Live Performance with Live Scores

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This presentation is available here: **http://rhoadley.net/presentations/psn2016.pdf**
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PSN 2013: Three Streams

with Cheryl Frances-Hoad

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Performance studies?

- How do performers interact with notation?
- How do performers interact with *live* notation?
- How do such performances relate to interpretation and improvisation?
- How much performance is involved in generating these notations?

Semaphore 2014

with Jane Turner, Phil Terry and Turning Worlds Dance

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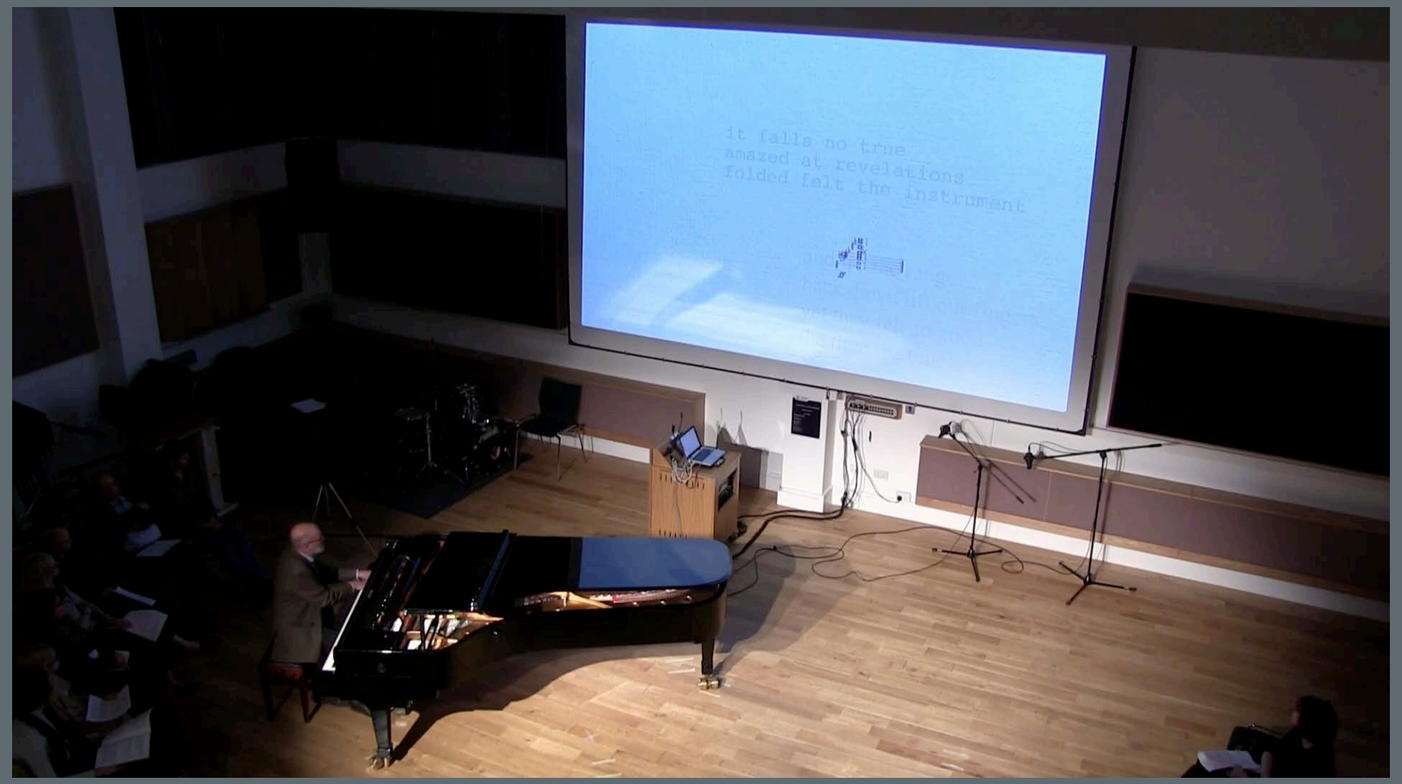
How To Play the Piano 2015



with Philip Mead

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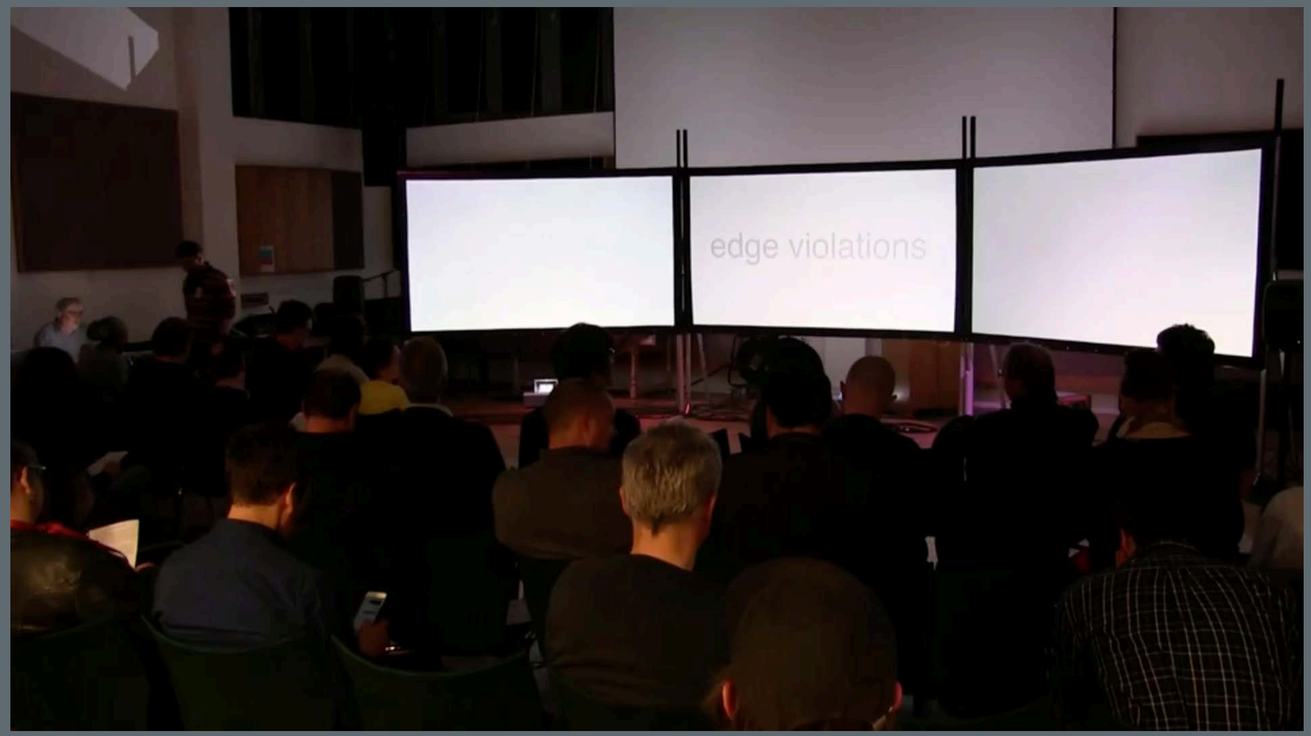
Edge Violations 2016



with Ian Mitchell
(see 8:00 in particular)

Notation, improvisation, performance, transmission

- Originally notated music (e.g. Gamelan, Bach, Guqin, eventually having legal force from 19th century)
- Notated in order to enable synchronisation (early)
- Notated in order to explore the possibilities of notation (and protect copyright) (later)
- Orally/aurally transmitted but primarily unimprovised music (e.g. pop, rock, some jazz)
- Orally/aurally transmitted but primarily improvised music (e.g. some jazz)
- Transcribed music (originally unnotated, e.g. ABBA 'scores')
- Improvised (and mainly not transmitted) music ('free' improvisation)
- These distinctions also apply in different ways to other notations, such as text and speech and dance.

Techniques

Experience has confirmed that there are no substantive (although there are stylistic) issues surrounding the use of non-fixed, generative live notation. After decades of experience performers are well-used to creating concert standard performances with minimal rehearsal. The techniques used in these compositions ensure that the material is sufficiently familiar (see demo).

Performer portrait: shouldn't it be fixed?

ICMC reviewer on *Calder's Violin* (my emphasis):

A rehearsal score is needed. True to the Calder reference in the title, the work contains pre-composed modules that come back at different times. The performer needs to have all of those modules available for rehearsal purposes in order to be ready to perform the modules instantly once they appear on the computer … , **the grammar with regard to determined and random elements also needs to be explained to the performer**. If the musical content of some of the modules is being generated on the fly, then that creates a more immediate performance issue difficult to overcome. **This relegates the performer in those instances to being a mere sight-reader (or expert improviser). I have no evidence that this is indeed the case, but if it were, I'd strongly recommend that pre-composed modules be substituted in their place.**

In the rehearsal video that was provided the violinist seemed to do a good job making convincing gestures, but **not always at playing what was on the computer screen**. The way the notes kept adding themselves to some of the modules did not help. The performer needs to be able to scan the entire module and the module needs to remain fixed on the screen once presented. Also, at the most frantic moments the modules flashed by too fast for a performer, even one who had memorized every module, to be able to perform them all correctly. As a result the performer in the video dropped many of the modules and many more were not played correctly or completely.

It's important to realise that the 'amount' of 'fixed-ness' is completely flexible. It's perfectly possible to score an entirely fixed piece and simply display it (one of the reasons the software exists). For me, at least, however, this is uninteresting and misses the point (however see demo).

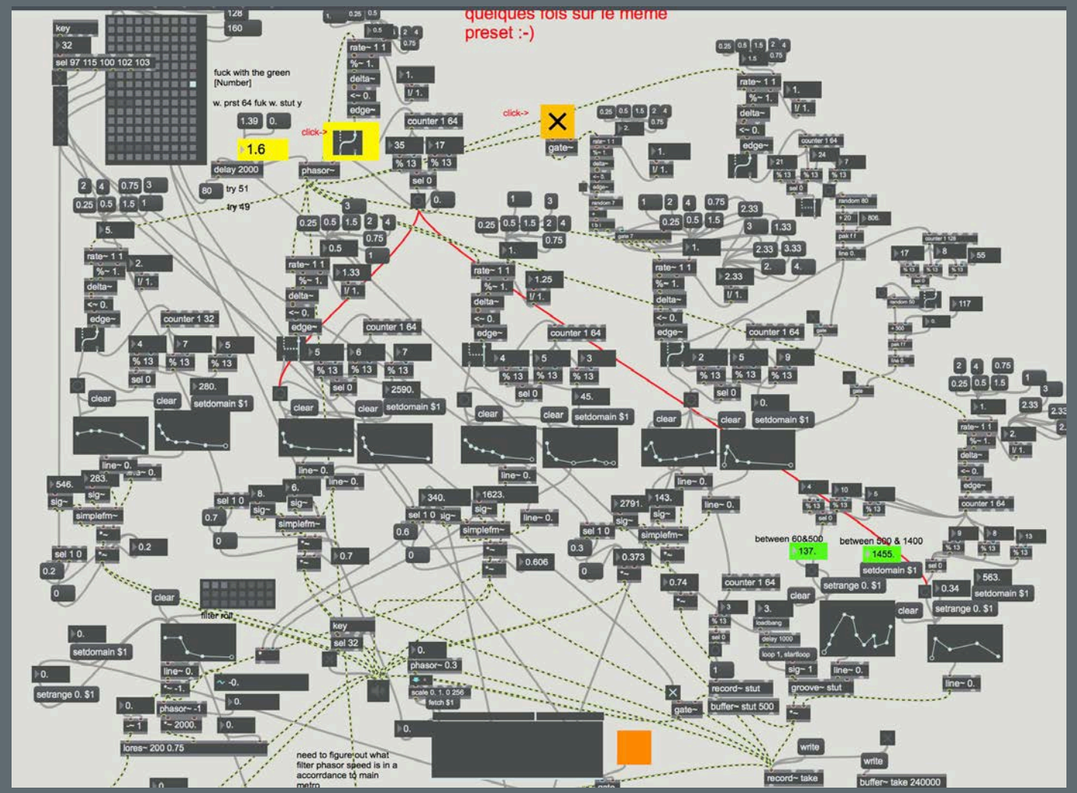
Performing with technology (mixing/confusing instrumental performance with notation)

Physical interface (mechanical, electronic, digital)

Press play (perhaps with diffusion, perhaps using physical interface)

Digital audio workstation/audio software

Custom interfaces



https://cycling74.com/forums/topic/great-features-in-maxmsp-7-what-a-pity-about-the-interface4/

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Code

```
(
~lineFunc = ({ arg lineNum=80, notes=[[50, 65], [80, 90]], vels=[10, 60];
var scaleSpec = ControlSpec(80, 1, \lin, 0.01, 0.25);
var numScale;

numScale = scaleSpec.unmap(lineNum);

~edge[0].scale("edgeWin", "score", 1, numScale);

~edge[0].colour("edgeWin", "score", 1, [0,0,0,255]);
~edge[0].origin("edgeWin", "score", 1, -1, 0);
~edge[0].x("edgeWin", "score", 1, -1.5); // how far left to start the score
~edge[0].y("edgeWin", "score", 1, 0); // how far up to start the score

~multiPattDigiTask.stop; ~multiPattDigiTask.reset;
~multiPattDigiLines.value("~edge[0]", "edgeWin", 1, 1, false, lineNum, false, loopWait:0.03,
loopWaitRand:false, pitchInc: [1], pitchIncRand: false, loNote: rrand(notes[0][0], notes[0][1]),
hiNote:rrand(notes[1][0], notes[1][1]), loVel:vels[0], hiVel:vels[1], displayWhen:1, delay: 0.0, display: true,
play: true, itemNum: 1);
});
);

~lineFunc.value(14, [[10, 20], [80,90]], [40, 50]);
```

Artistic statement:

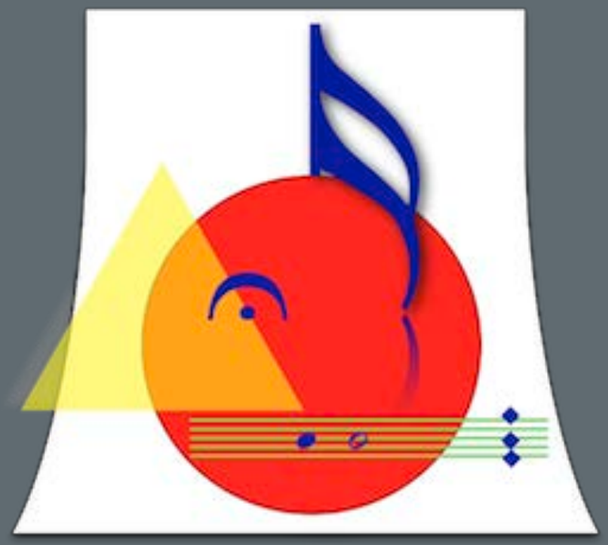
For what it's worth, I think that computers are not, and can **never** be, **the same as** 'acoustic' musical instruments, and that code can **never** be **the same as** musical notation (of any sort). However, computers and the software they run can and will provide a fascinating, expressive and possibly dominant role over time.

The tools

- provide a structure for the **generation** of music and/or common practice **notation** as well as text and **graphical** elements (including raster and vector images).
- facilitate communication between **SuperCollider** and **INScore**
- offer the beginnings of a more standard interface for **physical mapping** and **live notation**

which are located…

- https://github.com/supercollider/supercollider
- http://inscore.sourceforge.net/
- http://rhoadley.net/inscore (on request)



Demonstration

Any questions?

contact:
research@rhoadley.net

this presentation is available at
http://rhoadley.net/presentations
as **psn2016.pdf**

video recordings of past performances are at **rhoadley.net/youtube** and **rhoadley.net/vimeo**