Tattooing voices

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1 Program Notes

Tattooing voices is an improvised performance combining live phonographic disc inscription with vocal performance. An evolving NIME - the Performance Record Lathe (PRL) - is played in conjunction with a live-looped vocal performance. The cutterhead of the PRL is fed from the audio output of the vocal performer and the resultant grooves are (re)performed by multiple pickups (and FX) for both performers to further respond to. Locked grooves can be formed and tonearm movement is further restricted by using string to create unstable 'lo fi' loops from the emerging record. No synchronisation mechanism is used between the two loop-based performance ecosystems which often creates polyrhythmic overlap and obfuscates the origin, and continuation, of sound sources. At times, a handheld inscription approach ('sound tattooing') is employed by the performer of the PRL to affect a degree of stochasticity in performance, play with transformation, and acts of production, rather than reproduction.

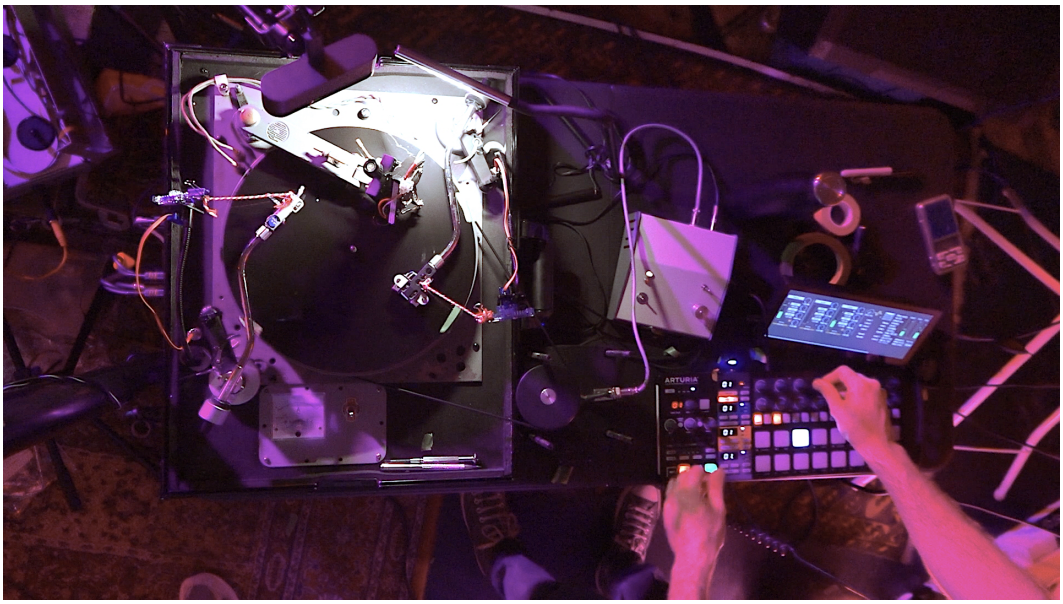

Fig. 1. The Performance Record Lathe during performance

2 Project Description

The project shows some performance behaviours of intersecting two distinct loop-based performance ecosystems. The vocal performer (Zermon) has an established solo artistic practice (under the moniker 'Bunty') combining looping, and other audio effects such as delay, reverb, distortion, pitch manipulation etc. A number of the effects are guitar pedals and impedance mismatching contributes to the overall artefact-laden sonic aesthetic. Loops are started and stopped, and further manipulated by

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pushing pedal pads (i.e. no tempo mapping or overt quantisation) contributing to the overall sense of 'unsafe' timing. In this performance, the output from the performer's dry microphone and FX chain are sent separately as to the performer of the Performance Record Lathe (PRL) to inscribe to a blank record to (re)perform.

The PRL [see fig. 1] is an evolving NIME predicated on the idea of phonographic disc inscription toward 'productive', rather than 'reproductive' sonic outcomes [2]. The instrument comprises a modified, hybridised record lathe and a performance ecosystem including DSP for sound processing and manipulation. Employing a transducer with a sharp stylus (a cutterhead), and a quick release mechanism on the cutter arm, the interface offers the performer a number of inscription approaches: forming more standard record spiral and locked grooves; as well as a novel handheld inscription methodology - dubbed 'sound tattooing' by author 1 – offering agency during performance. This includes choices relating to the pressure, angle and location of the sound inscription encouraging non-standard groove-making and resulting in unusual tonearm behaviour. These extended inscription techniques, such as intersection, cross- or over-cutting, promote unexpected sonic outcomes contributing to the liveness of the interface.

Sound tattooing does not offer the accuracy or precision usually associated with phonographic disc inscription, and it is here that interesting relationships between intention and realisation are afforded. In essence, the basis of the PRL is circuit bending, where the black box is the fine tolerances of sound recording media. Further 'inaccuracies' are baked into the system in the method of restriction of the playback tonearms. In a similar fashion to Dunning's mechanical techno [1], string is used to restrict movement causing the pickup stylus to be unable to continue its path to the centre of the disc and as such affect a loop. The behaviour is not entirely consistent as the string stretches, the stylus jumps, and the relatively shallow groove wears on repeated performance so the loop is somewhat 'unreliable'. Linear movement adjustment of the restriction is made possible using servo motors which are controlled by Arduino and a MIDI control surface (via MaxMSP).

The design of the cutterhead itself, repurposed from a hard drive voice coil, also encourages and contributes to inconsistency and liveness, given the construction method does not account for fine tolerances associated with record cutting. Although some DSP (particularly dynamic equalisation, a modified RIAA curve for the pickup, compression and limiting) is applied to account for some of the resonances in the construction, the behaviour of the transducer with a varied audio signal is not always predictable. For example, there is significant movement of the cutting stylus during low frequency oscillation (including to 0.1Hz) which can produce audible artefacts in the inscribed grooves.

The PRL has two tonearms with 3 pickup points (one stereo pickup, and two mono pickups mounted on a single headshell) on the record which can be selectively auditioned and blended between during performance. The output signal of each can be variably sent through a number of audio processors associated with electroacoustic performance (i.e. equalisation, reverb, delay and distortion).

3 Technical Notes

4 x Balanced (TRS) jacks to output to PA
3 x microphone stands
1 x the ability to project visuals (HDMI output)
2 x 13A power connectors
2 x wedge monitors

Space requirement:
2 x tables on stage no smaller than 55 x 100 cm

Duration:
The work is improvisational in nature; 15 minutes is an acceptable length, but 20-25 minutes is preferable

Feasibility:
The system has been successfully transported and performed at numerous venues in the UK and EU. Given the somewhat sensitive nature of the equipment, the setup time/soundcheck required for this performance is a minimum of 1 hour 15 minutes.

4 Media Link(s)

- Video: https://vimeo.com/1164391993 (previous live performance)
- Audio: https://drive.google.com/file/d/1iFuDAhmOqdfF1YpxN9EsZHXlEHCCbEF0 (audio only version of above)
- Video: https://youtu.be/ga__aXqY4KM

Ethical Standards

No conflicts of interest have been identified and the work meets the ethical requirements of the NIME 2026 conference.

References

[1] G. Dunning, Ironing In The Creases: Developing An Idiosyncratic Electro-mechanical Musical Instrument By Reinforcing Its Faults, in *Proceedings of the International Conference on New Interfaces for Musical Expression* (Utrecht, The Netherlands, September 2-6, 2024). 2024, pp. 230--240. doi: 10.5281/zenodo.13904840.

[2] K. Passuth and L. Maholy-Nagy, *Moholy-Nagy*. London: Thames & Hudson, 1987, pp. 289-292.