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Why?
[]

Complex block containing images and text, possibly a slide or document snippet.

Why?
[]

Complex block with a grid of images and text, possibly a 'Performance' section.

Complex block with a musical staff and notes, titled 'Demonstration'.

Open Structure
[]

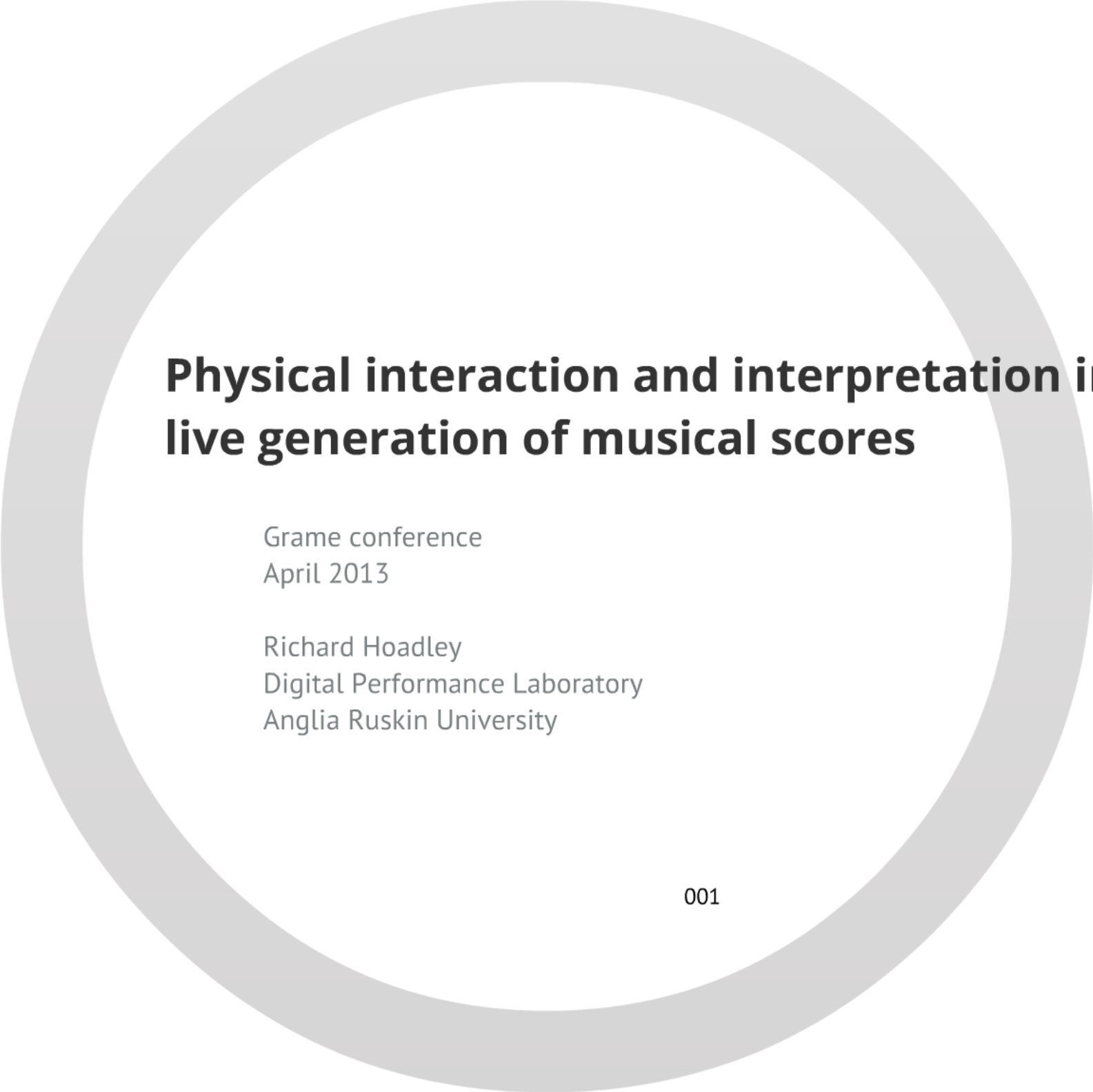
Complex block with text and a small image, titled 'Open Space'.

Complex block with a grid of small images and text.

[]

Complex block with text and a list, titled 'Next Steps'.

Thank you
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Physical interaction and interpretation in the live generation of musical scores

Game conference
April 2013

Richard Hoadley
Digital Performance Laboratory
Anglia Ruskin University

001

Contact

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this presentation is available at:
<http://rheadley.net/presentations>

Three Streams

~ automated composition

~ physical computing

~ music notation

Why?

~ to develop and exploit an understanding of what happens when we compose and perform, including the interaction between composer and performer via notation

~ notation is in particular a highly complex technical, creative and social phenomenon

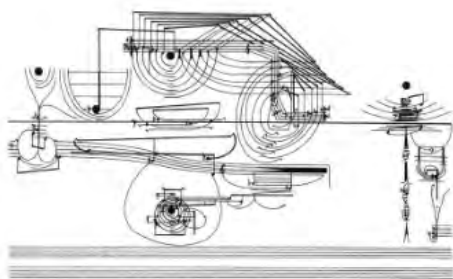
Scores, notation, art



Richard Hoadley, Four Archetypes, 1994



Wassily Kandinsky, Komposition 8 1923



Cornelius Cardew, Treatise, 1968

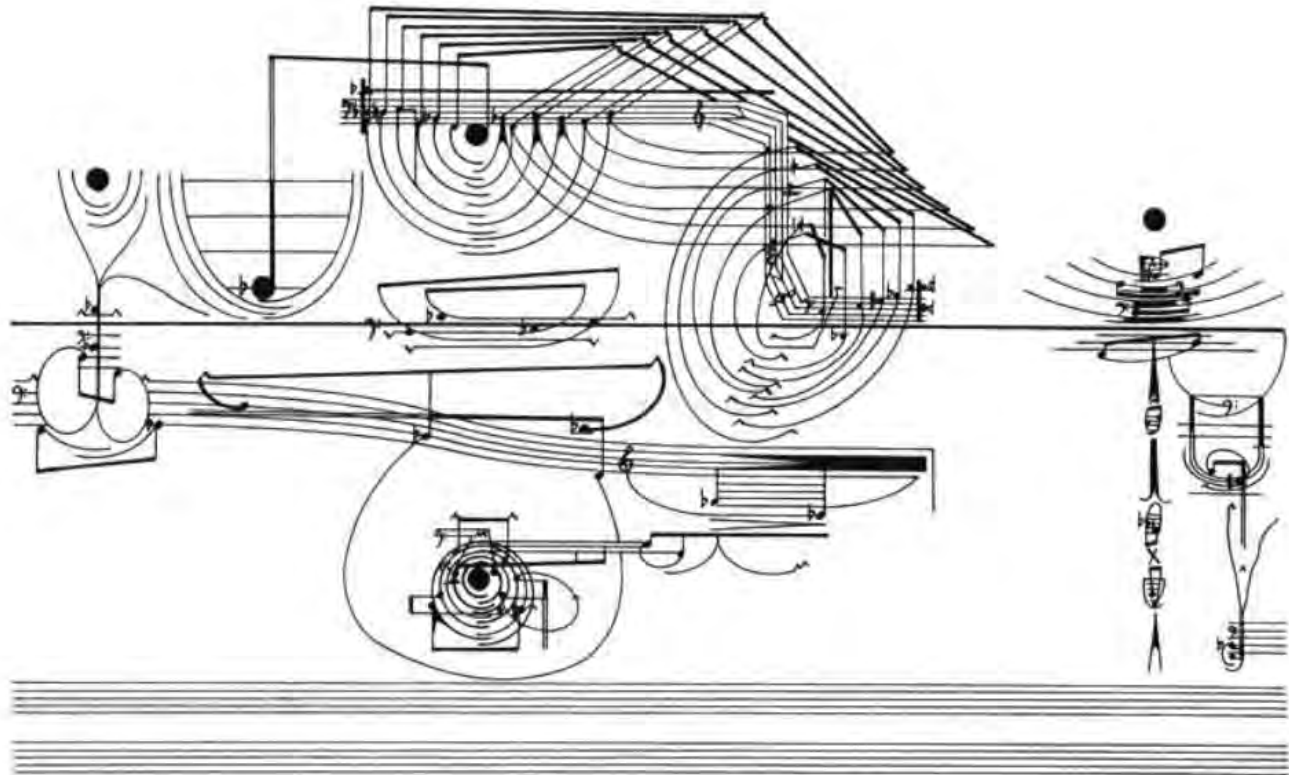
$\text{♩} = 110$

Handwritten musical score for "Four Archetypes" by Richard Hoadley, 1994. The score is written on three systems of staves. The first system has three staves (1, 2, 3) with dynamics *mf*, *p*, and *p sotto*. The second system has three empty staves. The third system has three staves (1, 2, 3) with dynamics *mf sopra*, *p sotto*, and *p sotto*. The score includes various musical notations such as notes, rests, and dynamic markings.

Richard Hoadley, Four Archetypes, 1994



Wassily Kandinsky, Komposition 8 1923



Why?

~ my interest in physical computing is related to an interest in how music performance works from a somatic perspective (it also refines and extends the creative imagination)

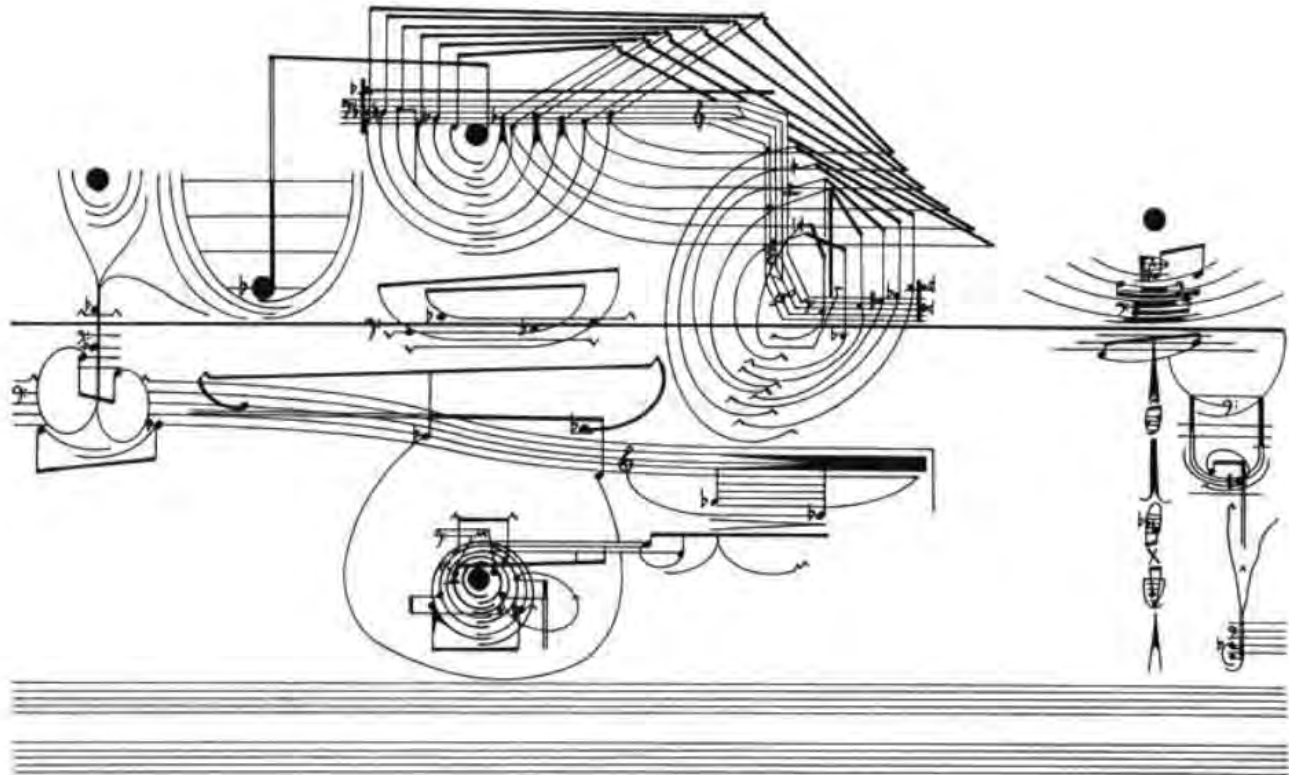
Other issues

~ NOT (yet) the computer as agent (machine learning)

~ notation: "a way of making people move, of getting them to be engaged in musical activity"
(Tilbury/Cardew)



~ complexity of score, sight-reading (*prima vista*) and improvisation



Cornelius Cardew, Treatise, 1968



YouTube

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Brian Ferneyhough, String Quartet No 2 (1980)

36.

AUTUMN LEAVES - JIMMY HEWES

(1932)

Chords: A-7, D7, Gmaj7, Cmaj7, F#-7 b5, B7, E-, F#-7 b5, B7 b9, E-, A-7, D7, Gmaj7, F#-7 b5, B7 b9, E-7, E7, D-7, D7, Cmaj7, B7 b9, E-, FINE

BILL EVANS - "PATIENT IN JAZZ"



Performances



Gaggle, HCI conference, 2009, Cambridge UK



YouTube

Museums, Interfaces, Spaces and Technologies Conference, 2010, Cambridge UK



YouTube

Triggered, Kings Place, London, 2011



YouTube

7281919



Calder's Violin, London, 2012



The Fluxus Tree, Leeds, Coventry , London, 2012-13



The Fluxus Tree @ Phase Transitions, Cambridge, 2012



Three Streams, Cambridge UK, 2013



YouTube

Next Steps

Physical

~ the interplay between 'gesture' and 'touch'. How and why do we need our hands to control some things in detail? [[video =>](#)]



~ finger, hand and gesture recognition

~ some gestures are full of meaning, others should be ignored. How to tell the difference?

Musical

~ multiple parts all generated live: 'group' structured improvisation

~ rhythmic synchronisation across parts and groups

~ dynamics, phrasing, annotation: more use of augmented score features and experiments in how they can be used

~ investigating the balance between composition, performance and improvisation

Technical etc.

~ machine listening

~ live coding of 'real' performance

~ therapeutic uses (gismos)

~ pedagogical uses, maybe particularly support for sight-reading and improvisation



 XboxViewTV
Best Xbox & YouTube and PlayStation

YouTube

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Thankyou

~ any questions?

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