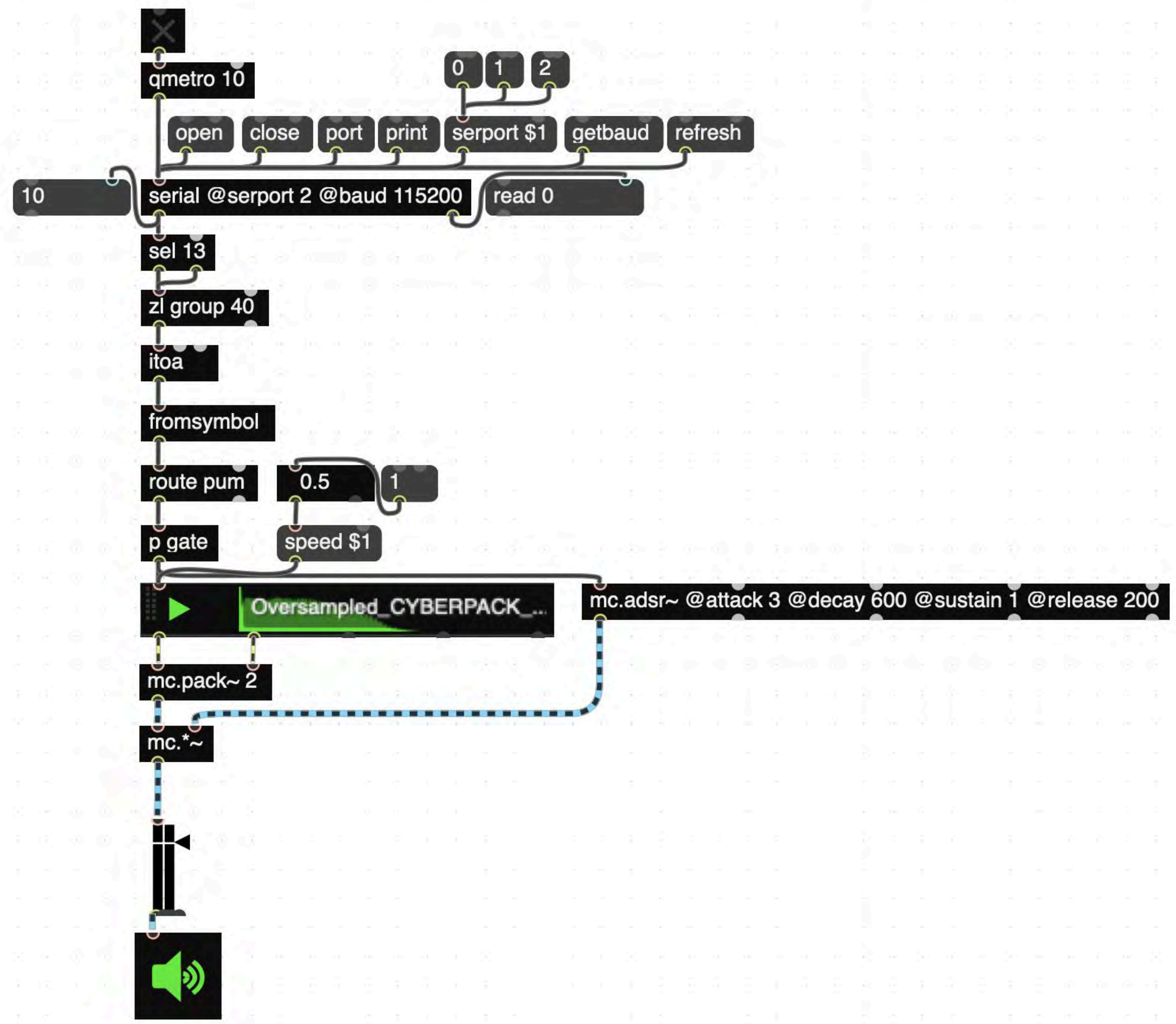
Beat module / Arduino IDE coding

▼ Code for Arduino NANO with one ultrasonic sensor

```
#include "NewPing.h"
#define MAX_DIST 449

const int TRIG = 3;       // define trigs pin#
const int ECHO = 4;       // define echos pin#

char strout[20];

NewPing sonar = NewPing(TRIG, ECHO, MAX_DIST);

void setup() {
        Serial.begin(115200);
}

void loop() {
        unsigned int value = sonar.ping_cm(); // get dist in cm
        delay(50);
        if (value < 10) {
                sprintf(strout, "%s %d", "pum", 1); // gen param string
                Serial.println(strout); // write output
        } else {
                sprintf(strout, "%s %d", "pum", 0); // gen param string
                Serial.println(strout); // write output
        }
}
```


Beat module / Cycling MAX coding

▼ MAX software interface patcher view



(D)Final user tests

Testing the prototype / Objectives

What we were looking for

With this final round of user tests, we wanted to see if users would respond positively to the way we coded the interaction.

During the showcase on the 29th, we had many techical issues with the prototype because the sensors were going crazy and since we could not do as many tests as we would have liked we decided to hold another testing session with people we had not tested yet.

While testing we did not say anything to users to explain to them how to interact with the devices, we just gave them a brief explanation of what stems are and of the project in general. We put the sensors inside of boxes with the drawing of the main affordances on them—line of the sensors and pairing—and hid the Arduino in the best way we could.

✶Critical

Test the code

✶Important

Understand if the essential shapes we created corresponded to the output the users were expecting to obtain

✶Nice to have

Test the dimensions of the prototype and the circuit
get insights about the reactions and feelings the interaction produces in users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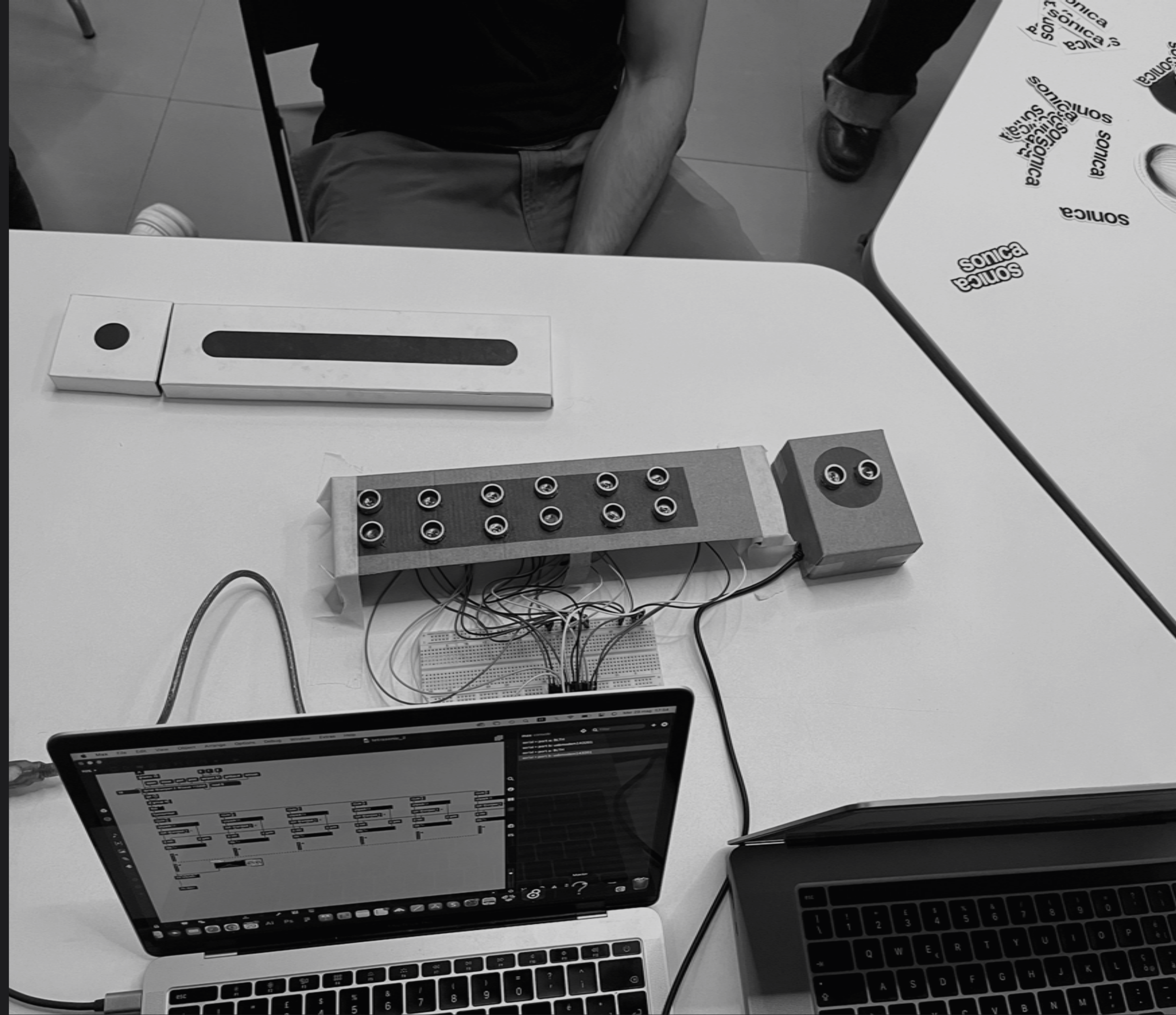
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Phase 2 / Affordances Takeaways

Direction of the interaction

All the users we tested understood the way the synth output changed based on the direction they were moving their hands in

Touch-free

We were very pleased to see that not a single user tried to touch the device while testing it

Left-handed users

After showing some sketches of the final devices, a couple of users suggested that since they are left-handed they would have liked the option to have the control panel on the other side

Slider

More than half of the users we tested said that the slider is better as it makes them feel like they are changing a parameter

(E)Final product

▲ Quick view of the synth module
with REC feature in progress

(E)

Synth module

Free hand interaction that produces a prompt
sequence of synth notes within a range of 3 octaves
30cm × 7cm × 2cm

REC feature
6 type of different sounds +
RANDOM feature
Integrated speaker

MIDI port
USB-C port
Mini-jack audio port

Beat module

Free hand interaction that produces a prompt
sequence of percussion sounds
13,5cm × 7cm × 2cm

REC feature
6 type of different sounds +
RANDOM feature
Integrated speaker

MIDI port
USB-C port
Mini-jack audio port

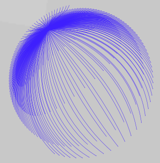
Main tools
REC push and pull button
Sounds slider
Speaker

Interaction zone
7 ultrasonic sensors with
a range of 50cm in height

Interaction zone
1 ultrasonic sensor with
a range of 5cm in height

Main tools
REC push and pull button
Sounds slider
Speaker

AI counterpoint melody
NFC bluetooth paring



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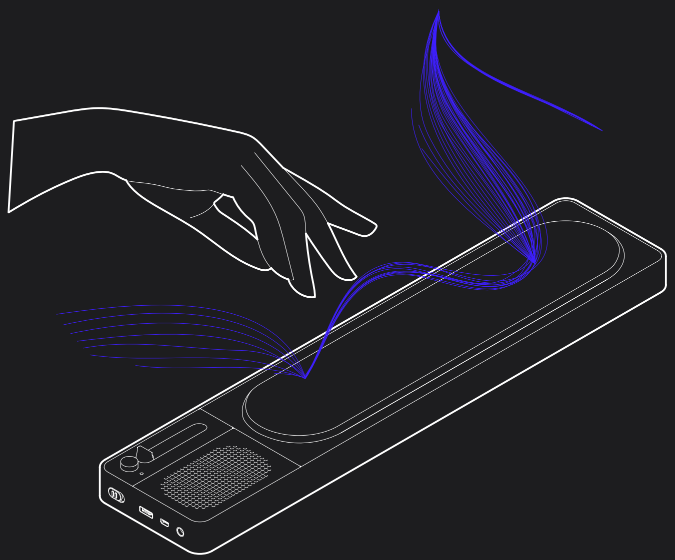
How to generate music using sonica

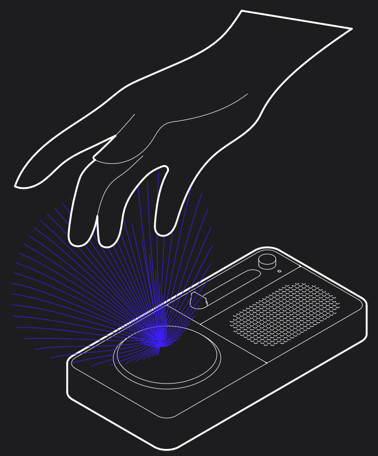
Synth prompt

1 – Turn on the synth module
2 – Select the sound you prefer using the sound slider, or make the module choose a random one with the random feature
3 – Move your hand into the area above the interaction zone to generate music.
You can move it both horizontally and vertically to increase the pitch
4 – When you're ready, press the REC button and start recording your prompt
5 – Press again the REC button to finish recording
6 – The red LED will now blink to tell you that the recorded prompt is ready to be paired with the beat one



Beat prompt

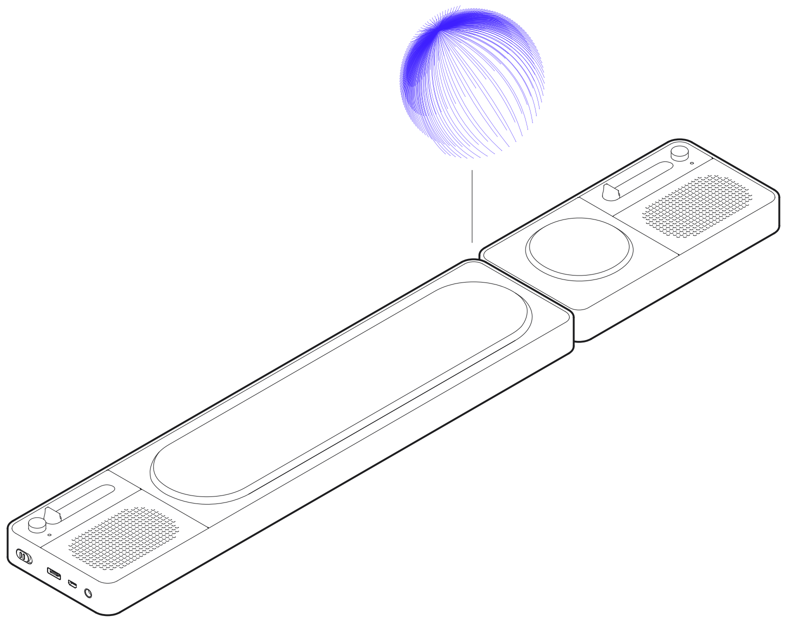
1 – Turn on the beat module
2 – Select the sound you prefer using the sound slider, or make the module choose a random one with the random feature
3 – Beat your hand into the area above the interaction zone to generate beats.
4 – When you're ready, press the REC button and start recording your prompt
5 – Press again the REC button to finish recording
6 – The red LED will now blink to tell you that the recorded prompt is ready to be paired with the synth one



Note: there is no right or wrong order to record the two prompts.

AI pairing and output generation

1 – Take both the modules with the recorded prompts and move them close to each other
2 – Attach the blue zones together
3 – AI will now start generating your experimental music instrumental
4 – After 15-30 seconds the speakers will play the instrumental together, subdividing right and left audio channels
5 – You can export the generated audio file using the USB-C port to connect one of the two modules to your laptop



Get to know our AI counterpoint melody

Meet AI counterpoint melody, the core of sonica's music creation magic.
With sonica's modules, you can generate melodies and beats using simple hand gestures.
AI takes these prompts, seamlessly merges and syncs them, and adds extra musical layers, producing a polished instrumental track.
Whether you're a pro or just starting, AI counterpoint melody makes creating stunning music effortless. Experience the future of music with sonica and let AI counterpoint melody transform your ideas into incredible soundscapes.

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AI for music generation