On- and off-screen: presentation and notation in interactive electronic music

Pete Furniss
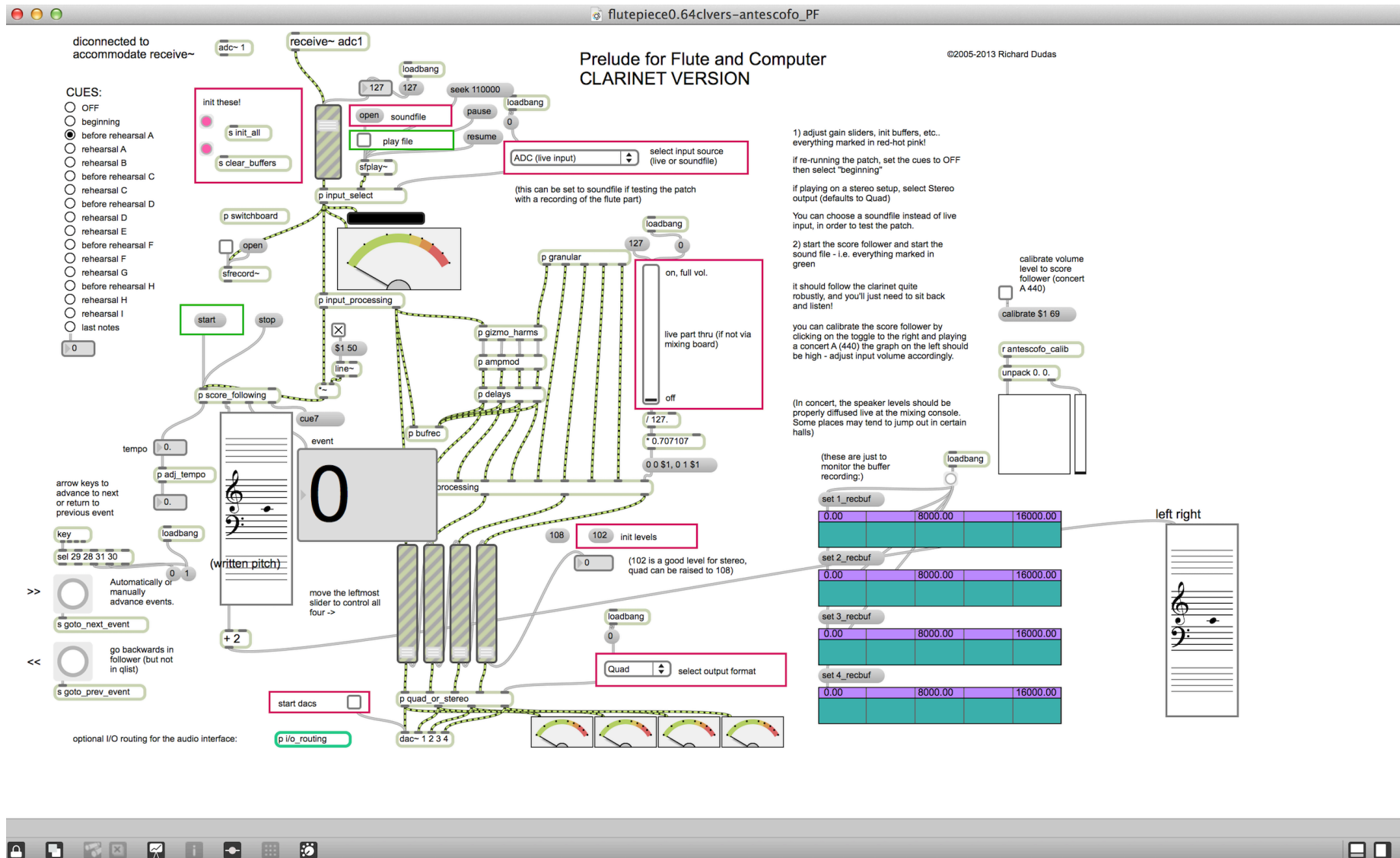
PhD candidate

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on paper: personalisation / managing attention

resizing, reformatting (landscape/portrait), pencil markings, text, graphics (timing/dynamics), colour highlights, renotation, revision (pencil/reprinting)

original composer-/technician-oriented GUI

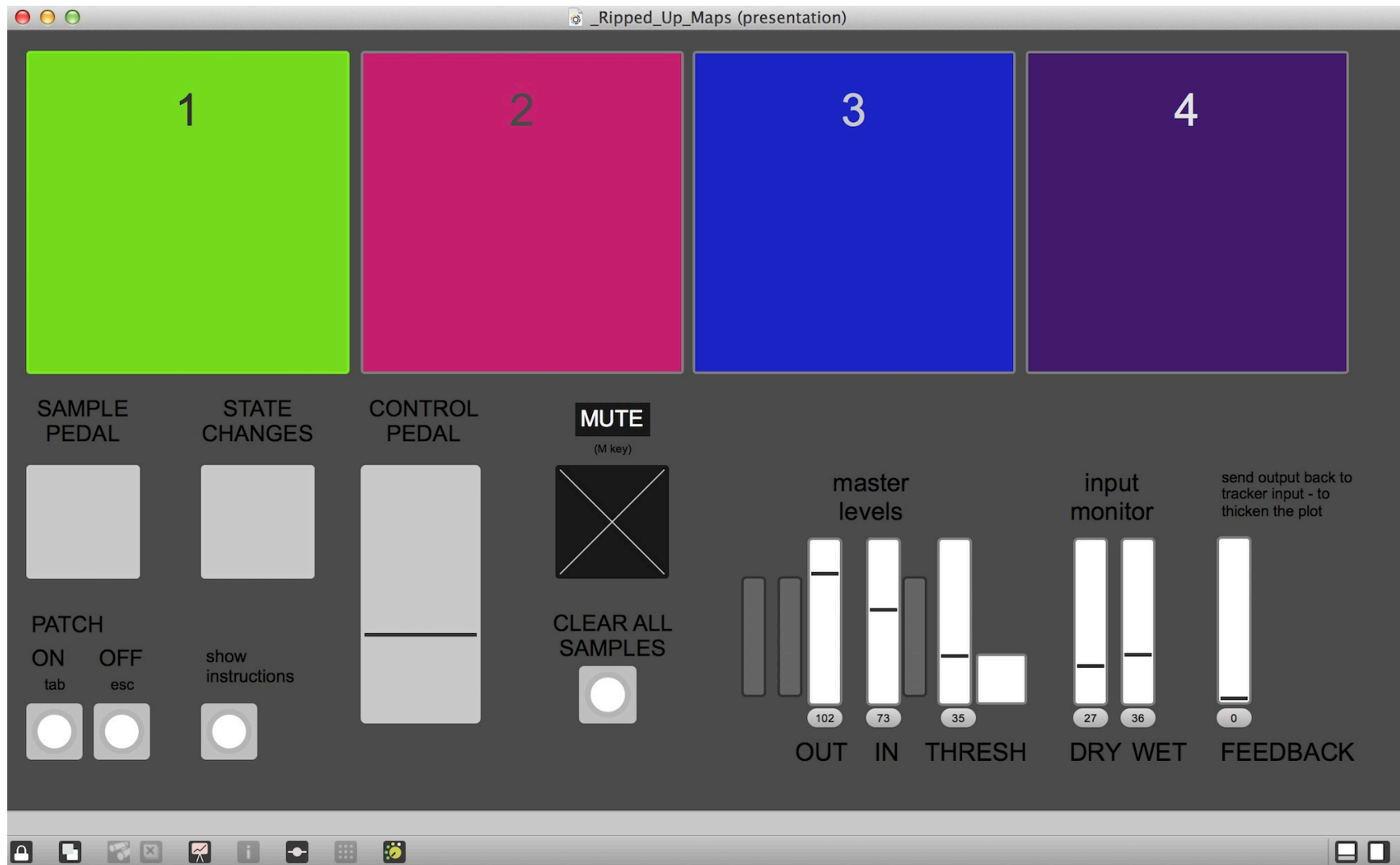# Andrew May: *Ripped Up Maps* (1998-2011)

improvisation - for any instrument

Adaptations

- removal of distractions
- enlarging
- colouring
- layout
- background

Further suggestions

- investigate colour influence and optimisation
- Pcolours should match in both instructions and main patch
- iPad mirroring
- multiple presentation modes in Max/MSP
- move towards memorising

final version used (work in progress)

notational considerations:
- composer-oriented interface
- managing trust and attention
- entry-level usability

flutepiece0.64clvers-antescofo_PF

diconnected to
accommodate receive~

adc~ 1

receive~ adc1

loadbang

127   127

Prelude for Flute and Computer
CLARINET VERSION

©2005-2013 Richard Dudas

CUES:
- ○ OFF
- ○ beginning
- ⦿ before rehearsal A
- ○ rehearsal A
- ○ before rehearsal B
- ○ rehearsal B
- ○ before rehearsal C
- ○ rehearsal C
- ○ before rehearsal D
- ○ rehearsal D
- ○ rehearsal E
- ○ before rehearsal F
- ○ rehearsal F
- ○ rehearsal G
- ○ before rehearsal H
- ○ rehearsal H
- ○ rehearsal I
- ○ last notes

0

init these!

s init_all

s clear_buffers

seek 110000

open   soundfile

pause

resume

loadbang

0

play file

sfplay~

p input_select

ADC (live input)

select input source
(live or soundfile)

(this can be set to soundfile if testing the patch
with a recording of the flute part)

p switchboard

open

sfrecord~

p input_processing

p granular

loadbang

127   0

on, full vol.

live part thru (if not via
mixing board)

off

p gizmo_harms

p ampmod

p delays

p bufrec

/ 127.

* 0.707107

0 0 $1, 0 1 $1

start   stop

⊠

$1 50

line~

~

p score_following

cue7

event

tempo   0.

p adj_tempo

0.

(written pitch)

+ 2

0

arrow keys to
advance to next
or return to
previous event

key

loadbang

sel 29 28 31 30

0   1

>>   Automatically or
      manually
      advance events.

s goto_next_event

<<   go backwards in
      follower (but not
      in qlist)

s goto_prev_event

1) adjust gain sliders, init buffers, etc..
everything marked in red-hot pink!

if re-running the patch, set the cues to OFF
then select "beginning"

if playing on a stereo setup, select Stereo
output (defaults to Quad)

You can choose a soundfile instead of live
input, in order to test the patch.

2) start the score follower and start the
sound file - i.e. everything marked in
green

it should follow the clarinet quite
robustly, and you'll just need to sit back
and listen!

you can calibrate the score follower by
clicking on the toggle to the right and playing
a concert A (440) the graph on the left should
be high - adjust input volume accordingly.

(In concert, the speaker levels should be
properly diffused live at the mixing console.
Some places may tend to jump out in certain
halls)

calibrate volume
level to score
follower (concert
A 440)

calibrate $1 69

r antescofo_calib

unpack 0. 0.

108   102   init levels

0

(102 is a good level for stereo,
quad can be raised to 108)

loadbang

0

Quad   select output format

move the leftmost
slider to control all
four ->

start dacs

optional I/O routing for the audio interface:

p i/o_routing

p quad_or_stereo

dac~ 1 2 3 4

processing

(these are just to
monitor the buffer
recording:)

loadbang

set 1_recbuf

0.00   8000.00   16000.00

set 2_recbuf

0.00   8000.00   16000.00

set 3_recbuf

0.00   8000.00   16000.00

set 4_recbuf

0.00   8000.00   16000.00

left right

Prelude for Flute and Computer
CLARINET VERSION

©2005-2013 Richard Dudas

s init_all

s clear_buffers

CUES:

start

open soundfile

play file

pause

resume

0

- OFF
- beginning
- before rehearsal A
- rehearsal A
- rehearsal B
- before rehearsal C
- rehearsal C
- before rehearsal D
- rehearsal D
- rehearsal E
- before rehearsal F
- rehearsal F
- rehearsal G
- before rehearsal H
- rehearsal H
- rehearsal I
- last notes

0

<<   >>

(written pitch)

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you can calibrate the score follower by
clicking on the toggle to the right and playing
a concert A (440) the graph on the left should
be high - adjust input volume accordingly.

live part thru (if not via
mixing board)

on, full vol.

off

optional I/O routing for the audio interface: p i/o_routing

ADC (live input)   select input source
(live or soundfile)

(this can be set to soundfile if testing the patch
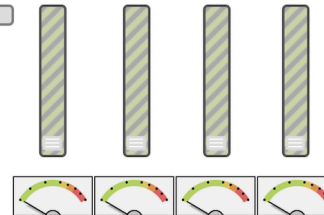with a recording of the flute part)

start dacs

Quad   select output format

102 init levels 108

(In concert, the speaker levels should be
properly diffused live at the mixing console.
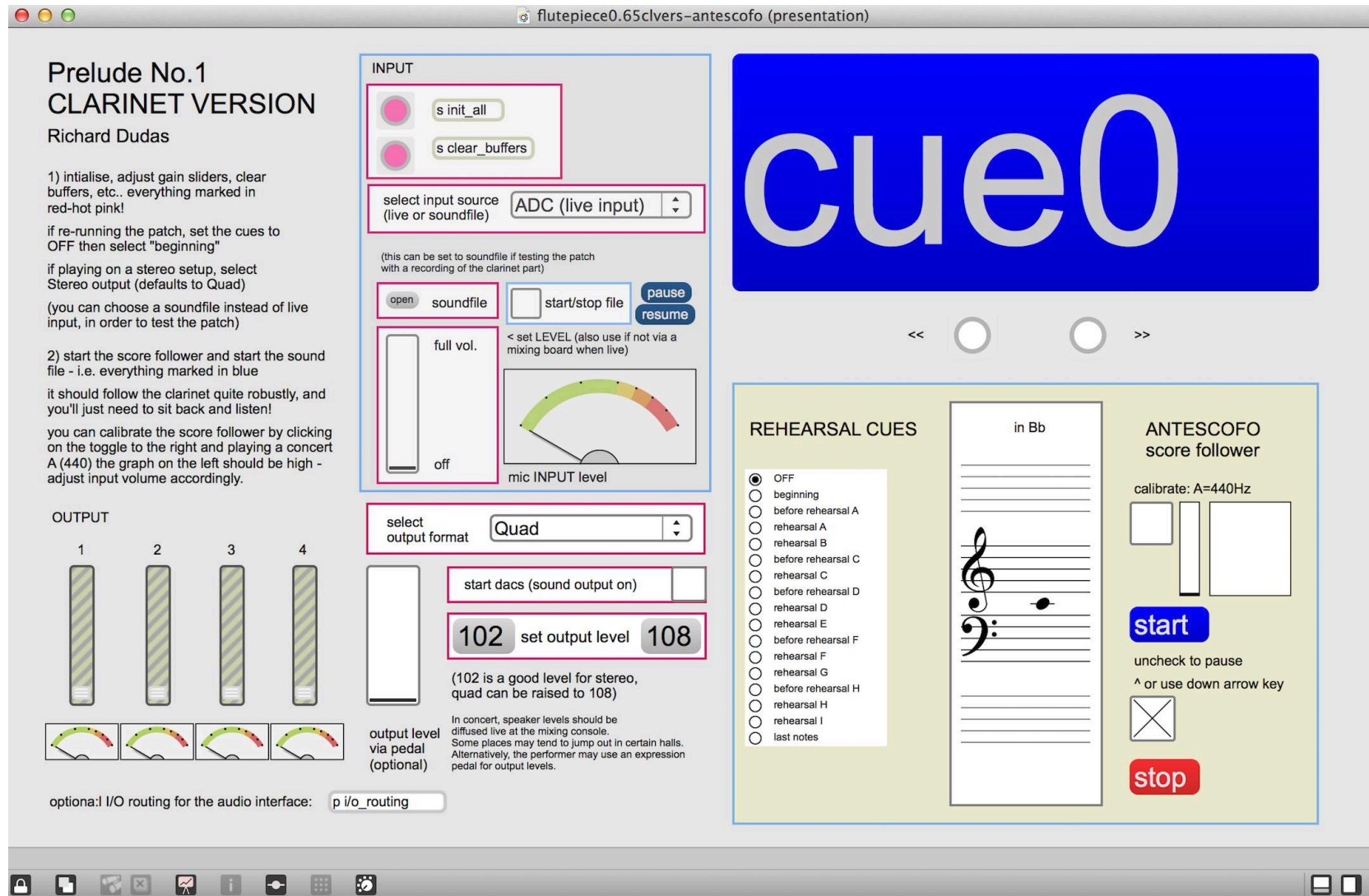Some places may tend to jump out in certain
halls)

(102 is a good level for stereo,
quad can be raised to 108)

calibrate volume
level to score
follower (concert
A 440)

0

Patching Mode

Switch between presentation and patching modes. Presentation mode is an easier way to create a user interface for your patcher

April 2014 GUI
(work in progress)

Richard Dudas: *Prelude no. 1*
original (flute) 2005
clarinet transcription 2008, revised 2014

Adaptations

- removal of distractions
- Cue moving
- enlarging
- Colouring
- layout
- adjustmentof score-follower for Bb instrument
- MIDI pedal output control
- background

Further suggestions

- improve cue list for rehearsal
- Read in treble clef only
- add further pedal control for input to the software and to skip back and forth between cues
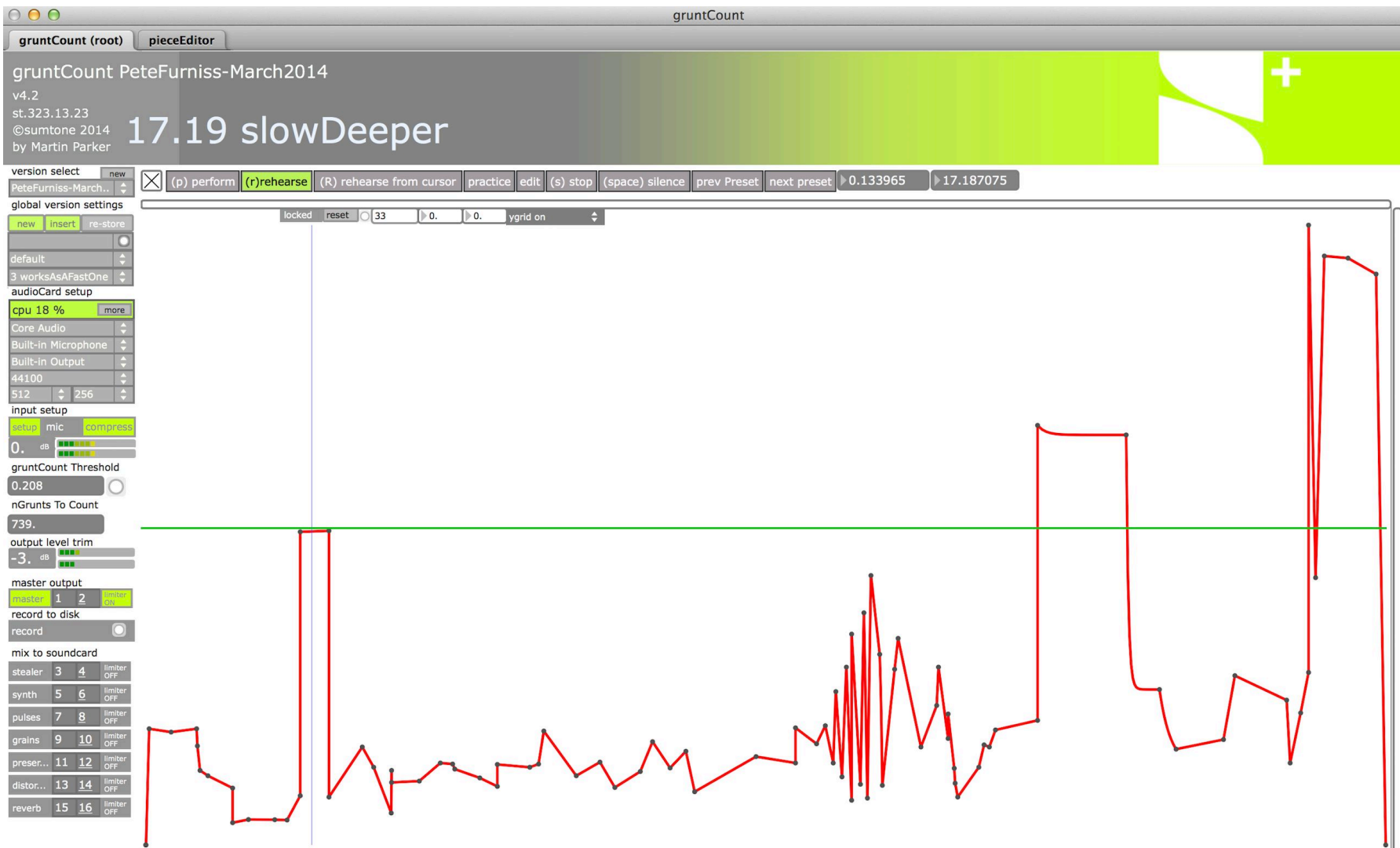- darken background colour for anti-glare

As before:
- investigate colour influence and optimisation
- iPad mirroring
- multiple presentation modes in Max/MSP
- move towards memorising

Martin Parker: *gruntCount*
for improvising musician and computer 2011-

Features

- bespoke settings

- graph notation: presets/timeline

- nuanced calibration

- ease of set up

- version selection

- audio settings

- number of 'grunts' (approximate length/ intensity of performance)

- MIDI pedal navigation and output control via separate remote app over network

- adaptability of use: composition (piece) or system/instrument

gruntCount

gruntCount (root) | pieceEditor

gruntCount PeteFurniss-March2014
v4.2
st.323.13.23
©sumtone 2014
by Martin Parker

17.19 slowDeeper

version select   new
PeteFurniss-March..

[X] | (p) perform | (r)rehearse | (R) rehearse from cursor | practice | edit | (s) stop | (space) silence | prev Preset | next preset | ▶ 0.133965 | ▶ 17.187075

global version settings
new | insert | re-store

default
3 worksAsAFastOne

audioCard setup
cpu 18 %   more
Core Audio
Built-in Microphone
Built-in Output
44100
512   256

input setup
setup | mic | compress
0.   dB

gruntCount Threshold
0.208

nGrunts To Count
739.

output level trim
-3.   dB

master output
master | 1 | 2 | limiter ON

record to disk
record

mix to soundcard
stealer   3   4   limiter OFF
synth   5   6   limiter OFF
pulses   7   8   limiter OFF
grains   9   10   limiter OFF
preser...   11   12   limiter OFF
distor...   13   14   limiter OFF
reverb   15   16   limiter OFF

locked | reset | ○ | 33 | 0. | 0. | ygrid on

gruntCount PeteFurniss-March2014

v4.2
st.323.13.23
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by Martin Parker

9.00 deep_Space_02

version select | new
PeteFurniss-March..

global version settings

new | insert | re-store

default
4 spacedOut

audioCard setup

cpu 71 % | more
Core Audio
Built-in Microphone
Built-in Output
44100
512 | 256

input setup

setup | mic | compress
0. dB

gruntCount Threshold
0.25

nGrunts To Count
975.

output level trim
0. dB

master output
master | 1 | 2 | limiter OFF

record to disk
record

mix to soundcard

stealer | 3 | 4 | limiter OFF
synth | 5 | 6 | limiter OFF
pulses | 7 | 8 | limiter OFF
grains | 9 | 10 | limiter OFF
preser... | 11 | 12 | limiter OFF
distor... | 13 | 14 | limiter OFF
reverb | 15 | 16 | limiter OFF

(p) perform | (r)rehearse | (R) rehearse from cursor | practice | edit | (s) stop | (space) silence | prev Preset | next preset | 0. | 1.

locked | reset | 33 | 0. | 0. | ygrid on
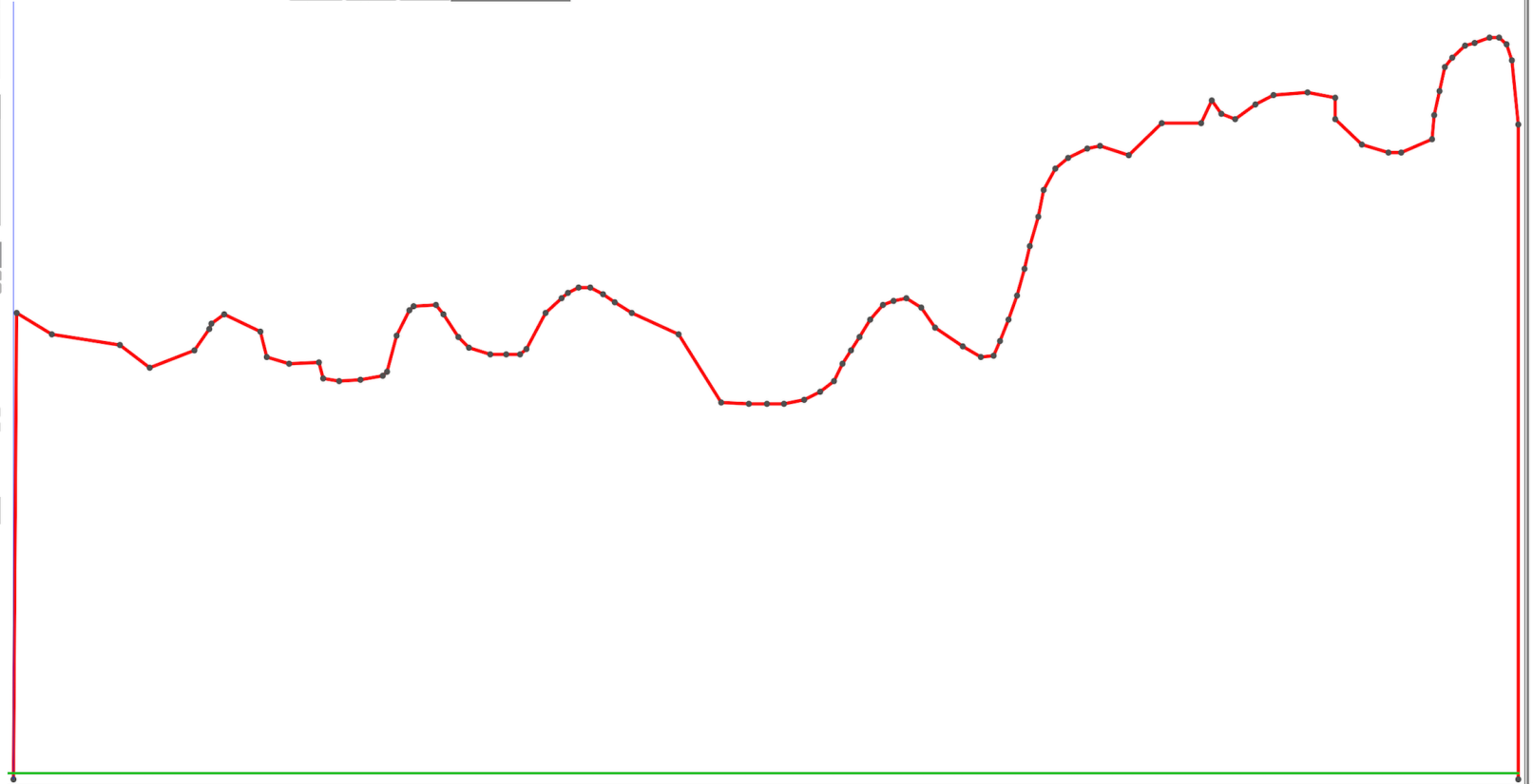
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- graph notation: presets/timeline
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- ease of set up
- version selection
- audio settings
- number of 'grunts' (approximate length/ intensity of performance)
- MIDI pedal navigation and output control via separate remote app over network
- adaptability of use: composition (piece) or system/instrument

Further suggestions

- set up 'performance view' mode
- darken background colour for anti-glare

As before:
- investigate colour influence and optimisation
- iPad mirroring
- multiple presentation modes in Max/MSP
- move towards memorising

Pete Furniss

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