



ADC²³

ANNA XAMBÓ SEDÓ

KEYNOTE:

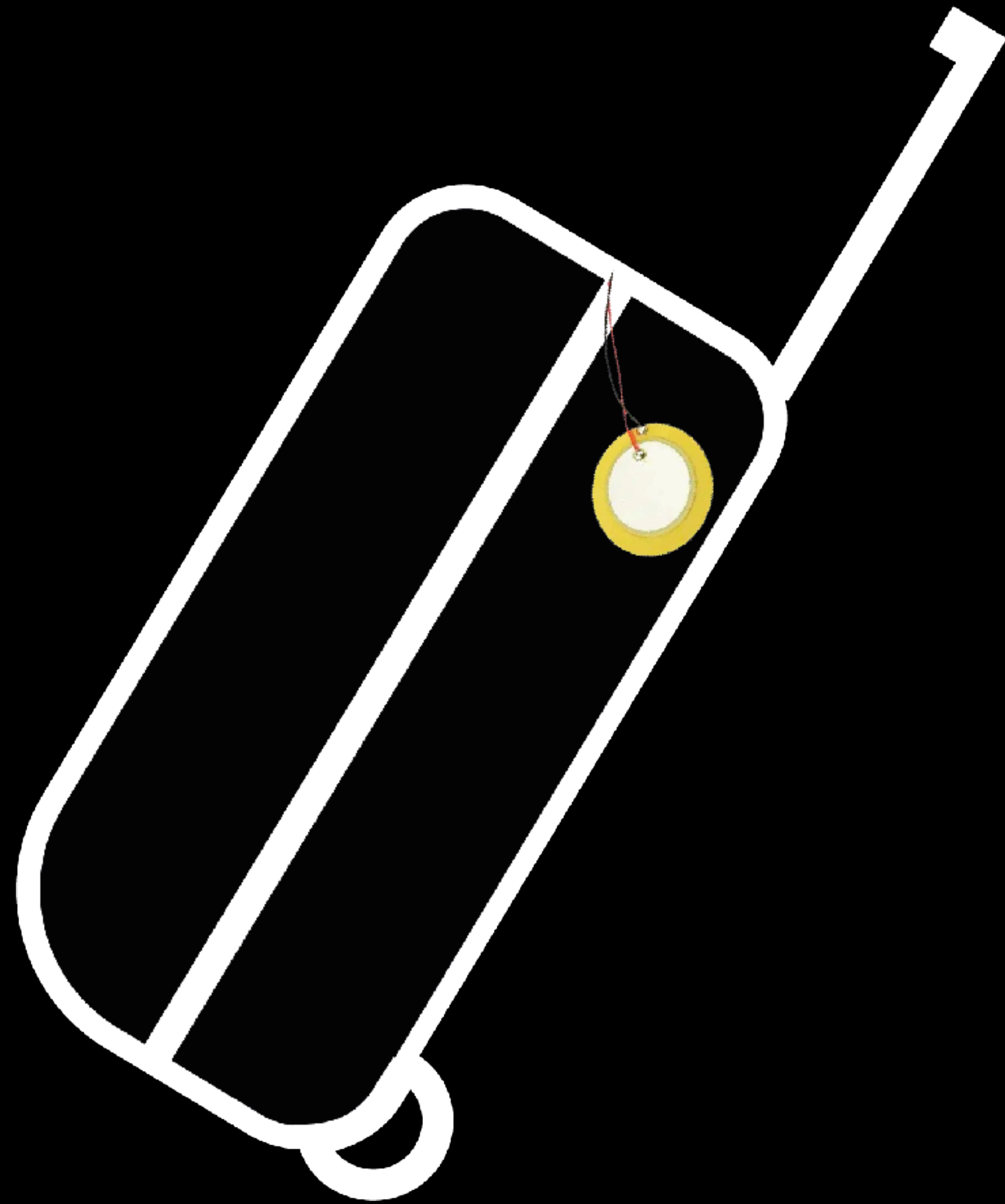
FROM NIME TO NISE:

*RETHINKING THE DESIGN AND EVALUATION OF
MUSICAL INTERFACES*



What is it?





Outline

- NIME: past, present, future
- The NISE framework: a feminist HCI approach
- Three NISE projects
- Summary & Take-away message

Outline

- **NIME: past, present, future**
- The NISE framework: a feminist HCI approach
- Three NISE projects
- Summary & Take-away message

What is a NIME?

Is it a community?

Is it a digital musical interface/
interaction (DMI)?

Is it a speculative design tool?

Else?

Is it an international conference?

Is it an artistic device / process /
expression / output?

Is it a technical development?

Is it an educational tool?

NIME 2001

Spin-off of CHI

*“While part of the workshop will aim to stimulate basic inquiry into the **impact of interface technology on musical culture**, the main body of the workshop will be devoted to a dialogue amongst the participants on the practical matter of **how to design good musical interfaces**.*

- (1) To identify criteria for **evaluating** musical interfaces.*
- (2) Identify key interface **technology developments** that offer the most exciting new opportunities for musical expression.*
- (3) To discuss the role of cognitive science and psychology in the **design** of musical interfaces.*
- (4) To share **collective experience**.”*

New Interfaces for Musical Expression

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ABSTRACT

The rapid evolution of electronics, digital media, advanced materials, and other areas of technology, is opening up unprecedented opportunities for musical interface inventors and designers. The possibilities afforded by these new technologies carry with them the challenges of a complex and often confusing array of choices for musical composers and performers. New musical technologies are at least partly responsible for the current explosion of new musical forms, some of which are controversial and challenge traditional definitions of music. Alternative musical controllers, currently the leading edge of the ongoing dialogue between technology and musical culture, involve many of the issues covered at past CHI meetings. This workshop brings together interface experts interested in musical controllers and musicians and composers involved in the development of new musical interfaces.

Keywords: musical controllers, musical expression, computer and electronic music, sound synthesis, MIDI

INTRODUCTION

This workshop brings together interface experts interested in musical controllers and musicians and composers involved in the development of new musical interfaces, especially alternative controllers, to stimulate exchange with the following aims:

- (1) To survey and discuss the current state of control interfaces for musical performance, identify current and promising directions of research and unsolved problems. To focus on the major practical concerns involved in the design of interfaces for musical expression.
- (2) To identify major issues involved the interplay between technological change and changes in musical forms.
- (3) To identify the ways in which alternate controllers affect the overall creative process from composition to performance and determine what impact this has on musical expression.
- (4) To put together the collective working experience and wisdom of the participants in some tangible form, such as strategies for success and a list of the 10 most difficult problems in musical controls.

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MUSICAL INTERFACES: PAST, PRESENT, FUTURE

Music has historically been a meeting point for technology and artistic expression. The design of musical instruments may well have been the first area of technology where careful and systematic interface design played an essential if not the central role. While music has always been a driving force for technological innovation, it is also true that new technologies have opened the way for new forms of musical expression and experimentation. To give a familiar example, the modern piano, and consequently the classical piano repertoire, such as Beethoven concertos, would not be possible without the great improvements in metallurgy at the turn of the 18th century. This allowed the construction of one-piece cast-iron frames that could support the 18-ton string tensions exerted by performers (Saches, 1940).

In the current era, new technologies that can benefit musical expression are appearing at an accelerating pace. The last century, especially in the 1950's and 60's, saw the rise of electronic musical sound synthesis which gave birth to a plethora of new musical forms in both popular and classical or "serious" arenas of electronic music. We can expect that the continuing progress in information technologies will stimulate composers and musicians to experiment with new means of composition and new instruments for performance.

The development of novel sensor interfaces, vision and pattern recognition, virtual and augmented reality, haptic feedback devices and the like are all opening up avenues for new musical adventures. The field of alternative musical controllers is at a stage somewhat similar to where electronic synthesis was in the 1950's. The basic paradigms are still being explored and there is an explosion of new interfaces, with, so far, little systematic thought about where the field is headed. Because alternative controllers are essentially means of mapping human behavior into musical expression, issues dealt with by interface designers could be very helpful in understanding and clarifying the state of the field.

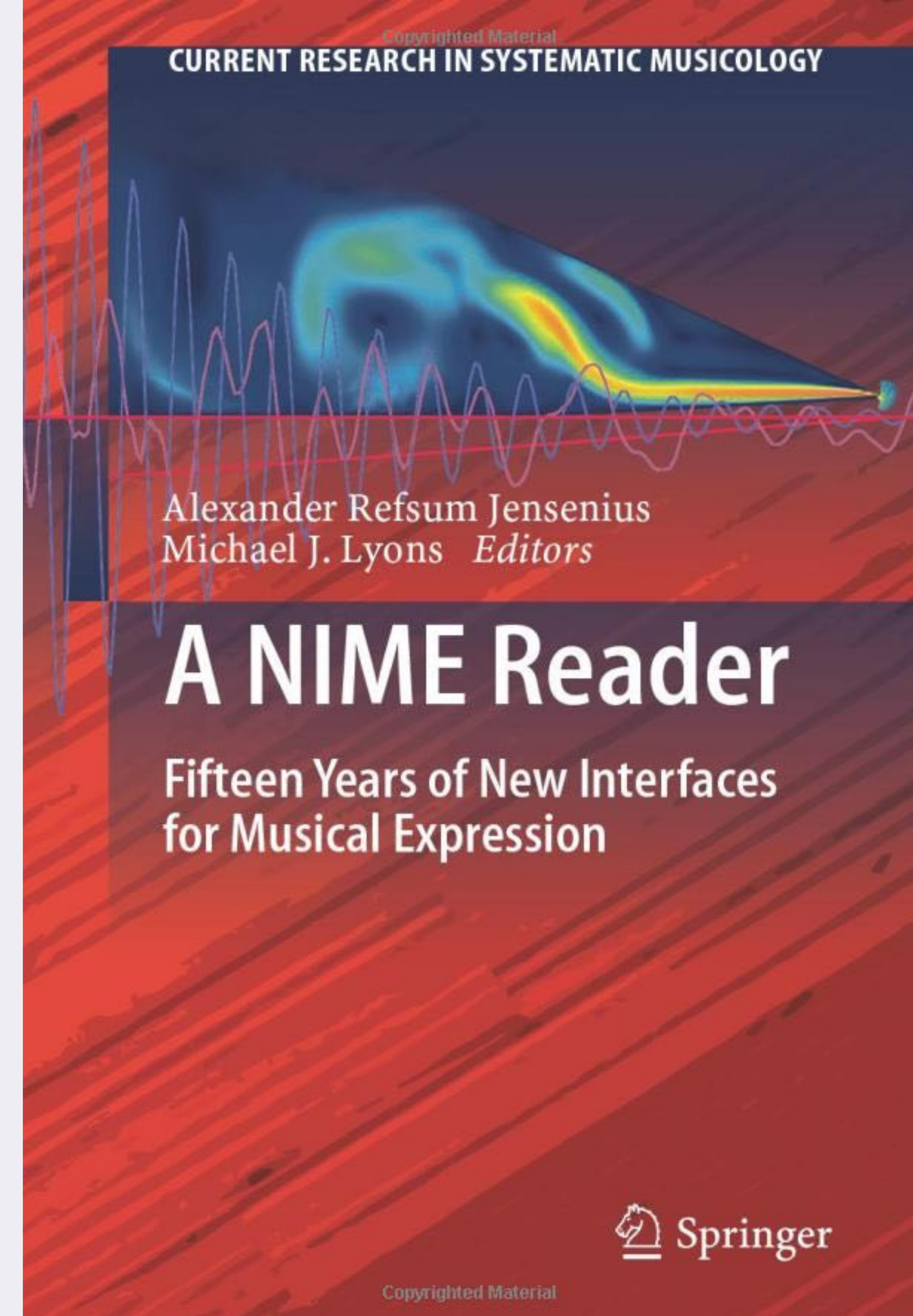
GENERAL ISSUES IN MUSICAL CONTROLLERS

(1) The explosion of methods for generating, sequencing, layering and controlling sounds offers a complex and often confusing range of choices to musical explorers. The

A NIME Book

Jensenius & Lyons (2017)

- An anthology of 30 articles published at the NIME conference (15 years of history, 2001–2015).
- *“The aim has been to represent the wide range of **artistic, scientific, and technological approaches** that characterize the NIME conference”* (Jensenius & Lyons, 2016)
- *“**The NIME proceedings archive is a gold mine of good ideas, and a history of experience and knowledge gained through the dedicated work of many talented researchers and artists.**”* (Jensenius & Lyons, 2016)



The NIME Community

- NIME has celebrated **23 editions** full of performances, papers, posters, installations.
- NIME is an **international, eclectic, interdisciplinary** community of artists, technologists, engineers, inventors...
- NIME has several **committees** working on topics related to diversity, environmental issues, ethics, and so on.
- NIME has a **bottom-up approach** to taking decisions.
- NIME has developed its **own identity** besides CHI.

Caveats from within

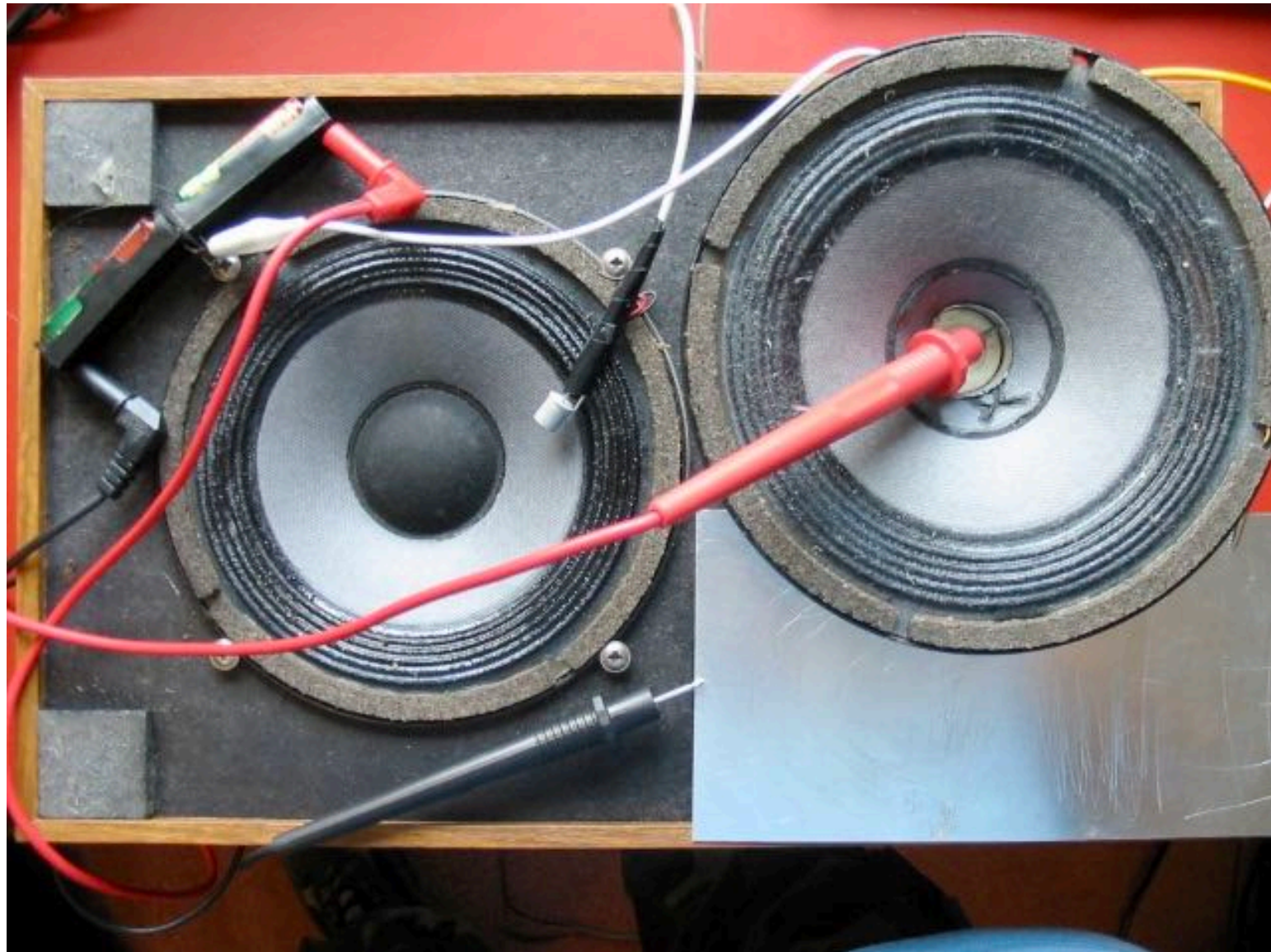
- Technology-driven
- Lack of diversity
- The 'newness' for the sake of it



Infra-Instruments

Photo: The Victorian (infra-)synthesiser

Paper: "Not Hyper, Not Meta, Not Cyber but Infra-Instruments" by John Bowers & Phil Archer, 2005, Proc. of NIME.



“devices of restricted interactive potential, with little sensor enhancement, which engender simple musics with scarce opportunity for conventional virtuosity”

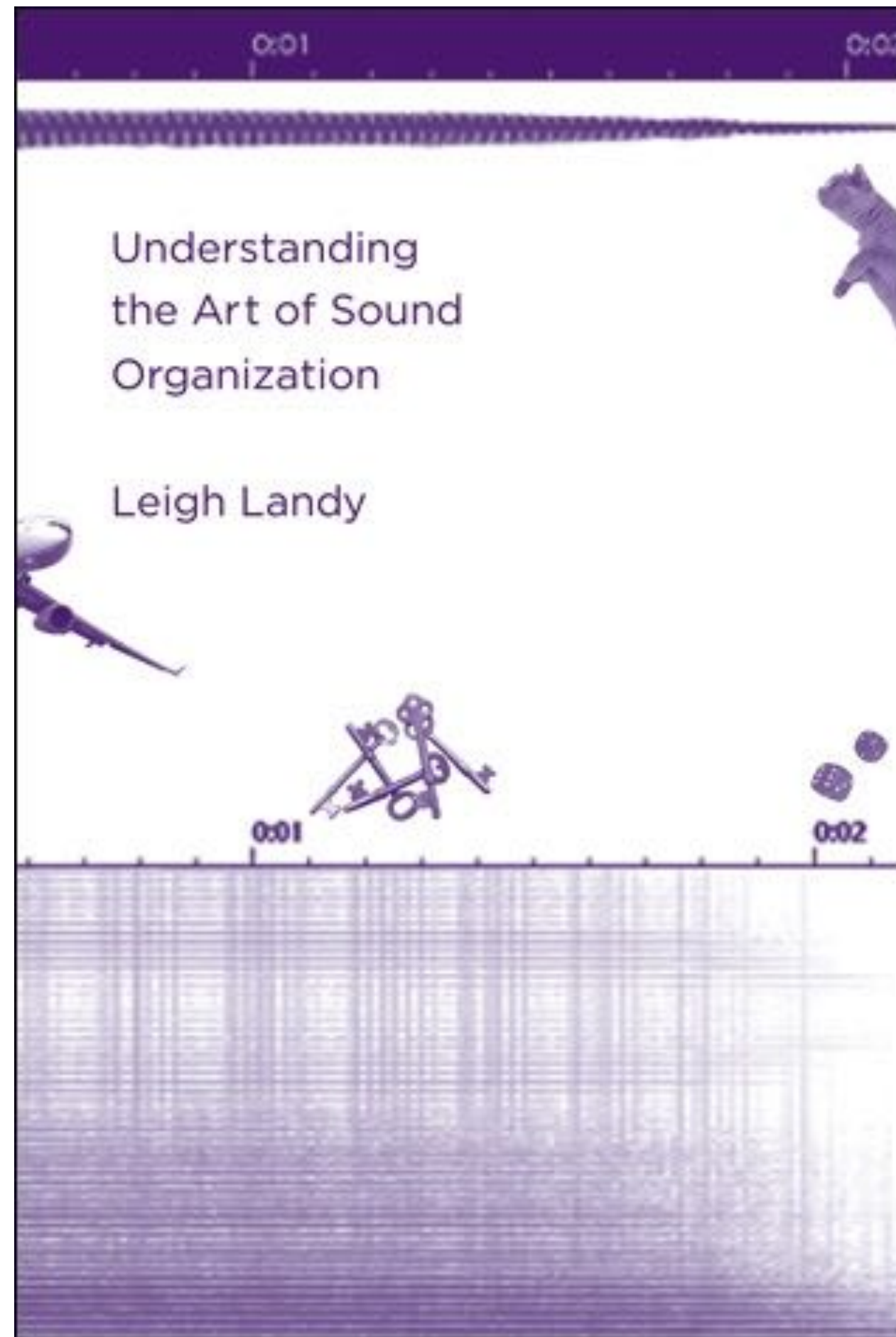


Do it Together

Photo (by Manuel Andrade): Azucrinoise Workshop led by Vanessa De Michelis and Manuel Andrade
Book chapter: "Handmade Sound Communities" by Lisa Kori & David Novak in Collins, N. (2020)
Handmade Electronic Music, Routledge.



the art of hardware hacking is as a social and sonic practice of community building, in which people “do it together” (DIT) in groups that bring different abilities, needs, skills, and worldviews together to generate new forms of experimentation”



Sound-based music



An alternative to the term 'electroacoustic music' (and related others) suggested by Leigh Landy. Sound-based music is the art form in which the sound and not the musical note is the basic unit.

Landy, L. (2007) Understanding the Art of Sound Organisation. MIT Press.
EARS: ears.huma-num.fr

Caveats from within

- Technology-driven
- Lack of diversity
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N

Nuanced and

I

Interrelated

M

Mediations and

E

Exigencies

Paper: “Nuanced and Interrelated Mediations and Exigencies (NIME): Addressing the Prevailing Political and Epistemological Crises” by Lauren Hayes & Adnan Marquez-Borbon, 2020, Proc. of NIME.

Nuanced and Interrelated Mediations and Exigencies (NIME): Addressing the Prevailing Political and Epistemological Crises

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ABSTRACT

Nearly two decades after its inception as a workshop at the ACM Conference on Human Factors in Computing Systems, NIME exists as an established international conference significantly distinct from its precursor. While this origin story is often noted, the implications of NIME's history as emerging from a field predominantly dealing with human-computer interaction have rarely been discussed. In this paper we highlight many of the recent—and some not so recent—challenges that have been brought upon the NIME community as it attempts to maintain and expand its identity as a platform for multidisciplinary research into HCI, interface design, and electronic and computer music. We discuss the relationship between the market demands of the neoliberal university—which have underpinned academia's drive for innovation—and the quantification and economisation of research performance which have facilitated certain disciplinary and social frictions to emerge within NIME-related research and practice. Drawing on work that engages with feminist theory and cultural studies, we suggest that critical reflection and moreover mediation is necessary in order to address burgeoning concerns which have been raised within the NIME discourse in relation to methodological approaches, ‘diversity and inclusion’, ‘accessibility’, and the fostering of rigorous interdisciplinary research.

Author Keywords

creative practice research; diversity; inclusion; accessibility; interdisciplinarity; research methodologies

CCS Concepts

•Applied computing → Sound and music computing; *Performing arts*; •Human-centered computing → Human computer interaction (HCI);

1. INTRODUCTION

As the International Conference on New Interfaces for Musical Expression (NIME) appears for its twentieth incarnation, we wish to take a moment to draw attention to a variety of interrelated themes that have reached a crisis point

within the conference discourse. We see these as exigencies requiring not only critical reflection, but also urgent mediation given that many of the prevailing concerns have been voiced by NIME participants and those from its adjacent communities for many years. Specifically, we will discuss the relationships between prevailing sociopolitical and epistemological struggles within the field through the ‘planar’ framework set out by Born. Born's model interrogates the ways in which multiple temporalities and social planes are at play within historical analyses of musical institutions and their surrounding discourses, and how cultural eras are shaped by these [8]. While our tone may appear less than optimistic, we believe that in drawing awareness to these structural forces in order to demonstrate how “powerful discourses or metaphors come to structure musical experiences... conditioning the future musical expressions” [7, p14], there will emerge bountiful opportunities to enrich and transform the field.

1.1 Declaration of Affiliation

In this work, we draw analyses not only from what has been documented in the NIME proceedings and the adjacent literature, but also through our lived experiences as participants in the conference. We have been involved with the NIME field in a variety of roles since 2011 and 2010 respectively. We have participated over the years as authors, co-authors, performers, workshop participants, reviewers, and as part of the Program Committee. Between us, we have attended NIME eleven times, and presented our work fourteen times as a combination of papers, posters, and performances. We have both contributed to the first NIME reader [27], a collection of works intended to represent a chronological anthology of the field's activities. We have attended and spoken out at NIME town halls, taught NIME-related courses within universities in North and Latin America, and the UK, and we view certain aspects of the NIME discourse as being foundational in our research and practice.

Yet, we must acknowledge from the outset that our research agendas do not happily align with the dominant narratives that have been reified and reproduced over the course of our engagement with the field. We observe the community emerging from the NIME conference to be extensively heterogeneous in spite of sharing a common interest. This diversity, while having been celebrated since the conference began, does create a problem of a shared perspective and understanding amongst different interest groups [30]. Overlaps of varying degrees exist between affiliated subdisciplines, conference communities, and academic fields. As such, we refer to ‘the NIME community’ and ‘NIME research’ in the broadest possible senses throughout, allowing for the inclusion of those who may have been



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NIME'20, July 21-25, 2020, Royal Birmingham Conservatoire, Birmingham City University, Birmingham, United Kingdom.

“which masters or mistresses should MIR serve in order to diversify its goals, partners and worldly effects?”

Image: ‘Mistress and maid’, by Johannes Vermeer (public domain), c. 1666–1667, The Frick Collection, NYC, USA.

Article: “Diversifying MIR: Knowledge and Real-World Challenges, and New Interdisciplinary Futures” by Georgina Born, 2020, Transactions of the International Society for Music Information Retrieval, 3(1), pp. 193–204.



Pluralism

Self-disclosure

QUALITITES
OF
FEMINIST
INTERACTION

Participation

Embodiment

Advocacy

Ecology

“the term ‘music technology’ should be reimagined to include the missing plurality and fluidity revealed by our interviewees, which is beyond the acknowledged interdisciplinarity of the field”

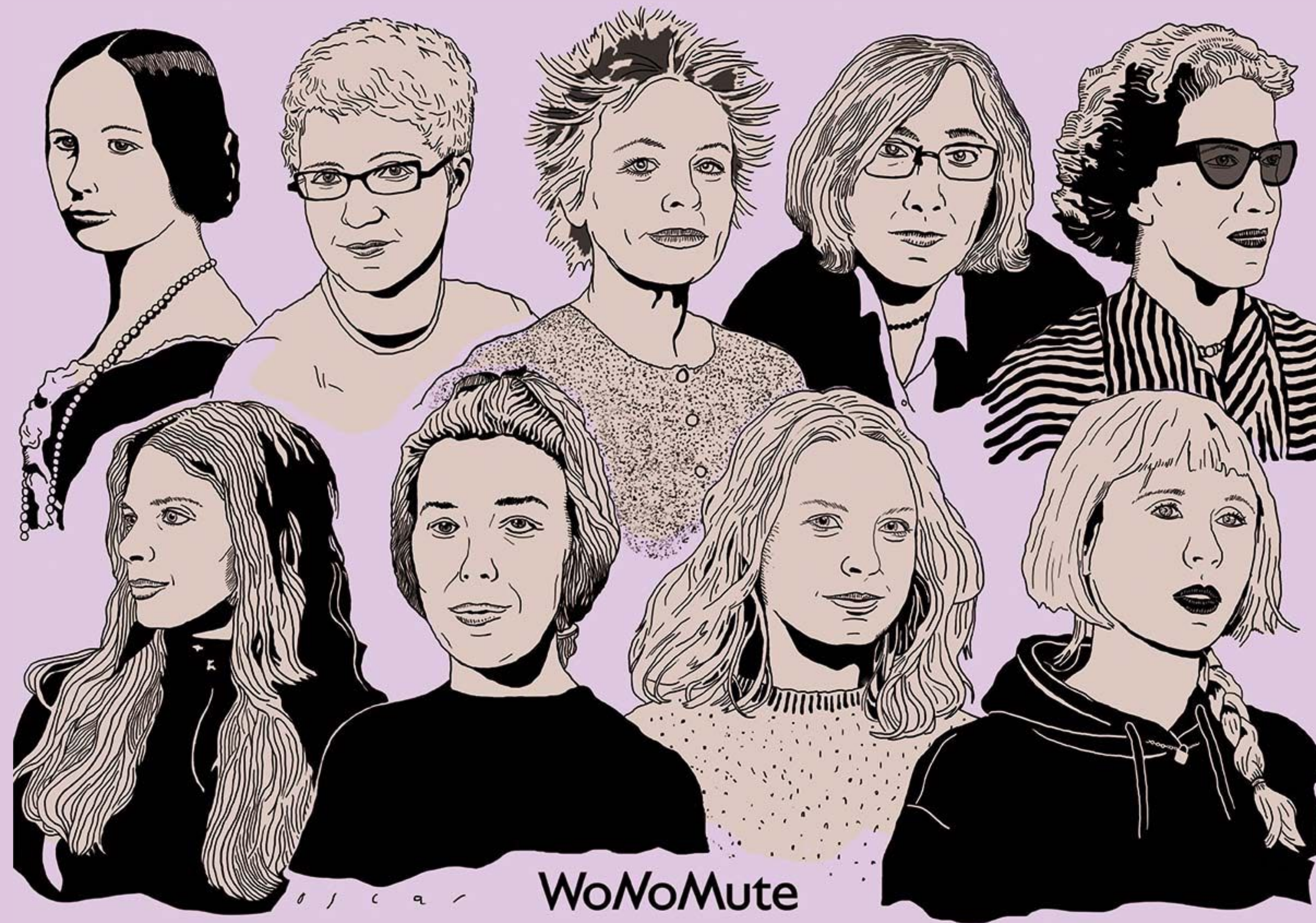
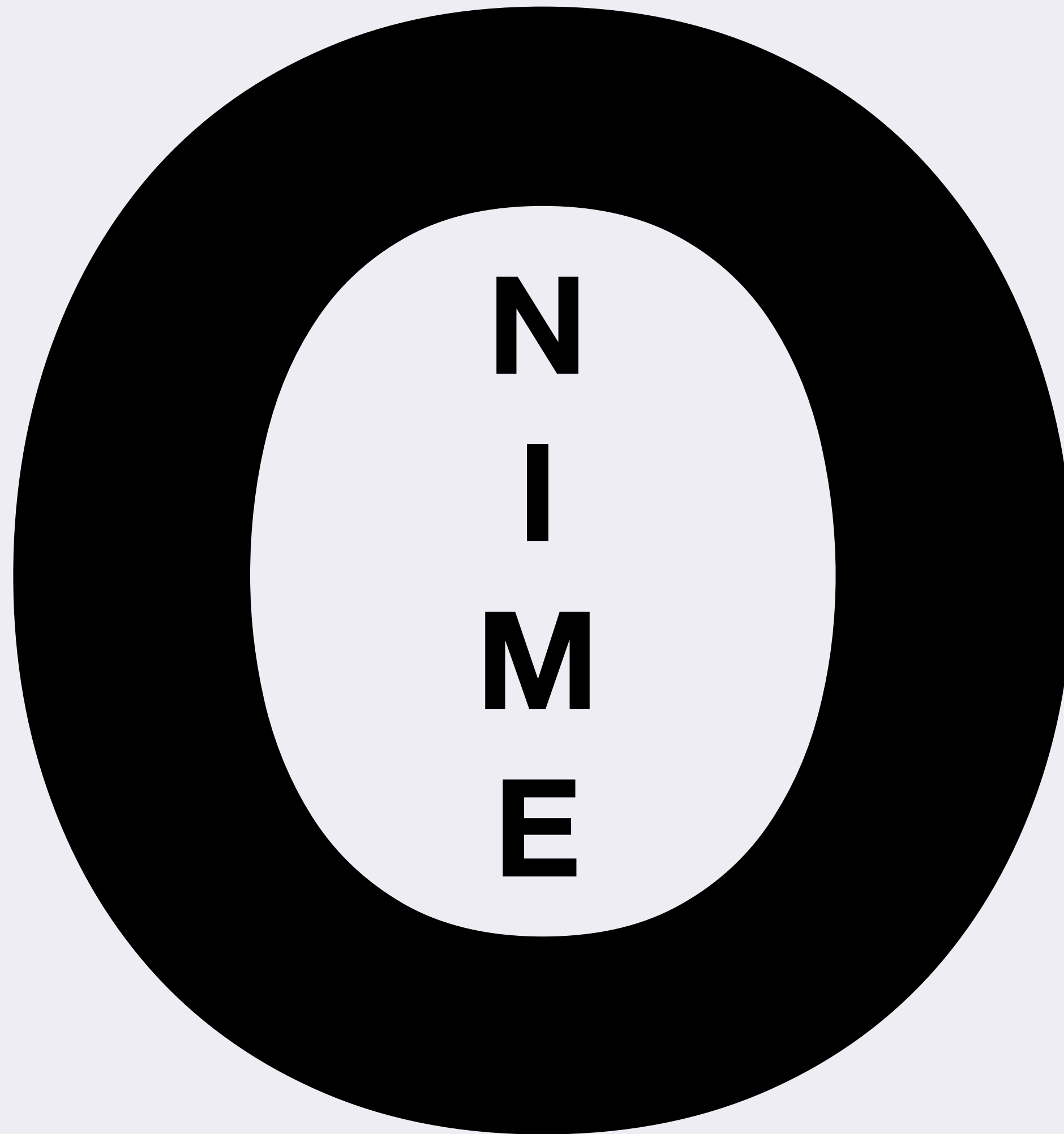


Illustration: From left-right top-bottom: Ada Lovelace, Margaret Schedel, Laurie Anderson, Liz Phillips, Teresa Rampazzi, Laurie Spiegel, Delia Derbyshire, Hilde Marie Holsen, Holly Herndon. Illustration by Oscar Martinez Castells.
Paper: “How to Talk of Music Technology: An Interview Analysis Study of Live Interfaces for Music Performance among Expert Women” by Karolina Jawad & Anna Xambó, 2020, Proc. of ICLI.

Caveats from within

- Technology-driven
- Lack of diversity
- The 'newness' for the sake of it



Paper: “The O in NIME: Reflecting on the Importance of Reusing and Repurposing Old Musical Instruments” by Raul Masu, Fabio Morreale and Alexander Refsum Jensenius, 2023, Proc. of NIME.

The O in NIME: Reflecting on the Importance of Reusing and Repurposing Old Musical Instruments

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ABSTRACT

In this paper, we reflect on the focus of “newness” in NIME research and practice and argue that there is a missing O (for “Old”) in framing our academic discourse. A systematic review of the last year’s conference proceedings reveals that most papers do, indeed, present new instruments, interfaces, or pieces of technology. Comparably few papers focus on the prolongation of existing NIMEs. Our meta-analysis identifies four main categories from these papers: (1) reuse, (2) update, (3) complement, and (4) long-term engagement. We discuss how focusing more on these four types of NIME development and engagement can be seen as an approach to increase sustainability.

Author Keywords

NIME, Newness, Novelty, Old, Longevity, Sustainability

CCS Concepts

•Applied computing → *Performing arts*; **Sound and music computing**; •Human-centered computing → HCI theory, concepts and models;

1. INTRODUCTION

The “NIME” acronym has been dissected throughout the years as an onto-epistemological endeavour to make sense of who we are, what we do, and what we consider worth and not worth investigating. The first of these endeavours was dedicated to analysing the “E”: what is *expression* for NIME [24]? In recent years, the “M” was subject to a similar investigation: what is *music* for NIME [71]? Despite not being included in the title of their manuscript, Marquez-Borbon and Stapleton [64] reflected upon the “N” in their commentary to the re-edition of their NIME 2014 paper in *A NIME Reader*:

“The “N” in NIME itself is perhaps partially to blame, in that it resists the long-term develop-

ment of performance pedagogies, repertoire and critical discourse necessary for the legitimisation of a performance community within the wider NIME community.” [64]

In this paper, we elaborate on some challenges of focusing on newness—or novelty, depending on how one interprets the “N”—in the NIME community. This reflection is rooted in the observation that relatively little attention is given to old NIMEs [76].

Reviewing papers from the last three editions of the NIME conference, we found that most presented papers focus on new technologies; only a small set of papers accounted for the longevity of NIMEs. By analysing these papers in depth, we identified four strategies for prolonging the life of existing NIMEs: (1) reuse, (2) update, (3) complement, and (4) long-term engagement. By connecting these strategies with the life cycles of a musical artefact as articulated by Masu and colleagues [67] (*Making—Testing—Using—Disposing*), we develop some reflections on sustainability from an *environmental perspective*—based on the relationship between longevity and waste [18, 43]—and concerning the practices and the knowledge embedded into these practices connecting it to the idea of *sustainability of the results* [79].

Additionally, we reflect on an epistemological perspective related to newness, focusing on the knowledge learned from existing—*Old*—NIMEs. This point touches upon what Cantrell [16] discussed in 2017:

“The positioning of the artistic gesture within the context of NIME culture immediately poses specificities and limitations. Perhaps the most immediate and obvious is the presence of the ‘new’ demarcator. Similar to other monikers such as ‘new media’, the presence of a temporal qualifier points to an a priori limitation; that which is considered ‘old’ is to be excluded. In other words, the ‘newness’ here is technical, and the technical is prioritized.” [16]

This paper is structured as follows. The next section explores NIME’s genesis, longevity, and sustainability issues. The successive section focuses on our original investigation into the presence (or absence) of old NIMEs, which is then discussed with a focus on the ideology of newness and sustainability.



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NIME’23, 31 May–2 June, 2023, Mexico City, Mexico.

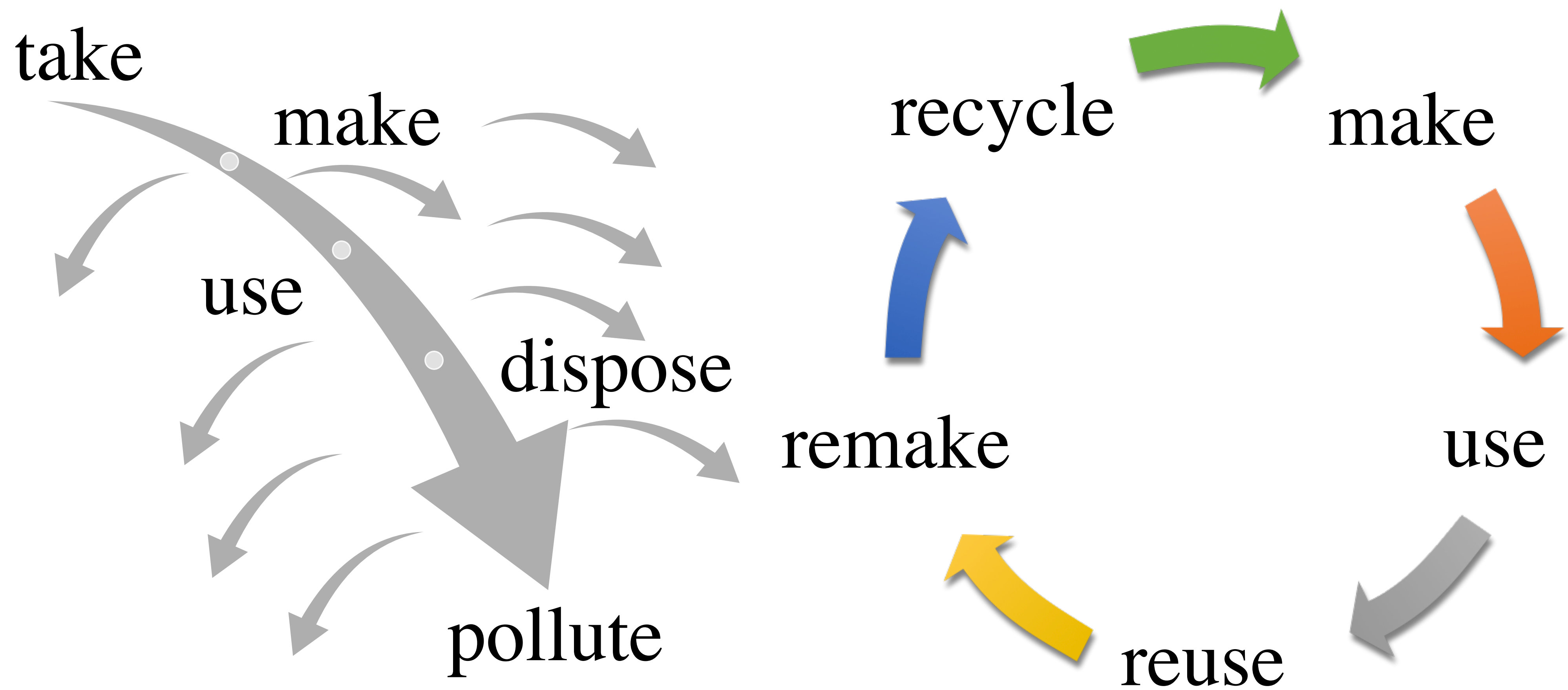


Image: CC 3.0 Cathrine Weetman 2016

Book: *A Circular Economy Handbook for Business and Supply Chains: Repair, Remake, Redesign, Rethink* by Catherine Weetman, 2016, London: Kogan Page.

Wabi-Sabi

*for Artists,
Designers,
Poets &
Philosophers*

by Leonard Koren



Photo: (CC BY-SA) Tazza Kintsugi by
Chiara Lorenzetti Kintsugi

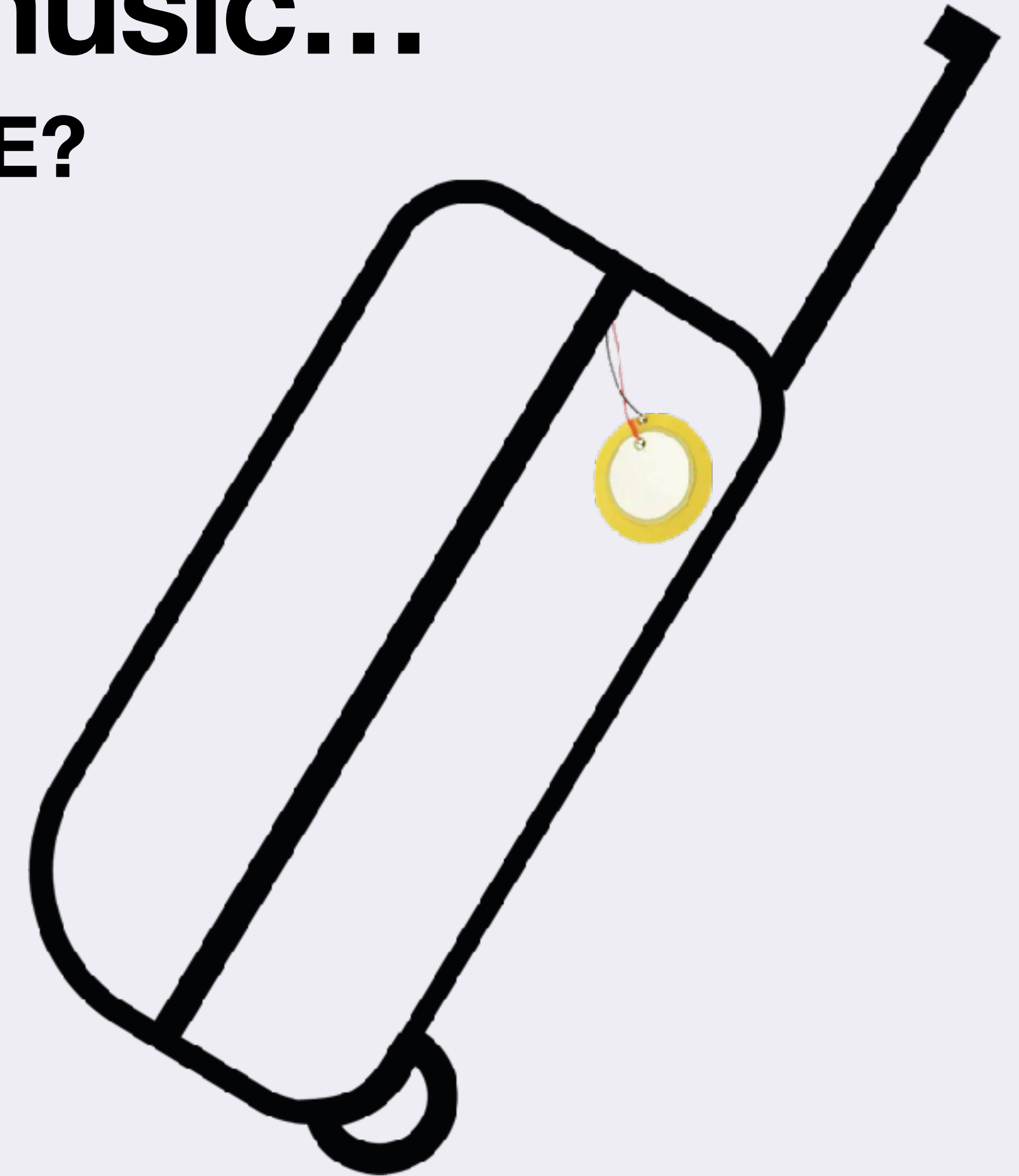
Outline

- NIME: past, present, future
- **The NISE framework: a feminist HCI approach**
- Three NISE projects
- Summary & Take-away message

Interaction with sound beyond music...

But this is not note-based music... is it still a NIME?

- **Inclusion:** A more inclusive approach to music-making.
- **Sonic creativities:** Focus on the sonic and social experience instead of on the technical development or the musical virtuosity.
- **Networked algorithmic spaces:** Emphasis on open, ephemeral, collective situations, experiences, explorations and forms.
- **Sound-based music:** field recordings, noise music, DIY music, sampling, soundscapes, performance with objects, sampling in live coding...



(CC BY 3.0) suitcase by Rohan Gupta

From...

N

New
Novel

I

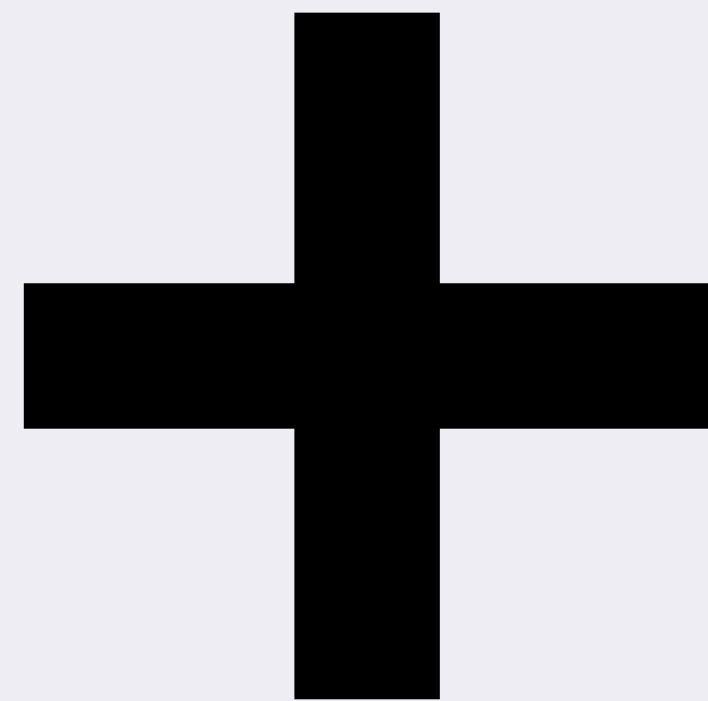
Interfaces
Interactions

M

Musical

E

Expression



(CC BY 3.0) sound by James Smith

To...

N

New
Novel
Natural

I

Interfaces
Interactions

M

Musical

E

Expression

To...

N

New
Novel
Natural

I

Interfaces
Interactions
Intersections

Interchanges
Intercommunication
Ideations

Immersive
Intervention
Intelligent
Instrument

M

Musical

E

Expression

To...

N

New
Novel
Natural

I

Interfaces
Interactions
Intersections

Interchanges
Intercommunication
Ideations

Immersive
Intervention
Intelligent
Instrument

S

Sonic
Sound-based music
Sound-making

Sonic arts
Sound art
Sonification

E

Expression

To...

N

New
Novel
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Interfaces
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Intercommunication
Ideations

Immersive
Intervention
Intelligent
Instrument

S

Sonic
Sound-based music
Sound-making

Sonic arts
Sound art
Sonification

E

Expression
Education
Evaluation

Experimentation
Ecologies
Environments

New

Interventions

Sonification

Education

N

I

S

E



Generate a random NISE

Uses

- Speculative design tool
- Designing / evaluating musical interfaces

Uses

- **Speculative design tool**
- Designing / evaluating musical interfaces

A speculative design tool: The NISE game

Example - Designing speculative futures: A NIME approach



- *Form groups on Zoom. Imagine that you are a team of NIME designers/developers/musicians and are tasked to design a new NISE for the NIME community/conference.*
- *Run the NISE game to see what new NISE is suggested for you.*
- *Elaborate on an abstract/brief of your new NISE (300 words). Bring your expertise to the new design. Feel free to use tools such as mind maps, ChatGPT, and so on.*
- *Be ready to pitch & discuss your idea!*

Give me a brief summary of a new experience related to Novel Intercommunication Sonification Evaluation

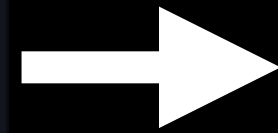
Novel Intercommunication Sonification Evaluation is a cutting-edge technology that leverages sonification, a process of representing data through sound, to enable innovative methods of intercommunication and evaluation. In this new experience, users can explore a unique sensory interface that translates various forms of information into sound, creating an immersive and interactive way to convey and assess data. Whether it's for scientific data analysis, art installations, or educational purposes, NISE offers a fresh and engaging approach to understanding and sharing information.

Novel
Intercommunication
Sonification
Evaluation

 Draw

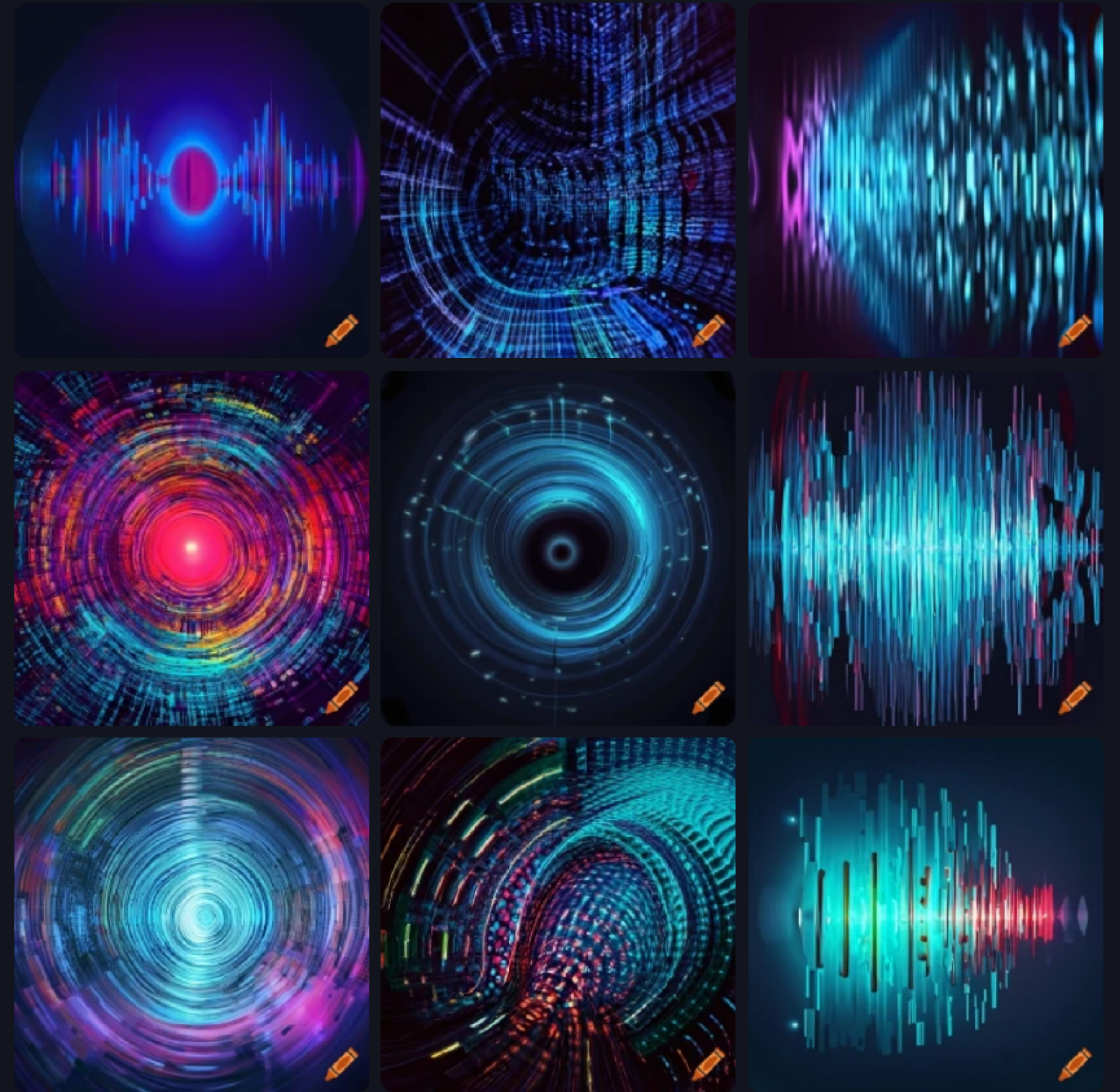
Novel
Intercommunication
Sonification
Evaluation

Draw



abstract representation of data through sound in a scientific research

Draw



Uses

- Speculative design tool
- **Designing / evaluating musical interfaces**

Outline

- NIME: past, present, future
- The NISE framework: a feminist HCI approach
- **Three NISE projects**
 - **Natural Ideations for Sound-based music Education** (DIY music)
 - **Natural Interfaces for Sound-based music Environments** (sampling in live coding)
 - **Natural Interventions of Sonic arts/Sonification Ecologies** (soundscape music)
- Summary & Take-away message

Natural
Ideations for
Sound-based music
Education

DIY music

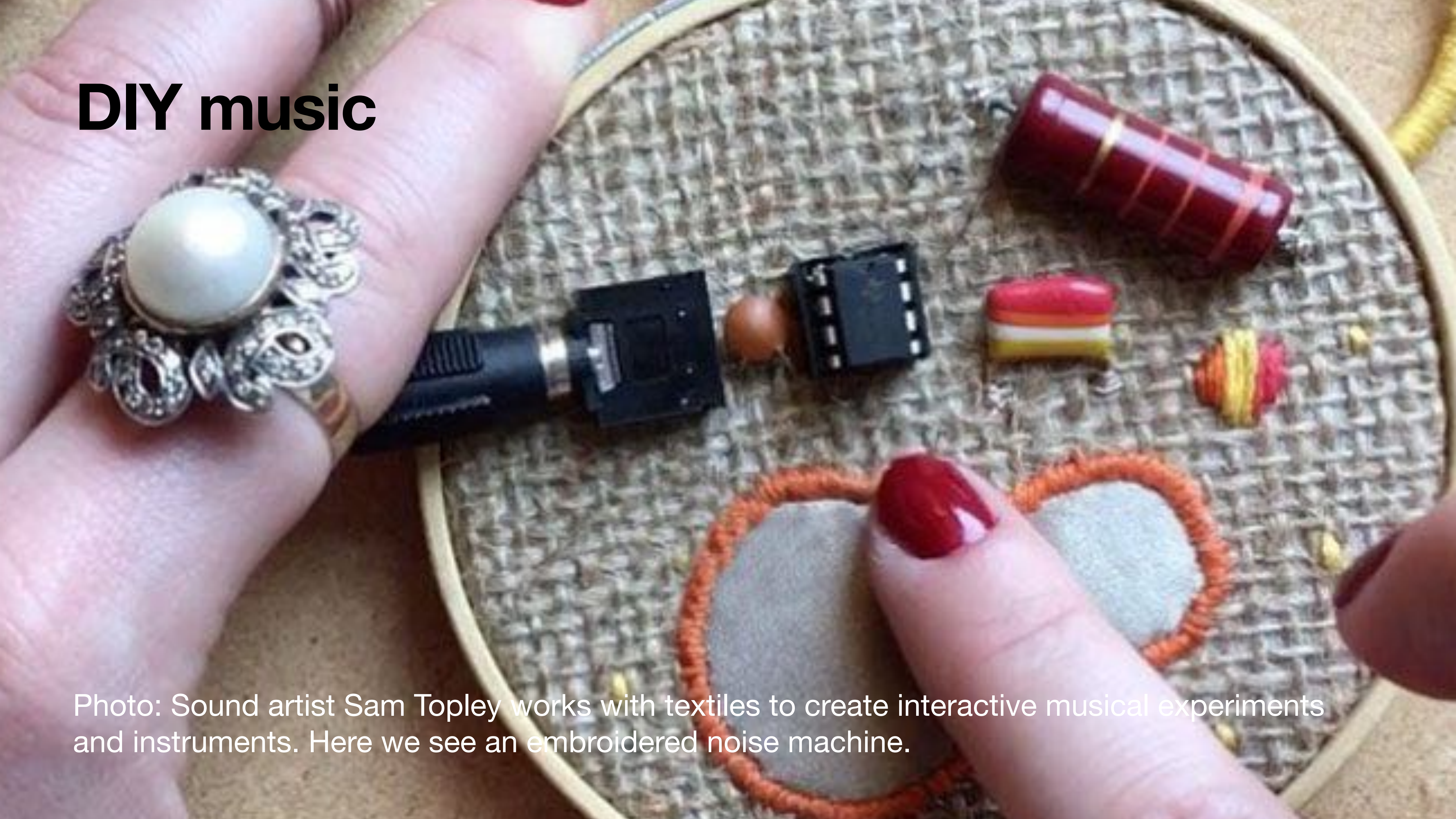


Photo: Sound artist Sam Topley works with textiles to create interactive musical experiments and instruments. Here we see an embroidered noise machine.

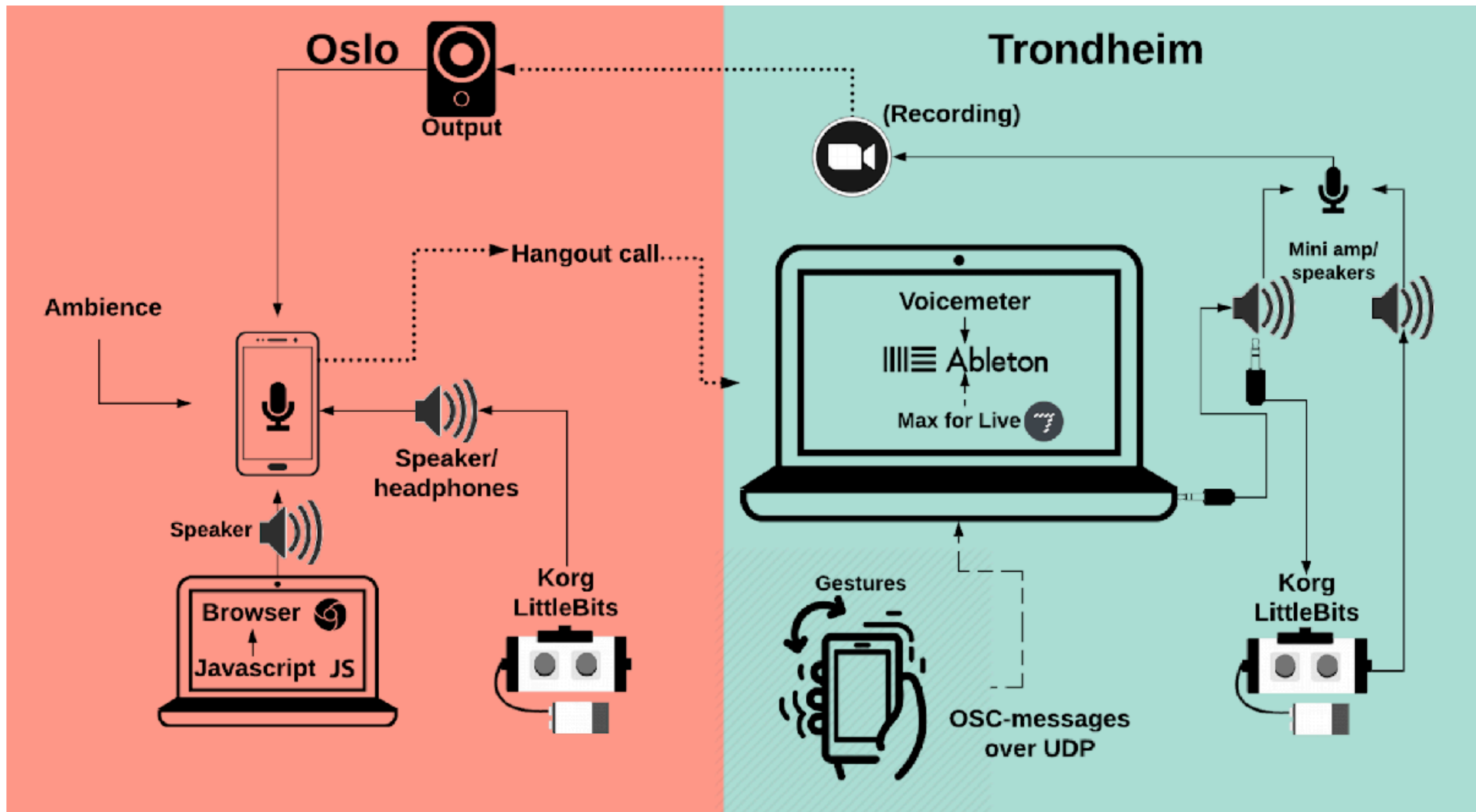
The Physical Computing Workshop (PCW)

NISE Prototyping in Teams

- **Context:** The **NTNU SALTO** project (2018-2021) supported student active learning in two campuses, NTNU & UiO. **Cross campus teaching/learning.**
- **Space:** Connected AV portal. Music Communication Technology master programme. Two different locations.
- **Approach:** a hands-on interdisciplinary course. **Participatory prototyping, hybrid technologies, music improvisation, reflective practice.**



Paper: "NIME Prototyping in Teams: A Participatory Approach to Teaching Physical Computing" by Xambó, A., Saue, S., Jensenius, A.R., Støckert, R., and Brandtsegg, O. 2019. Proc. of NIME.



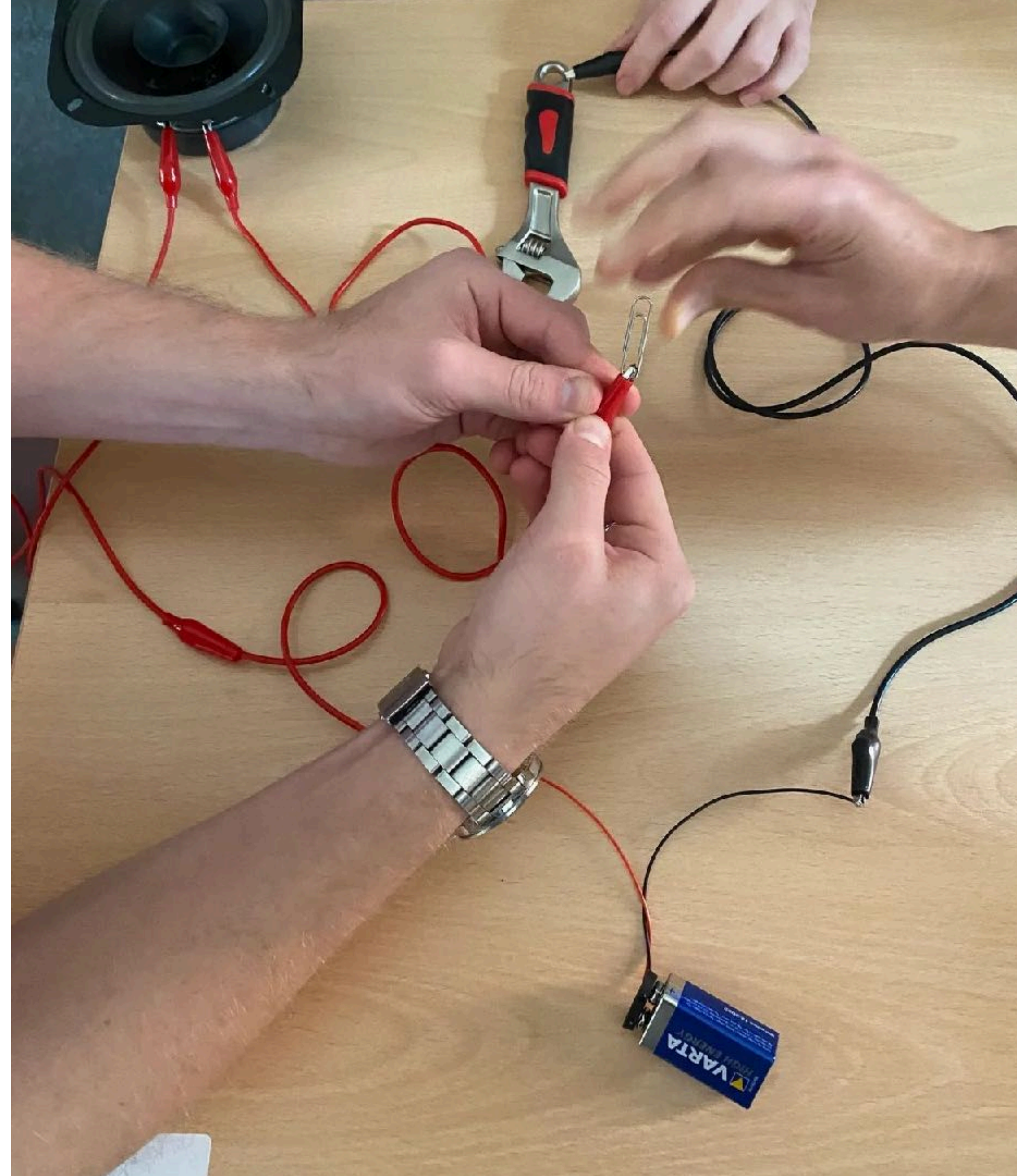
Art is Anything You Can Get Away With

A network-based instrument based on signal chain loop.

Technologies used: mobile phones, littleBits, a JavaScript web sampler, Google Hangout, VB-Audio Voicemeeter Banana and Ableton Live.

Audio electronics instrument design @ DMU

- **Context:** Teaching audio electronics instrument design to a small cohort with no previous background (L5 undergraduate level).
- **Approach: participatory prototyping** using **hybrid technologies** (e.g. Arduino, the Victorian synth, Bed of Nails...).



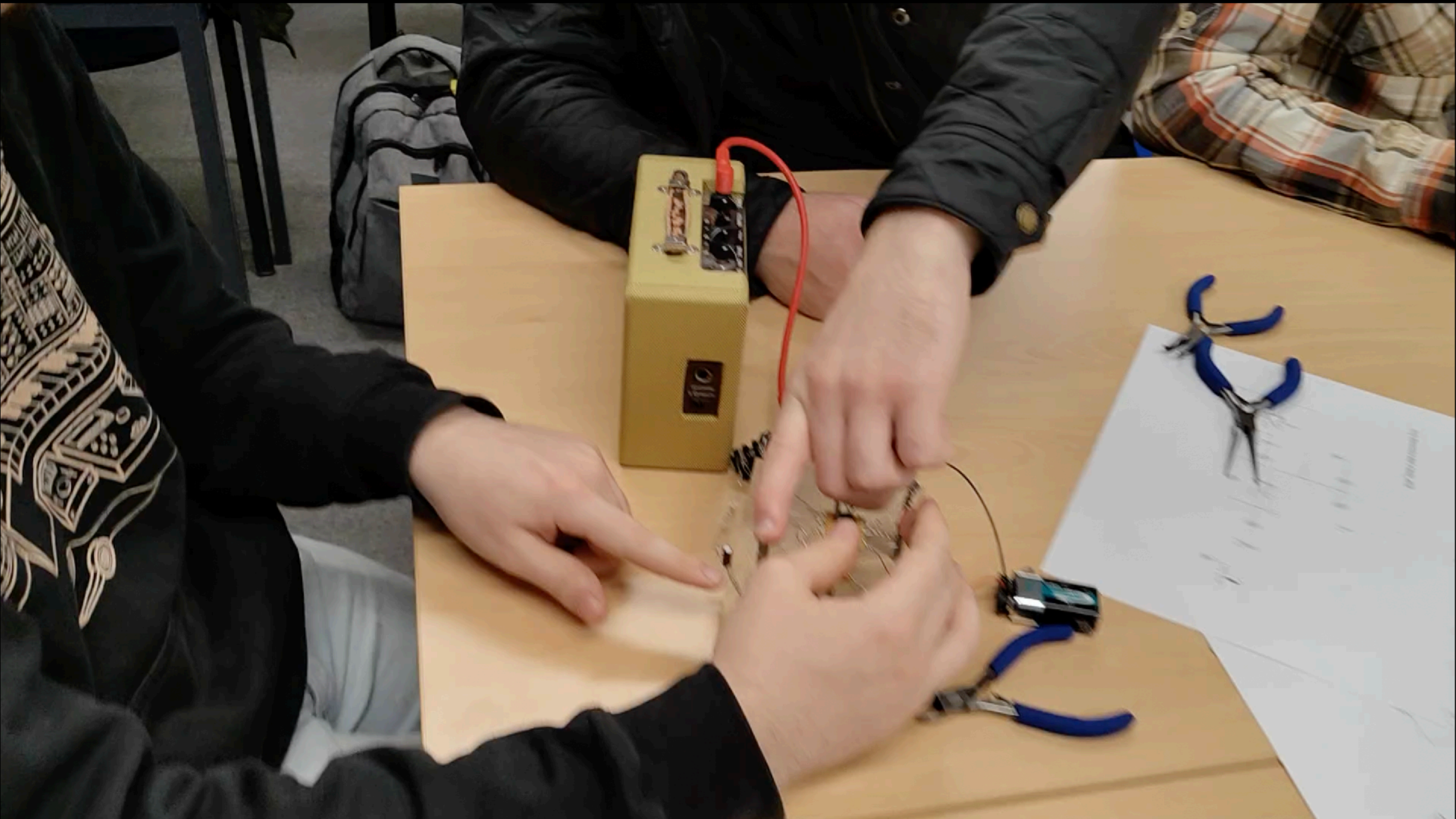
Bed of Nails

Homage to John Richards / Dirty Electronics.

Technologies used:
Lm358 Dual Op Amp, Jack Socket, Caps, Resistors, Battery Clip, Nails, Wire, Wood

Circuit info: https://dirtyelectronics.org/docs/Bed_of_Nails.zip





Natural **Interfaces for** **Sound-based music** **Environments**

Sampling in Live Coding

```
...[1]: id: 444792 name: Hall Full of People - Ambience .wav by: reinsonba dur: 58  
-> a MIRLCo  
now playing...[0]: id: 128829 name: 110420-001_opensir_cafe_karlsruhe_Schlosscafe.wav by: reinsonba dur: 58  
Synth('synth_mono_fs' : 1829)  
now playing...[1]: id: 444792 name: Hall Full of People - Ambience .wav by: reinsonba dur: 58  
-> a MIRLCo  
now playing...[0]: id: 128829 name: 110420-001_opensir_cafe_karlsruhe_Schlosscafe.wav by: reinsonba dur: 58  
Synth('synth_mono_fs' : 1814)  
now playing...[1]: id: 444792 name: Hall Full of People - Ambience .wav by: reinsonba dur: 58  
-> a MIRLCo  
now playing...[0]: id: 128829 name: 110420-001_opensir_cafe_karlsruhe_Schlosscafe.wav by: reinsonba dur: 58  
Synth('synth_mono_fs' : 1829)  
now playing...[1]: id: 444792 name: Hall Full of People - Ambience .wav by: reinsonba dur: 58  
-> a MIRLCo  
server 'localhost' already running  
-> a MIRLCo  
[INFO MIRLCo]: Machine learning models are loaded from (in performance mode)  
and will be saved at (in training mode): /Users/anna/Desktop/MIRLCo-models/  
[INFO MIRLCo]: Sounds will be downloaded at: /Users/anna/Desktop/MIRLCo-downloads/  
[INFO MIRLCo]: A sound credits list will be created at: /Users/anna/Desktop/MIRLCo-credits/  
I'm an agent  
curl -H "Authorization: Token m0M4KwCfWvG0n1Ic55pftpCb008LgTYUDwOp" "https://freesound.org/api/v2/search"  
-> a MIRLCo  
Dictionary[ (data -> Dictionary[ (128829 -> [ -1022.766137265, 106.2177196122, 20.398894656149, -12.6396881  
Dictionary[ (data -> Dictionary[ (128829 -> [ -1.1843868280101, 0.02454390661335, 0.3005000016423, -1.24892  
Done  
Dictionary[ (data -> Dictionary[ (128829 -> [ -2.0443943832025, 2.4562529485969, 0.92274588316266, 0.77  
Test complete  
curl -H "Authorization: Token m0M4KwCfWvG0n1Ic55pftpCb008LgTYUDwOp" "https://freesound.org/api/v2/  
MIRLCo: Do you like this sound?  
curl -H "Authorization: Token m0M4KwCfWvG0n1Ic55pftpCb008LgTYUDwOp" "https://freesound.org/api/v2/  
[0]: id: 128829 name: 110420-001_opensir_cafe_karlsruhe_Schlosscafe.wav by: reinsonba dur: 58.5751
```

Photo: A 'from scratch' session with Olivia Jack and Anna Xambó live coding with MIRLCo at on-the-fly: Live Coding Hacklab, ZKM, Karlsruhe, Germany. Photo by Antonio Roberts.
Article: "Discovering Creative Commons Sounds in Live Coding" by Anna Xambó, Organised Sound 28(2), 276–289.


```

wmp00.asd
36 // instr: grab, lfo, sin
37 // source, overlay, onsets, amps, beats
38 // free, plotserver
39
40 // fc: reverb, delay, lowpf, highpf, bandpf, bitcrush
41
42
43 // Space
44 // East Midlands
45 // Neil Armstrong
46
47
48 a = MRLCRep2.new
49 a.tag("east+midlands+train")
50 a.reverb
51
52
53 b = MRLCRep2.new
54 b.tag("Neil+Armstrong")
55 b.play(-1)
56
57
58 c = MRLCRep2.new
59 c.source
60 c.onsets
61 c.onsets("lo")
62 c.delay
63
64
65
66
67
68
Interpreter: Active Server: 3.29% 5.00% 250s 10s 11g 145d 0.0d

```

MIRLCAuto: A Virtual Agent for Music Information Retrieval in Live Coding

Partners: IKLECTIK, Leicester Hackspace, L'Ull Cec, Phonos, MTI²

Collaborators: TOPLAP Barcelona, FluCoMa, Freesound

Awarded with an EPSRC HDI Network Plus Grant



Partners



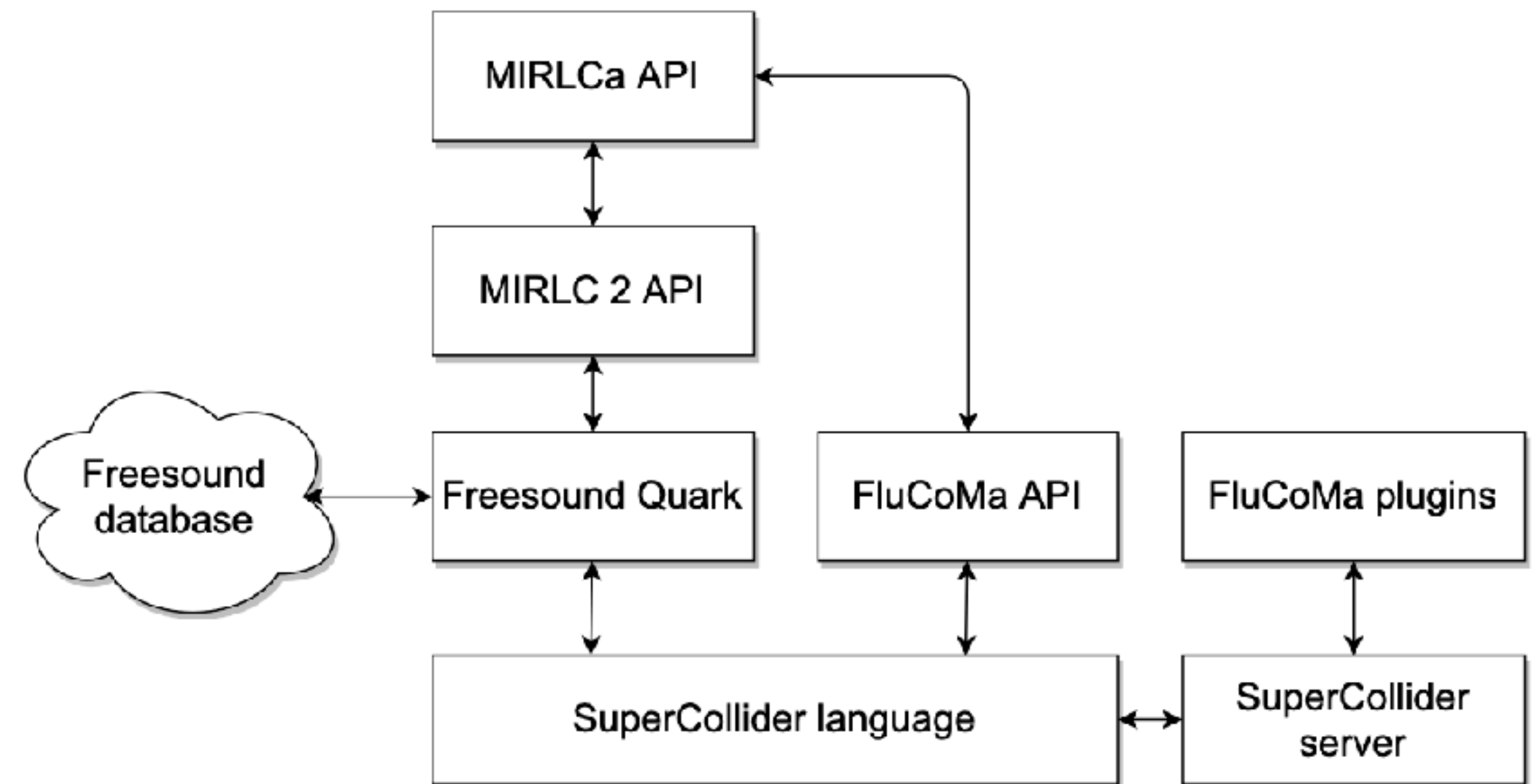
Collaborators



The MIRLCAuto project

A virtual agent for music information retrieval in live coding

- MIRLCAuto (**MIRLCA**) is a constrained live-coding environment that works as a **customisable sampler of crowdsourced sounds empowered with machine learning.**
- **Context:** Project that involved code development, workshops and performances (04/2020-10/2021).
 - **60 workshop participants:** 3 online workshops (London, Barcelona, Leicester) and 1 on-site workshop (Karlsruhe).
 - **16 live coders:** 4 work-in-progress videos. 3 concerts with 8 performances. 4 impromptu group sessions.



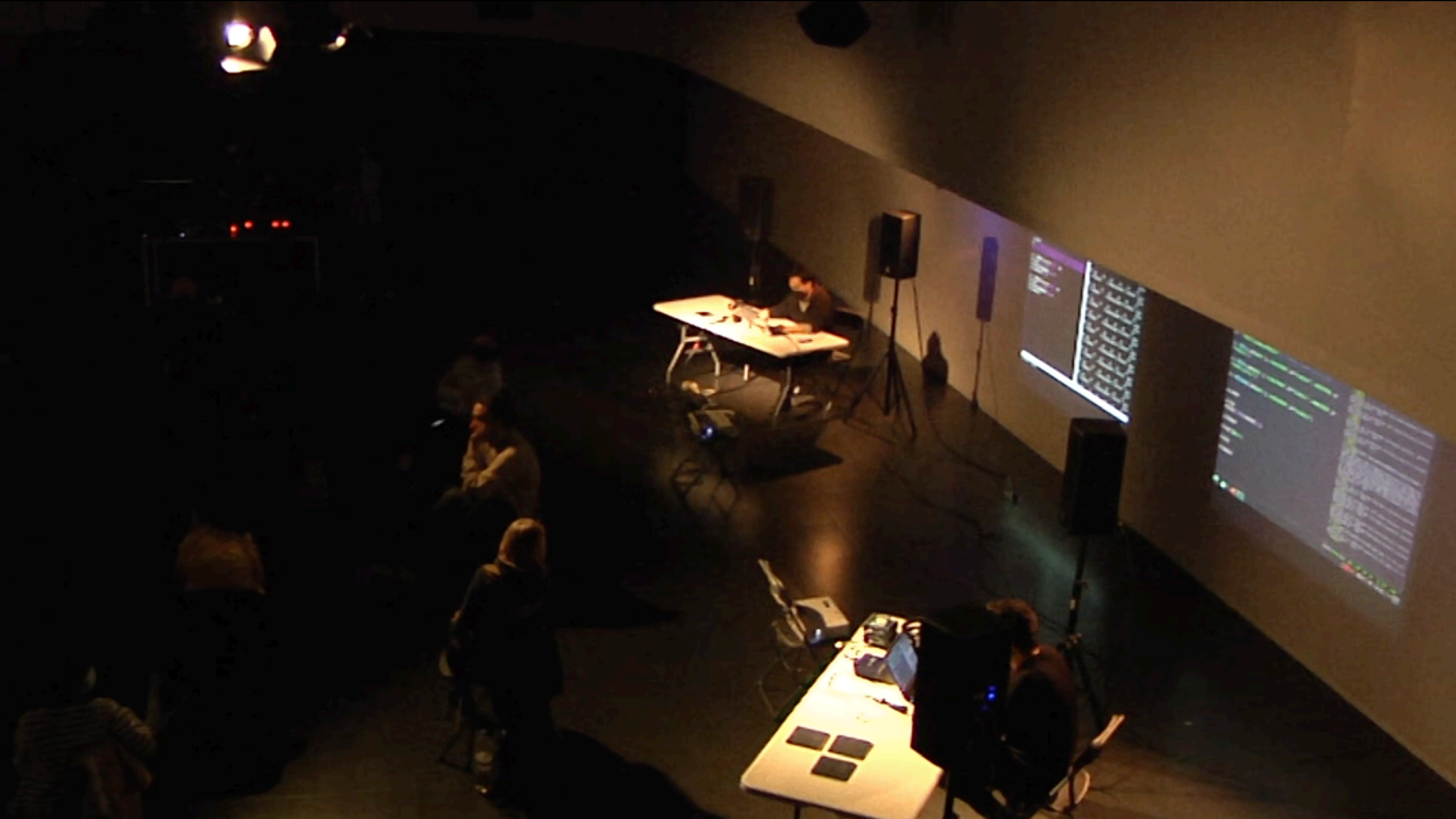
Different Similar Sounds

Barcelona Phonos concert (April 2021)

- Different Similar Sounds: A Live Coding Evening “From Scratch”
- Organised by Phonos in collaboration with TOPLAP Barcelona and l’ull cec.
- Performers: Ramón Casamajó, Iván Paz, Roger Pibernat, Chigüire.

```
-> a MIRLCC
now playing...[0]: id: 564947 name
Synth('synth_mono_fs' : 1032)
now playing...[1]: id: 511886 name
Synth('synth_mono_fs' : 1034)
-> a MIRLCCa
now playing...[0]: id: 564947 name
Synth('synth_mono_fs' : 1032)
now playing...[1]: id: 511886 name
Synth('synth_mono_fs' : 1034)
-> a MIRLCCa
now playing...[0]: id: 564947 name
Synth('synth_mono_fs' : 1032)
now playing...[1]: id: 511886 name
Synth('synth_mono_fs' : 1034)
-> a MIRLCCa
now playing...[0]: id: 100293 name
Synth('synth_mono_fs' : 1031)
now playing...[1]: id: 171412 name
Synth('synth_mono_fs' : 1035)
now playing...[0]: id: 100293 name
Synth('synth_mono_fs' : 1031)
now playing...[1]: id: 171412 name
Synth('synth_mono_fs' : 1035)
-> a MIRLCCa
now playing...[0]: id: 100293 name
Synth('synth_mono_fs' : 1031)
now playing...[1]: id: 171412 name
Synth('synth_mono_fs' : 1035)
now playing...[0]: id: 100293 name
Synth('synth_mono_fs' : 1031)
now playing...[1]: id: 171412 name
Synth('synth_mono_fs' : 1035)
-> a MIRLCCa
```

Interpreter: **Active** Server: **1.97%** **1.97%**




```
File Edit View Selection Play Package Window Help
Project
63 ~mech1.delay;
64 ~mech1.tag("teler+automatic");
65 ~mech1.tag("automatic+loom");
66 ~mech1.playauto;
67 ~mech1.playauto;
68
69 ~mech2.tag("automatic+loom");
70 ~mech2.delay;
71 ~mech2.similar;
72
73 ~mech3.tag("teler+automatic");
74 ~mech3.delay;
75 ~mech3.similar;
76 ~mech3.play(-1);
77
78 // CAMPUS & IT
79
80 ~camp1.tag("campus+poblenou");
81 ~camp1.lowpf;
82 ~camp1.play
83   playauto
84
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86
87 // DISSONANCE & ATONAL
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Natural
Interventions of
Sonic arts/Sonification
Ecologies

Soundscape



Photo: Nela Brown streaming from the Island of Korcula, Croatia. Performance: *Transmusicking I*, Female Laptop Orchestra, Audio Mostly 2017.

Sensing the Forest

Let the Forest Speak using the Internet of Things, Acoustic Ecology and Creative AI

AHRC-funded project (2023-25) : AH/X011585/1

sensingtheforest.github.io



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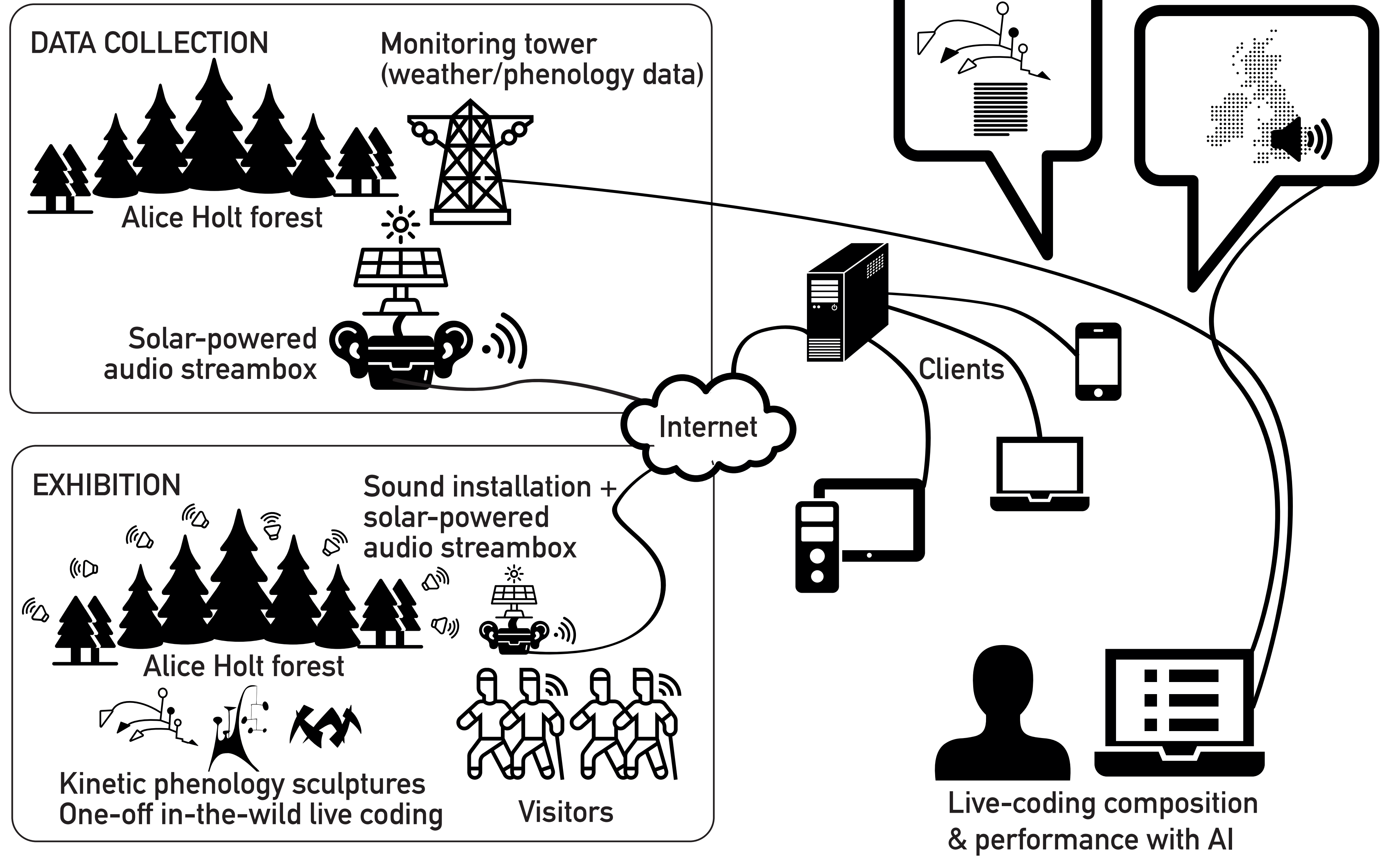
Nick Wardlaw
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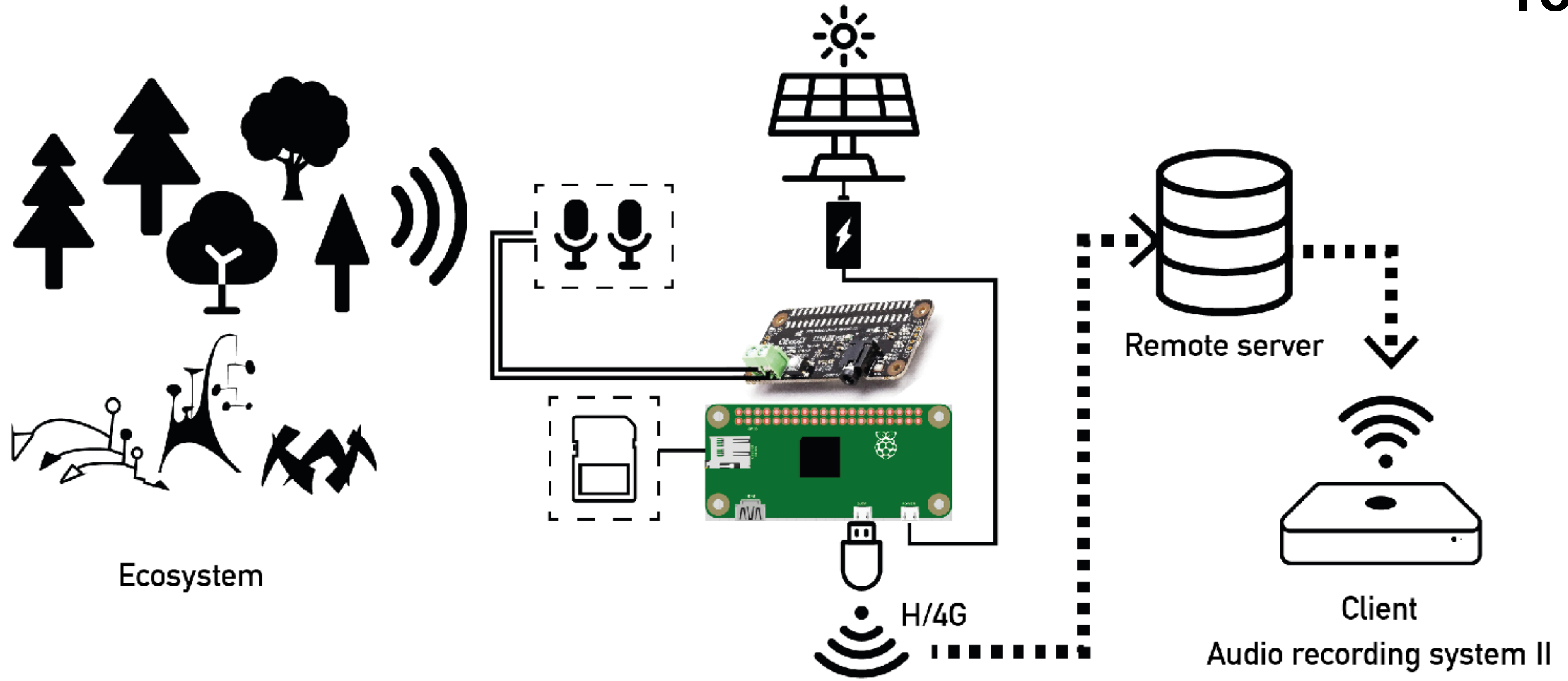
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Forest Intervention WP1

sensing
the forest





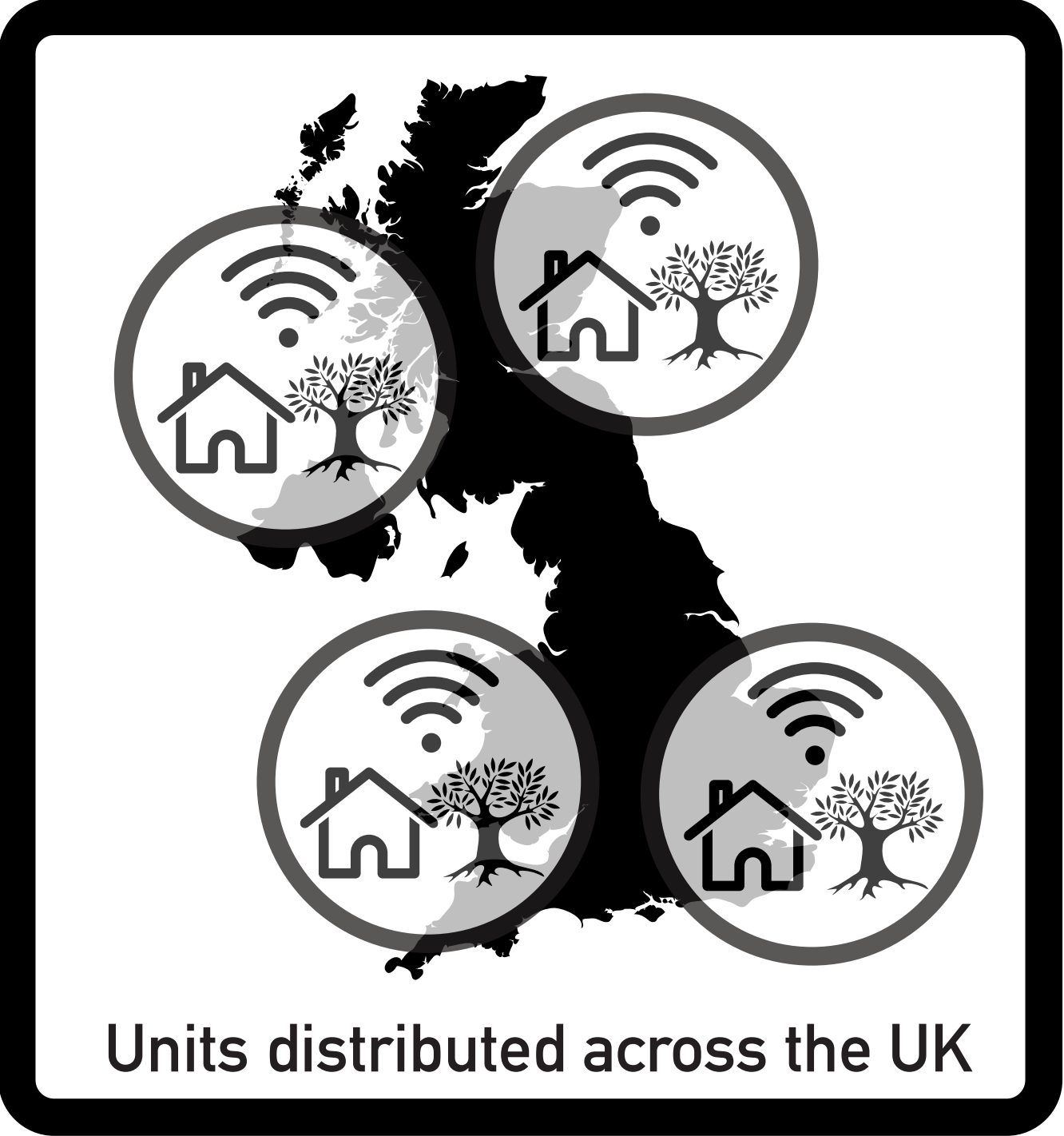
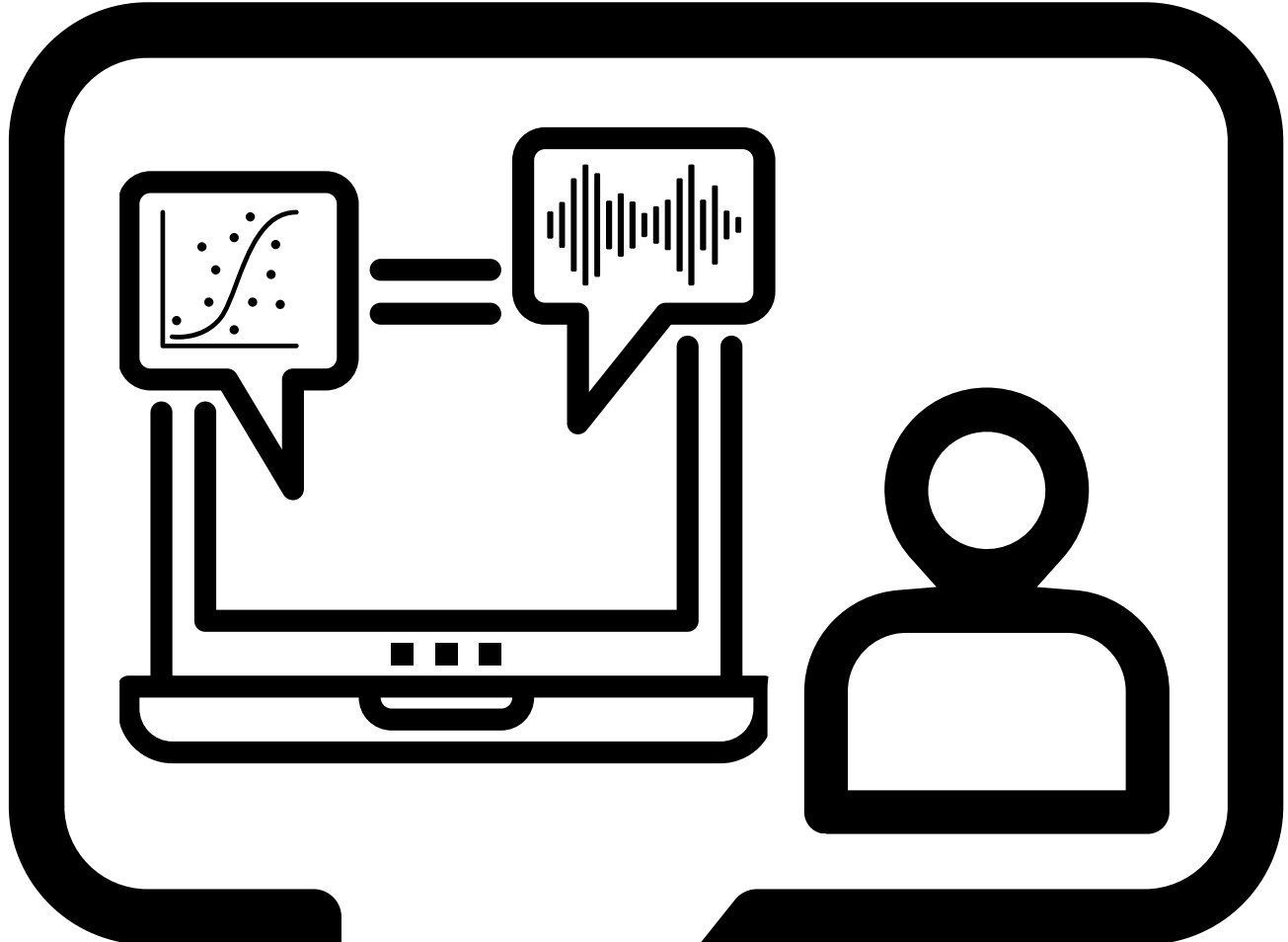


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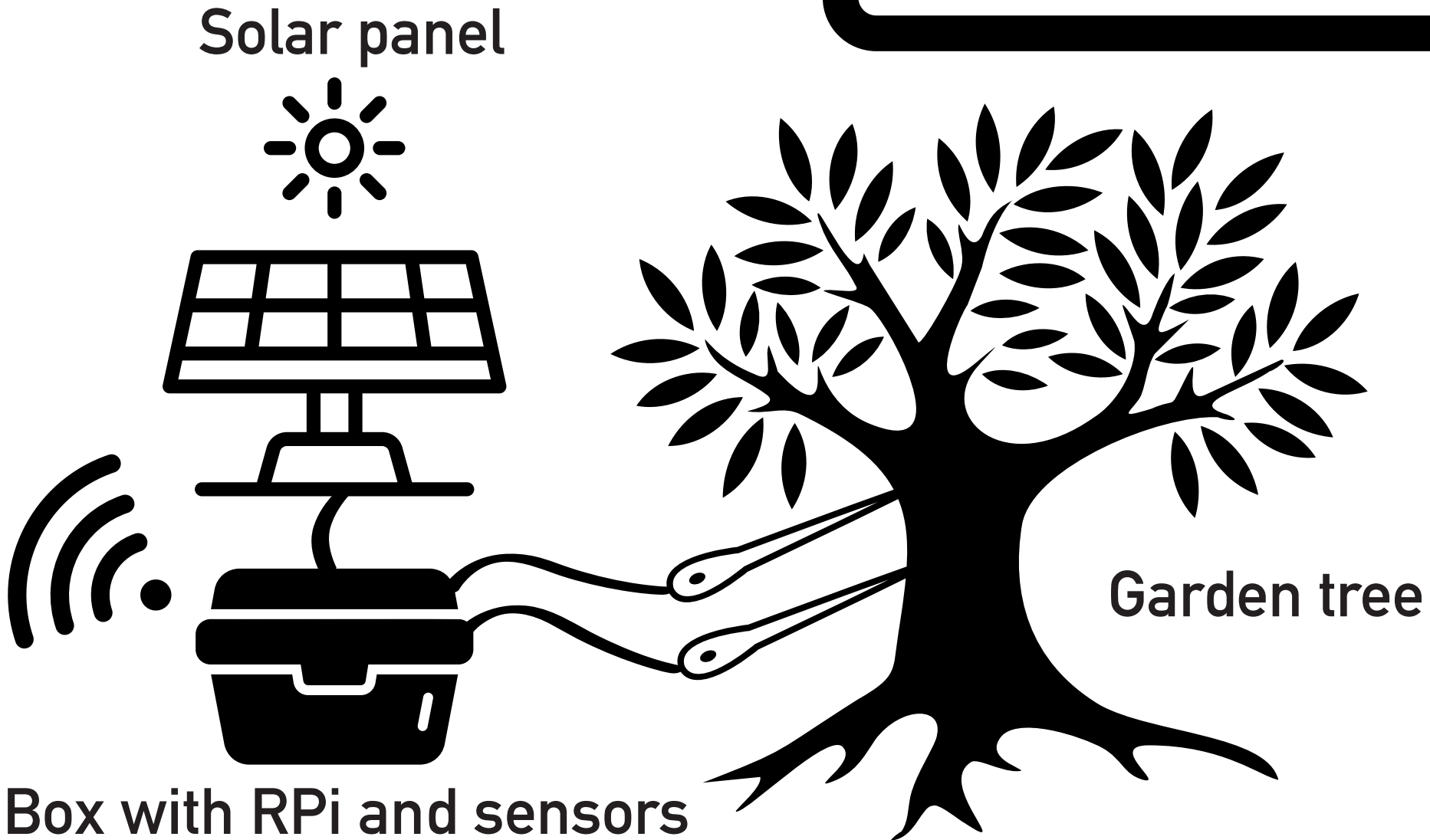


Prototype WP2

Dedicated web app (analysis, visualisation, sonification)



Household with Wi-Fi extender/powerline adapter



Box with RPi and sensors (air temperature, soil moisture, sap flow)

sensing the forest



Outline

- NIME: past, present, future
- The NISE framework: a feminist HCI approach
- Three NISE projects
- **Summary & Take-away message**

Summary

- We went through **what is NIME** in **essence** and some of its **caveats** when designing/evaluating musical interfaces: *techno-driven, lack of diversity, the 'newest'*.
- We discussed the change of focus **from 'Music' to 'Sound'**, and what this can bring in terms of musical interface **design, evaluation** and **community!**
- The **'Sonic'** can become a welcoming access point to music-making and NIME design.
- The **NISE framework** contributes to the vision of **democratising sound and music computing** through the **creation of technologies** that can **empower the community**.

Take-away message

The **dimension of 'Sound'** is crucial for a broader/more **inclusive/diverse** perspective of designing and evaluating NIMEs, which can bring other **values less technology-driven and less linked to the 'newness'**.

