

Live Coding with Crowdsourced Sounds and A Virtual Agent Companion

Anna Xambó

Music, Technology and Innovation – Institute for Sonic Creativity (MTI²)
De Montfort University
anna.xambo@dmu.ac.uk

ABSTRACT

This performance combines machine learning algorithms with music information retrieval techniques to retrieve crowdsourced sounds from the online database [Freesound.org](https://www.freesound.org). The use of a live coder virtual agent companion complements a human live coder in her/his practice. The core themes of legibility, agency and negotiability in performance are researched through the collaboration between the human live coder, the virtual agent live coder and the audience.

1. PROJECT DESCRIPTION

The project *MIRLCAuto: A Virtual Agent for Music Information Retrieval in Live Coding* is two-fold. It aims at creatively explore: (1) the use of large collections of sound data in live coding performance through the use of machine learning and music information retrieval algorithms; and (2) the use of a live coder virtual agent companion who can complement a human live coder in her/his practice.

Legibility, agency and negotiability in performance are the core themes. The themes are present through the collaboration between the human live coder, the virtual agent live coder, and the audience.

More information about the project is available on the project's website: <https://mirlca.dmu.ac.uk>. For more background on aspects of the MIRLC's live coding tool used to develop this project, see [1, 2].

2. DURATION AND FORMAT

The approximate duration of this performance is 15 minutes. It is also possible a shorter or longer duration. The format can be either online streaming or on-site.

3. DOCUMENTATION

This performance is improvised. In the following link, you can find video documentation of similar performances using the MIRLCA tool: <https://mirlca.dmu.ac.uk/concerts>



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4. TECHNICAL REQUIREMENTS

In the case of delivering the performance on-site, the performer will need:

- 2 output lines, balanced jack or XLR.
- Small table (approx. 70x100 cm) for equipment.
- Wi-Fi Internet access for the performer.
- Wi-Fi Internet access for the audience.
- A projector (with HDMI connection).

5. AUTHOR BIO

Anna Xambó is a Senior Lecturer in Music and Audio Technology at De Montfort University and an experimental electronic music producer. Her research and practice focus on new interfaces for music performance looking at live coding, collaborative and participatory music systems, and multichannel spatialisation. To date, she has released three solo recordings: *init* (2010, Carpal Tunnel), *On the Go* (2013, Carpal Tunnel) and *H2RI* (2018, pan y rosas). Her solo and group performances have been presented internationally in Denmark, Germany, Norway, Spain, Sweden, UK and USA, including *Hyperconnected Action Painting* (WAC 2017), *Imaginary Berlin* (WAC 2018), and *Trondheim EMP Repository processing* (WAC 2019).

6. ACKNOWLEDGMENTS

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7. REFERENCES

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