Race to the Bottom

OWEN GREEN, University of Huddersfield, UK

1 PROGRAM NOTES

Race to the Bottom is the most recent of a string of improvising machines involving bowed cardboard boxes, developed over the last decade. In all these systems, bowed cardboard is both the source of all sonic material and the 'control' interface to software that occupies a changeable and turbulent role in the territories between algorithmic co-player, instrument and processor. Boxes, it turns out, yield a much more varied sound world, and more room for practised technique than I had imagined when I started exploring them (somewhat facetiously). They also present a range of interesting challenges to machine listening algorithms, such are the instabilities and varied points of interest in their sound. All of these improvising machines have explored different approaches to dealing with this, and finding creative ways of enjoying the software's frequent 'misunderstandings' of its input. Increasingly, these machines have also been a place for me to investigate ways of dealing with time in algorithmically mediated improvising, particularly when (as here) my hands are already busy, and I have to trust my software's sense of time and musicality (or at least put up with it).

In Race to the Bottom, these fronts are explored by abusing segmentation algorithms and beat trackers as (loose-ish) analogues for, respectively, oscillators and filters. A clutch of these run at different rates, latching on to different parts of different sounds, and interfering with each other, informing both the processing of sound and the unfolding of musical shape.

2 PROJECT DESCRIPTION

There is no shortage of NIME-related work that deals with machine listening in some form or another. However, this project aligns most readily with the subset of that work that seeks to probe the limits of a purely functional approach to machine listening, for instance [2]. In particular, this work adopts aspects of Di Scipio's [3] critique of discourses around interactivity, and shares his interest in exploring this by trying to make sound the basis for the articulation and unfolding of time, as well as engaging in the sorts of playful music-technical hijacking discussed in [1], as part of a larger, collective endeavour to articulate what an artistic, practice-focused complement to Music Information Retreival might consist of.

The piece was premiered at the 2019 Huddersfield Contemporary Music Festival (video link below); as such, a feasible and performance-ready version already exists. However, I intend to to continue to develop the software component over the coming months. Part of this will be aimed at developing the musical effectiveness of the vocal microphone that can be seen in the video, and another part will consist of tuning the softwares sense(s) of time more finely.

Licensed under a Creative Commons Attribution 4.0 International License (CC BY 4.0). Copyright remains with the author(s).

Music Proceedings of the International Conference on New Interfaces for Musical Expression
NIME'20, July 21-25, 2020, Birmingham, United Kingdom

3 PERFORMANCE NOTES

The performance is for a soloist (me), plus laptop.It is probably most well-suited to a concert stage, but could be adapted to a gallery or, with more work, a club. The current version is for four channels plus some (2+) ambience / diffusion channels, where the PA allows. Again, there is scope to be flexible here.

Duration: In its current form, the performance is 8'40". This can be shortened to 7'00".

3.1 Technical Rider

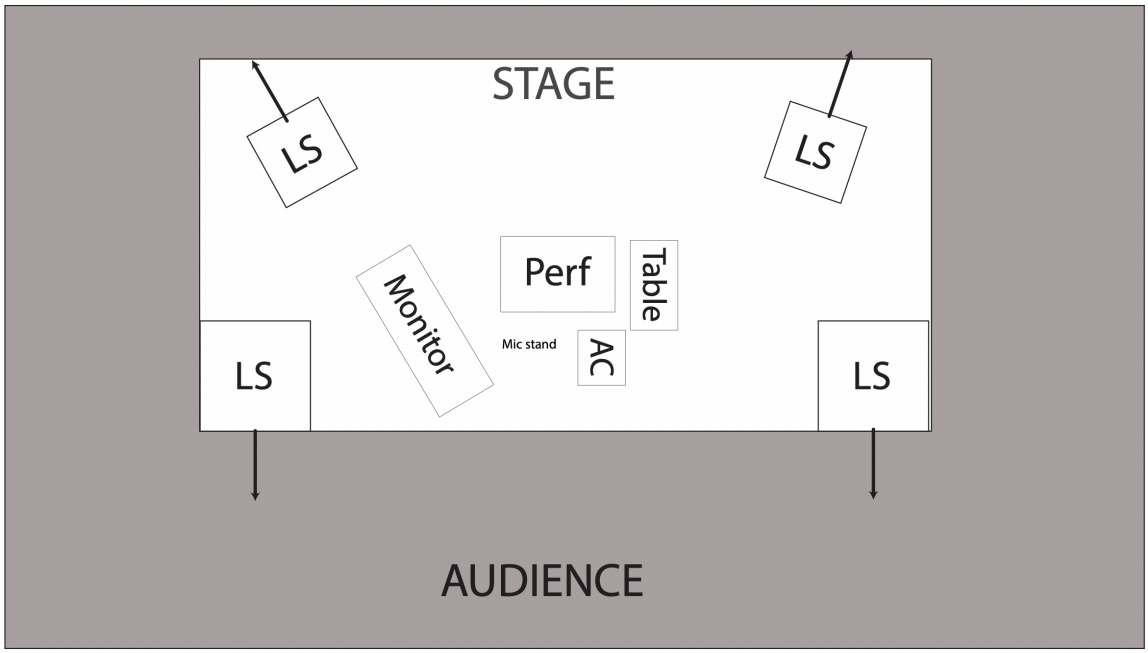

Fig. 1. Stage Plot: LS=Loudspeaker; AC=UK Socket (2 please); Perf=Chair for me + Cardboard box and bow. Table for laptop.An approx 200mm riser for the box. Mic stand with boom.

Table 1. Channel List

Output Channel	Description	Type
1	Box Mic (4060, mine)	digital / TRS
2	Computer 1 (FOH L)	digital / TRS
3	Computer 2 (FOH R)	digital / TRS
4	Computer 3 (Rear L)	digital / TRS
5	Computer 4 (Rear R)	digital / TRS
6	Computer 5 (Diffuse L)	digital / TRS
7	Computer 6 (Diffuse R)	digital / TRS

Race to the Bottom

Fig 1. shows ideal situation: six channels comprising main front-of-stage pair, two backward facing rears, and a diffuse stereo pair to provide ambience on main PA if available. This can be reduced if needed: please get in touch.

There will be two mics on stage, both provided by me. A DPA 4060 for the cardboard box, and a Earthworks SR-69 for a vocal mic. The vocal mic never gets sent to FOH.

Seven channels will come independently from stage, ideally by ADAT or MADI (analogue possible; please advise and supply a loom and DIs if so). Six channels of computer, plus dry box mic signal from DPA 4060 (supplied by me), via my soundcard (so, line level).

Monitor mix should be electronics channels (see below) collapsed to mono. Possibly a very small amount of dry signal, but unlikely. Table needs to house a 15" MBP + audio interface.

DPA will require a lot of squeaking out if near the speakers, as it sits inside the box.

4 MEDIA LINKS

- Video (performance at Huddersfield Contemporary Music Festivel, 2019): https://www.youtube.com/watch?v=zeOm9w3ZJVc

REFERENCES

[1] John Bowers and Owen Green. 2018. All the Noises: Hijacking Listening Machines for Performative Research. In *New Interfaces For Musical Expression*. Virginia Tech, 114–119.

[2] Nick Collins. 2010. Contrary Motion: An Oppositional Interactive Music System.. In *NIME*. 125–129.

[3] Agostino Di Scipio. 2003. 'Sound is the interface': from interactive to ecosystemic signal processing. *Organised Sound* 8, 3 (2003), 269–277.