SPLT/SCRN: A Game-Piece for Dueling Improvisers

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1. PROGRAM NOTES

SPLT/SCRN is a game-piece where two improvisers play against each-other using their instruments as game controllers. The piece consists of multiple randomized mini-challenges where the performers need to improvise in order to understand what musical gestures are required from them through positive feedback from the screen. The mini-games cover a range of musical affordances, giving the advantage to both instrumentalists at different times. The instrument signal is analysed in real-time using machine learning techniques through Max/MSP, and used as control data for both the progress within the game, as well as the control of the live electronics. These parameters are then sent through OSC to the game engine Unity and control the game. In addition, the hybrid system makes use of DMX-controlled lights, which are also mapped to control data and game levels. On-screen events are accentuated through lights within the physical space, merging the physical and the digital.

Fig. 1. SPLT/SCRN title screen

2. PROJECT DESCRIPTION

SPLT/SCRN is a game-piece where two improvisers play against each-other using their instruments as the game controllers. The piece consists of multiple randomized mini-challenges where the performers need to improvise in order to understand what musical gestures are required from them through positive

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feedback from the screen. The mini-games cover a range of musical affordances, giving the advantage to both instrumentalists at different times. For example, a violin player will be able to respond more effectively to pitch-based challenges, while a percussionist might fare better on loudness. This creates an interesting performance dynamic, as it gives the opportunity to sabotage each-other's play.

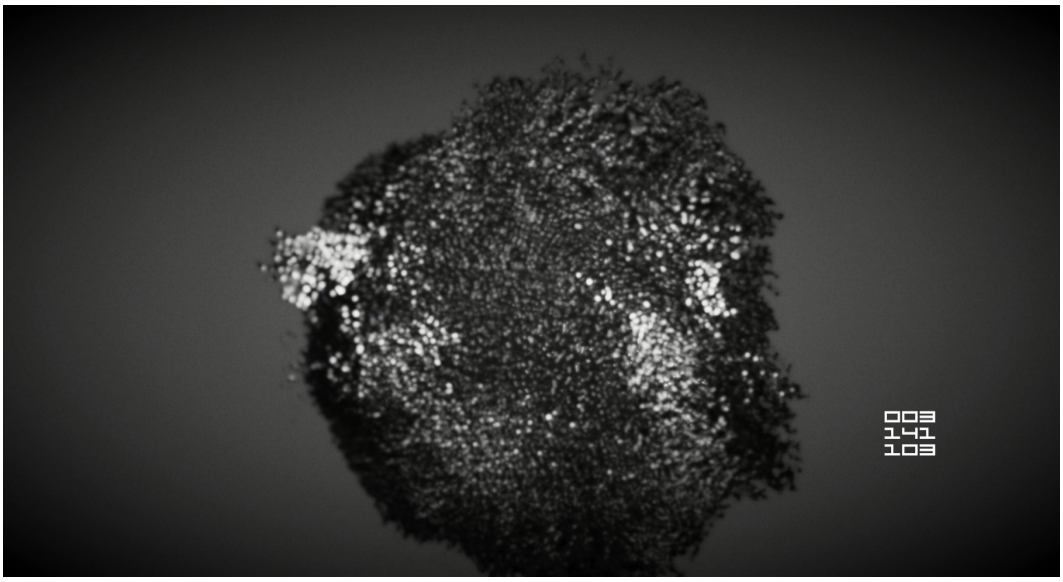

Figure 2. SPLT/SCRN Ingame Still

For example, a drummer improvising with a violinist might decide to mask the opponent's sound and thus make it impossible to complete their challenge. In parallel, the drummer tries to complete their own challenge, which might require an entirely different sonority, which might give the opportunity for the violin player to inject the desired sonic input which might quickly lead to a victory. Other challenges require endurance, for example pushing a progress bar through musical input above a certain threshold of amplitude, with inactivity causing the bar to move back to its original position. Instrumentalists will need to find the right times to rest, which can mean developing strategies that both collaborate until they are close to the end. In the case that one of them decides to stop collaborating and make a run for the finish line, if they decide to do this too early, they will have to stop again, and the more rested performer will be able to steal the victory. Mixing and randomizing such mini games creates a significant amount of musical complexity that leads to different such musical scenarios where the improvisers need to quickly decide on a strategy. The sets of mini-games are presented in split-screen format, with performers facing each-other having the projected screen on their side at 90-degrees.

On each round, each performer tries to finish their challenge first, which gives them the winning point. While the focus of the performance is clearly beating the opponent on the game, the improvisers also have to use their instruments in a way that makes sense in the context of a live improvisation with live electronics. This creates an extra dimension of friction, with the performers trying to both win the game by following on-screen prompts and competing with each-other but also do so with the most appropriate musical gesture in the context. The game in essence becomes the score of the improvisation and its purpose remains the musical outcome. In addition, with the projected screen being seen by both performers and audience, the musical decisions and live electronics become coupled to on-screen action. It becomes clear for example why the percussionist chooses to remain silent at a certain section and why the sound is processed in a certain way – many of the elements that commonly remain obscure to audiences in improvisation with live electronics settings, are here mapped to graphics and structure is given through a game engine and is transparent.

The instruments' signal is analysed in real-time using Max/MSP, and used as control data for both the progress within the game, as well as the control of the live electronics. These parameters are then sent through OSC to the game engine Unity and control the game. In addition, the hybrid system makes use of DMX-controlled lights, which are also mapped to control data and game levels. On-screen events are accentuated through lights within the physical space, helping merge with the physical and the digital. In certain challenges, the lights are the main driver of the game with the screen playing a complementary role. For these, the performers do not have to look at the screen but through the general light colour and intensity they are able to gather enough information in order to proceed.

The piece will be premiered at NIME 2023 with Dimitris Papageorgiou (Edinburgh Napier University) being the 2nd performer on the violin. It builds on previous performance practice on game pieces using instruments as game controllers, such as *Pathfinder* (Michalakos 2016), *ICARUS* (Michalakos 2019) and *Death Ground* (Michalakos, Wærstad 2019). Some of the motivations behind these works are detailed on the Organised Sound article by the composer (Michalakos 2021).

3. PERFORMANCE NOTES

Equipment to be provided by the conference:

Drums

1x snare drum
1x rack tom (preferably 12" X 10" or 12" X 12")
1x floor tom1x bass drum (preferably 18" X 14" or 18" X 16")
2x snare drum stands
3x cymbal stands
1x hi-hat stand
Hi/Hat, Crash and Ride cymbals
1x bass drum pedal
1x rug
1x drum throne (preferably one that goes high)

Other

1x speaker (Genelec 8040 or similar, to go under the floor tom)
1x stereo PA System
1x projector
Also, 1 long HDMI or VGA cable to go from the computer on the stage to the projector.

- The work will be set up by the composer/performers.

- Please note that about one and a half hour is required for the piece set up, and once set the instruments cannot move from their position.

- During the performance, no other light in the venue should be use. All illumination will come from the screen and DMX lights on the instruments.

-The piece duration is around 15 minutes but it can vary according to each performance.

4. MEDIA LINKS TO BACKGROUND WORK

Previous game-pieces:

ICARUS (2019):
https://2020.xcoax.org/chm/
Pathfinder (2016):
https://www.youtube.com/watch?v=ur2Qz-67P6A
Trrraction (2013):
https://vimeo.com/82322117

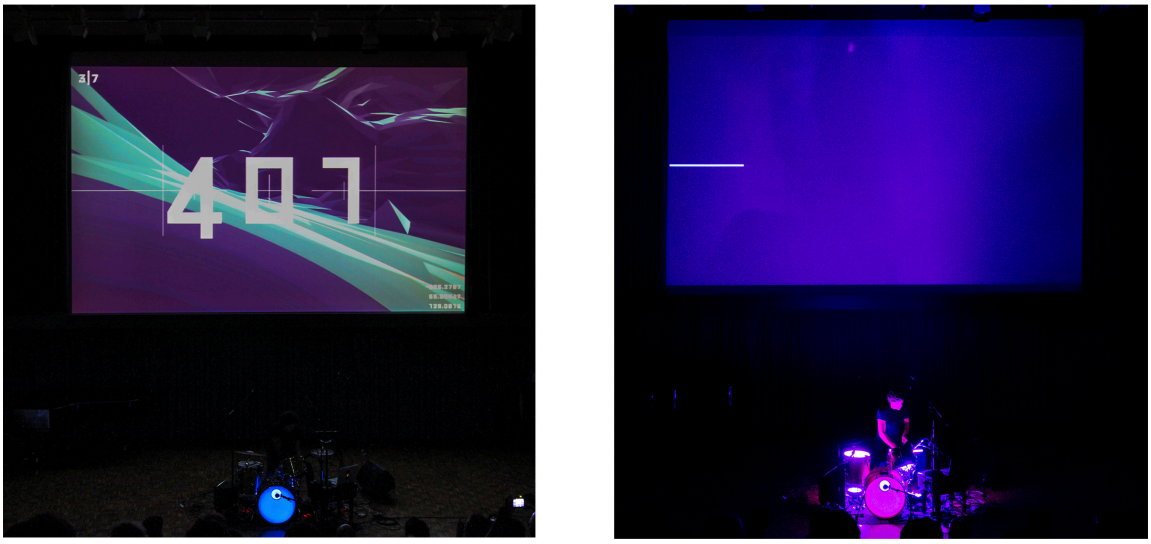

Figure 3. *Pathfinder* – NIME, Brisbane 2016

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