

Dialoguing With Improvising Machines: A Comparative-Phenomenological Workshop on Musical Agent Systems

Nicola Leonard Hein
University of Music Lübeck
nicolaleonard.hein@mh-luebeck.de

Pierre Alexandre Tremblay
Conservatorio della Svizzera
italiana
p.a.tremblay@conservatorio.ch
email

Gilbert Nouno
Haute école de musique de
Genève
gilbert.nouno@hesge.ch

Abstract

This workshop will co-explore four different musical agent systems and their musical affordances over 2.5 hours. The methodology will follow a comparative-phenomenological approach. Four musical agent systems will be presented by four authors, selected by an open call for the workshop. The presentation of a system will take 5 minutes each and will be technical in nature, and will focus on the underlying musical intent and biases. After this presentation, played with by their author (roughly 5 minutes), and finally critically explored by two peers each, also selected by the Open Call thus have three very short performances per system, and 12 short performances in total. Hence, 4 systems will each have 30 minutes of presentation, including presentation of the system, and 3 performances with the system, and a short discussion. The workshop will finish with a 30 minute discussion about the differences and resonances between the different systems.

1 INTRODUCTION

With more than 30 years of reactive and interactive system design [1], implemented and performed by musicians through creative coding environments (mostly Max, SuperCollider, Csound, and PureData), the field is now at a point where novelty factor is not a bearer of research interests anymore. Many fields have matured in criticality and self-reflectivity, and/or have found a more central place within musical institutions: critical improvisation [2], New Interface for Musical Expression [3] and Music Information Retrieval [4] to name but three. Moreover, a few generations of techno-fluent composer / improvisers / performers / creative coders have now grown accustomed to expecting omnipresent technology on stage, as part of the de facto instrumentarium. Machine listening and machine learning algorithms are widely available via sturdy and free extensions (FTM-MuBu-PiPo, SCMIR, Wekinator, FluCoMa, Dicy2, etc), and their use is supported by learning materials and thriving communities of practice. Finally, after a blind adoption of ‘artificial intelligence’ metaphors, the ethical dimensions of the various claims to knowledge of these various algorithms have been under scrutiny, while the experience from GOFAI has regained some traction: a growing community is engaging critically with the baked-in assumptions of the ins and outs of a system and the metaphors used to describe their ‘behaviour’, via various subfields like critical data making [5] and human-centered AI [6].

Indeed, we are at a turning point: can we still simply (and naively) say in a program note that we improvise with machine agents? The dialogic metaphor has always been of importance to improvisers [7], but if one encodes agency in a system, should claims on the biases of the modes of listening and interacting be challenged, and if so, how? Critical improvisation has been elusive to define

(see [8] for a contemporary overview), rich and multifaceted, yet we often read assertions that certain systems are ‘improvisational agents’. With the quantity and diversity of improvisers / composers / coders growing, proficient and critical in all three strands, our community is now in a rich position to try to find a rich multimodal way to assess and challenge these claims, narratives and metaphors, to improve the field’s range and define the next steps in a deep engagement with the foundational question ask by George Lewis: “Why Do We Want Our Computers to Improvise?” [9]

We hope with this workshop to establish shared vocabulary, aims, and evaluation criteria by critical peers, beyond the buzzwords. The methodology will follow a commented comparative-phenomenological approach, where four musical agent systems will be presented, then played with by their author, and finally critically explored musically by two peers each. The setting will allow for collective listening to the different qualities and affordances of musical interaction that result from the design choices of the musical system and the compositional design of its listening characteristics. By allowing for collective listening to, playing with, and discussion of, the respective musical system’s style of interaction, the workshop hopes to facilitate a deeper discussion on the role of encoding the listening in musical agent systems, and the affordances and musical agency that emerge in these design and performance processes.

2 LONG DESCRIPTION

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2.1 Structure

The workshop is divided into five blocks of 30 minutes

each, for a total of 2.5 hours.

The first four blocks of 30 minutes will be used to explore one musical agent system each: 5 minutes for a presentation about the techno-aesthetic design, followed by a 5-minute-long performance by the composer / programmer of the system, followed by two 5-minute-long exploratory performance by two of the peer improvisers present, followed by a 10-minute block for discussion on how the system feels and questions by the attendees. Discussion on aesthesis / audience reception / perception will not be the focus here; yet an external perspective is considered an important addition to enrich the dialogue

The last block of 30 minutes will be used for a comparative discussion among the workshop participants on the musical affordances of the four musical agent systems and the different qualities of musical interaction, as well as establishing aims and desiderata for the next steps for each system and, hopefully, the wider field of designing and performing with improvising agents.

2.2 Topics and activities

We plan to video-document the whole day, and hope to be able to extract a synthetic opinion paper for our community to continue to share good and successful practices. We think that, with the proposed iterative comparative format, with multiple critical players on each system, strands of complementary (and potentially conflicting) discourses, aims, ideas and technologies will emerge. This should enable all participants to think deeper about what it means to compose / delegate / curate agency to an improvising system, and to share know-how informed by transparent aims and ambitions. We hope that by embracing a complex mode of assessment of the various systems, including cross-comparison and trials, we can unfold the rich, enmeshed problem to push our understanding of what it means to improvise with computer agents.

2.3 Tools/technologies used

We expect to use bespoke systems, provided by the attendees and/or workshop leaders (see the attendee of type A below), most probably made with the omnipresent systems mentioned above (FTM-MuBu-PiPo, SCMIR, Wekinator, FluCoMa, Dicy2, etc).

2.4 Expectations for attendees

We will cater for three types of attendees:

- **Type A** will be selected following a call for coder-improvisers to submit their system as part of the 4 that will be the object of investigation. (note: the 3 workshop leaders each have one system to discuss in case of low submission to the call)
- **Type B** is open to critical improvisers experienced in playing with / against a computer agent / environment. This will provide a wider breadth of inputs and critiques from multiple perspectives
- **Type C** is open to attendees who want to engage in the critical discussion around these agents. Discussion on aesthesis / audience reception / perception will NOT be the focus here; yet composers, performers and coders interested in the poesis of interactive systems, and their

copresence in performance, could be interested in attending and would be welcome to contribute to the discussions.

3 BIOGRAPHIES

Pierre Alexandre Tremblay is a composer and performer on bass guitar and electronic devices, in solo and group settings, between electroacoustic music, contemporary jazz, mixed music and improvised music. He also worked in popular music and practices critical creative coding. His music is available on empreintes DIGITales. He studied composition with Michel Tétrault, Marcelle Deschênes, and Jonty Harrison; bass guitar with Jean-Guy Larin, Sylvain Bolduc, and Michel Donato; analysis with Michel Longtin, and Stéphane Roy; and studio technique with Francis Dhomont, Robert Normandeau, and Jean Piché. Pierre Alexandre was Professor of Composition and Improvisation at the University of Huddersfield (England, UK) from 2005 to '24, where he anchored the ERC-supported Fluid Corpus Manipulation project. In September 2024, he joined the team of the *Conservatorio della Svizzera italiana* as a research professor in composition. He likes spending time with his family, reading prose, and going on long walks.

Nicola Leonard Hein is a sound artist, guitarist, creative technologist, composer and researcher in music and philosophy. He is a professor of Sound Arts & Creative Music Technology at the music university of Lübeck. His work is driven by the interaction of sound and space, light, movement, thought and the becoming of embodied and intermedial intelligence in aesthetic systems, community and technology. In his artistic work, he uses physical and electronic extension of the electric guitar, sound installations, cybernetic human-machine interaction with A.I. interactive music systems, Augmented Reality, telematic real-time art, ambisonic sound projection, instrument building, conceptual compositions, inter-media works (with video art, light, dance, literature) and much more. His research revolves around questions of philosophy of music, epistemology, aesthetics, media theory, critical improvisation studies and cybernetics. It follows questions of the creation of identity and sense in interactions between humans and technology, and investigates the philosophical implications of musical and intermedial practices.

Gilbert Nouno composes, codes, improvises, and teaches at the Haute école de musique de Genève, where he leads the CIMME (Interdisciplinary Center for Experimental Music and Media). He likes to blend sound with image, and technology with the gestures of performance. Moving between tangible matter and dematerialized material, his hybrid works invite audiences to cross the ever-shifting boundary between human and machine. With artificial intelligence, he explores new playgrounds to expand improvisation, rethink performance, and imagine augmented artistic practices. This approach is embodied in works such as SINE (2024), a performative multimedia piece in which gesture drives sound and video within an immersive, AI-based audiovisual environment. A laureate of the Villa Kujoyama in Kyoto and the Académie de France à Rome Villa Medici, he has shared stages, studios, and creative adventures with composers Pierre Boulez, Jonathan Harvey, Olga Neuwirth, saxophonist

Steve Coleman, flutist Magic Malik, choreographer Léo Lérus, scenographer Jean Kalman, and stage director Pierre Audi.

AUTHOR DECLARATIONS

No known conflict of interest exists between this work and the hosting institution of AIMC 2026. The human researcher, as the performer of their own work, consented to the research conducted to realize the work.

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