



Durham E-Theses

Social Systems for Improvisation in Live Computer Music

KNOTTS, MICHELLE, ANNE

How to cite:

KNOTTS, MICHELLE, ANNE (2018) *Social Systems for Improvisation in Live Computer Music*, Durham theses, Durham University. Available at Durham E-Theses Online: <http://etheses.dur.ac.uk/13151/>

Use policy

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a [link](#) is made to the metadata record in Durham E-Theses
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Please consult the [full Durham E-Theses policy](#) for further details.

Shelly Knotts

Dissonant States

(2014)

For Flute, Bass Clarinet, Piano and Electronics

Duration: ca. 15 minutes

Dissonant States

(2014)

For Flute, Bass Clarinet, Piano and Electronics

Duration: ca. 15 minutes

Materials and System Requirements

Performance Materials

C Flute

Bass Clarinet

Piano

Electronics

- 4 Laptops

- Network Router

- Stereo PA

- Projector

- Connecting audio and video cables to PA and Projector from off-stage laptop.

- Connecting network cables to router from all laptops.

System Requirements

Off-stage laptop:

Latest version of SuperCollider running on any operating system

SuperCollider download link: <http://supercollider.sourceforge.net/downloads/>

SuperCollider's Dissonance Lib Quark must be installed. Information on installing Quarks can be found here: <http://quarks.sourceforge.net/>. Or run the following code line `Quarks.install("DissonanceLib")`.

BenoitLib must be downloaded from the following location: <https://github.com/cappelnord/BenoitLib> and added to your SuperCollider 'Extensions' folder.

All laptops:

InScore v1.21.

InScore download link: <http://inscore.sourceforge.net/>

Files

The files required to run the piece are available via email to knotts.shelly@gmail.com. Instructions on how to run the files are contained within the files.

Performance Directions

Directions for flute, bass clarinet and piano

The piece consists of a live generated score that will appear on the laptop screens during the performance. The score consists of a set of pitches representing each sound scene (of which there are 164) with directions for performance.

Three modes of performance appear in the piece: FREE, PARTLY FREE and NOT FREE.

FREE: Improvise on the pitch or pitches on the score. Additional performance directions may be provided but these are to be followed at the performer's discretion.

PARTLY FREE: Follow directions provided on the score. Where a performance direction is absent from the score you may choose your own.

NOT FREE: Follow the directions on the score exactly. Play the pitch or chord only once during the section adhering completely to any additional performance direction.

Visuals

The main score pages from the Off-stage Laptop may optionally be projected for the audience.

Stage Layout

Audio routing:

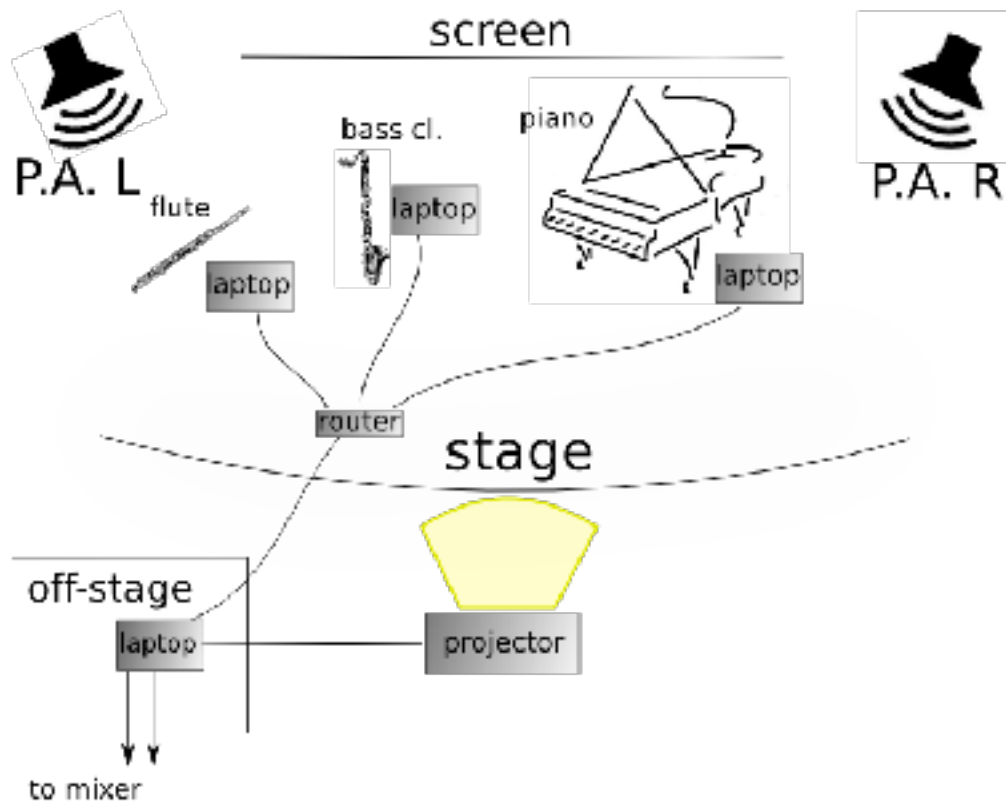
Stereo audio output from off-stage laptop only
off-stage laptop Channel 1 -> P.A. L
off-stage laptop Channel 2 -> P.A. R

Video routing:

Video output from off-stage laptop -> Projector input.

Network routing:

Ethernet connection from all laptops to router



Programme Note

Dissonant States (2014) is a sonification of collated data* relating to democracy in 164 world states. The data is used to generate a live score for the performing musicians and an accompanying electronics part.

The sonification involves using a generative process to produce a pitch set relating the data for each of the 164 states along with accompanying directions for the performers. The performers improvise around the pitch sets and directions with varying levels of freedom - depending on the level of freedom in the state whose pitch set they are performing at that time. An accompanying electronics part consists of granulated sine tones of the current pitch set serves as a static backdrop to the players' improvisations - a reminder of ever present governmental structures, even in the most democratic states.

*sources include Freedom House, Economist Intelligence Unit and the International Institute for Democracy and Electoral Assistance.

Score Examples

year in which country had women's suffrage

Flute:

country whose data is represented

whole chord for reference

chord no x/164

Norway 1913 FREE

tranquillo P
meno mosso
legato
allargando

time til next: 10

playing mode

playing

time until next chord

pitches within instrument range

Bass Clarinet

Norway 1913 FREE

tranquillo P
meno mosso
legato
allargando

time til next: 10

Piano:

Norway 1913 FREE

tranquillo P
meno mosso
legato
allargando

time til next: 10

ITL/score

Togo 1945 **PARTLY FREE**

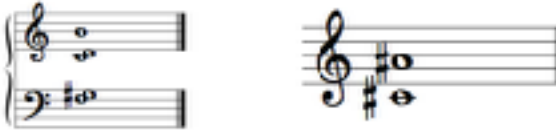


resto	<i>f</i>
rubato	-
vibrato	-
marcato	.

62/164 time til next: 0.7

ITL/score

North Korea 1946 **NOT FREE**



risolto	<i>f</i>
calando	Λ
secco	Λ
crescendo	‡

71/164 time til next: 0.9