Non-Visual Scores
for
Ensemble Comprovisation

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NIME – Conference 2014:
Interactive Music Notation
and Representation Workshop
Goldsmith's, University of London
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comprovisation

creation in time-based arts

predicated on

an aesthetically relevant

interlocking of

context-independent

and

contingent performance elements

comprovisation

context-independent = SCORE

any instruction or device or rule etc.
that stabilizes
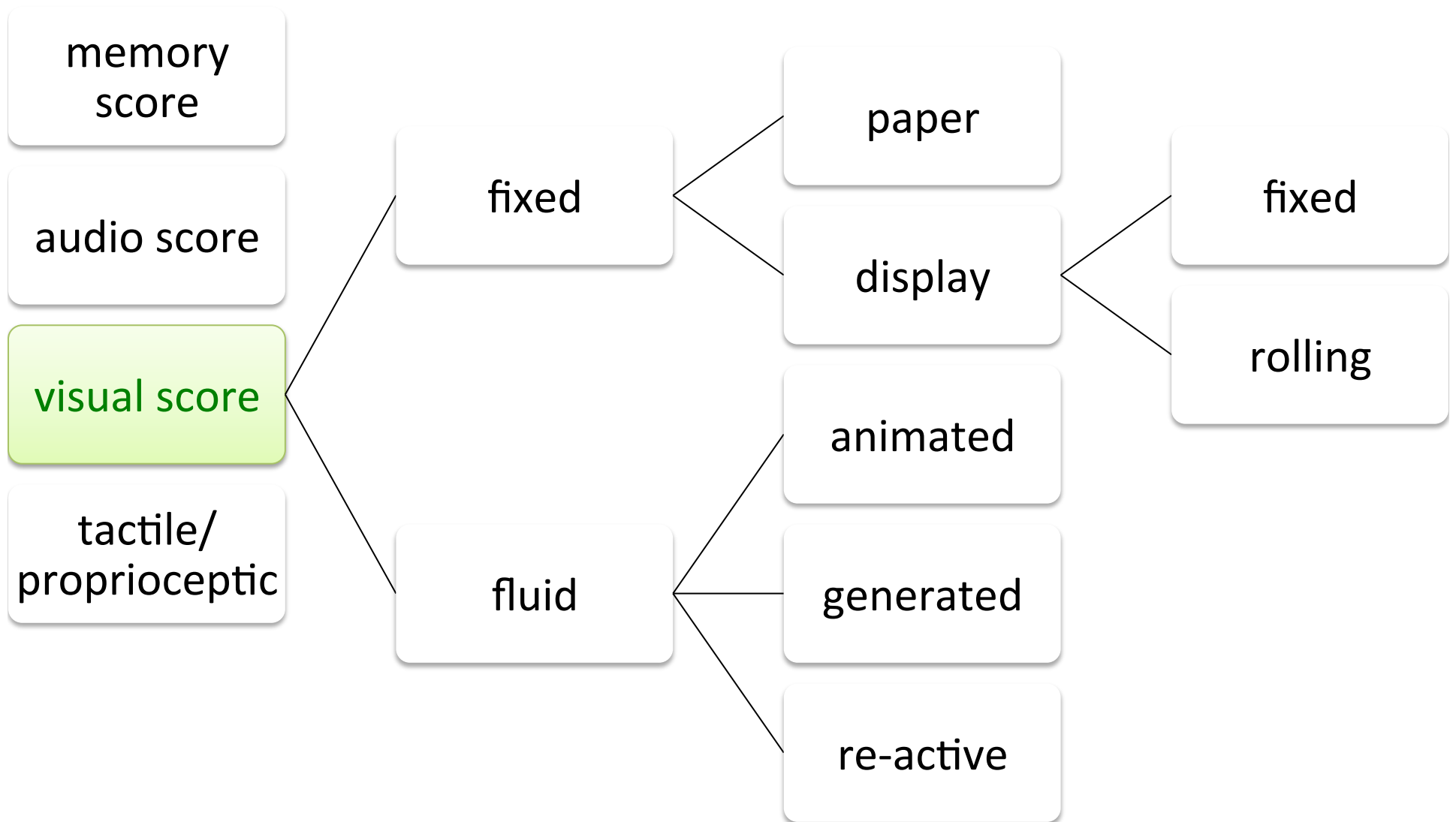*a number of aspects of a performance*
from one realization to another

contingent = PERFORMANCE

any action within a performative context
that is not covered by the score.

Scores

memory score

audio score

visual score

tactile/ proprioceptic

fixed — paper

display — fixed

rolling

fluid — animated

generated

re-active

ALIEN LANDS I ATAVIST *for 4 percussionists*
fixed, composed, rolling performance score

ALIEN LANDS II DIVIDE *for 4 percussionists*
modular, live random-choice-assembled performance score
(inscore,python,max)

TRANSIENCE *for 2 ensembles from different traditions*
modular and algorithmically & user-assembled comprovisation score
(python, inscore)
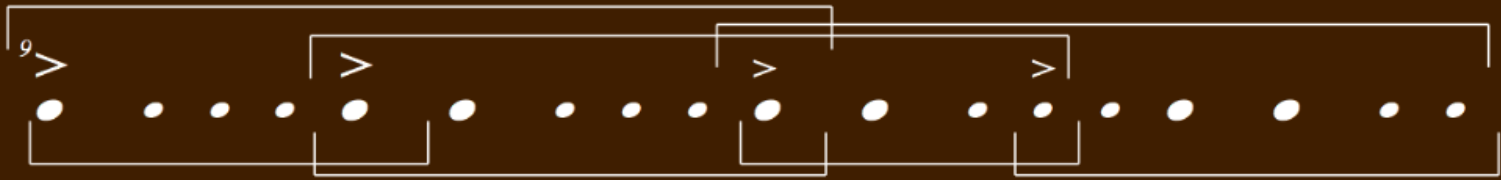
MONOCHROM *for string quartet*

modular animated, weighted random-choice live-assembled performance/comprovisation score

```
┌─────────────┐
│    Words    │
└─────────────┘
       │
       ▼
┌─────────────┐          ┌─────────────┐
│ Doublestops │ ───────▶ │   Pitches   │ ────────┐
└─────────────┘          └─────────────┘          │
                                                  │
                         ┌─────────────┐          │
                         │  Playtime   │ ──────┐  │
                         └─────────────┘       │  │
                                               ▼  ▼
                         ┌─────────────┐    ┌───────────────┐
                         │   Tacets    │ ──▶│               │
                         └─────────────┘    │               │
                                            │  Score Page   │
                         ┌─────────────┐    │               │
                         │Pitch Graphic│ ──▶│               │
                         └─────────────┘    └───────────────┘
                                               ▲  ▲
                         ┌─────────────┐       │  │
                         │   Emotion   │ ──────┘  │
                         └─────────────┘          │
                                                  │
┌──────────────────┐     ┌─────────────┐          │
│ Playing technique│ ──▶ │Playing      │ ─────────┤
│     Matrix       │     │technique    │          │
└──────────────────┘     └─────────────┘          │
                                                  │
┌──────────────────┐     ┌─────────────┐          │
│ Dynamics Matrix  │ ──▶ │  Dynamics   │ ─────────┘
└──────────────────┘     └─────────────┘
```
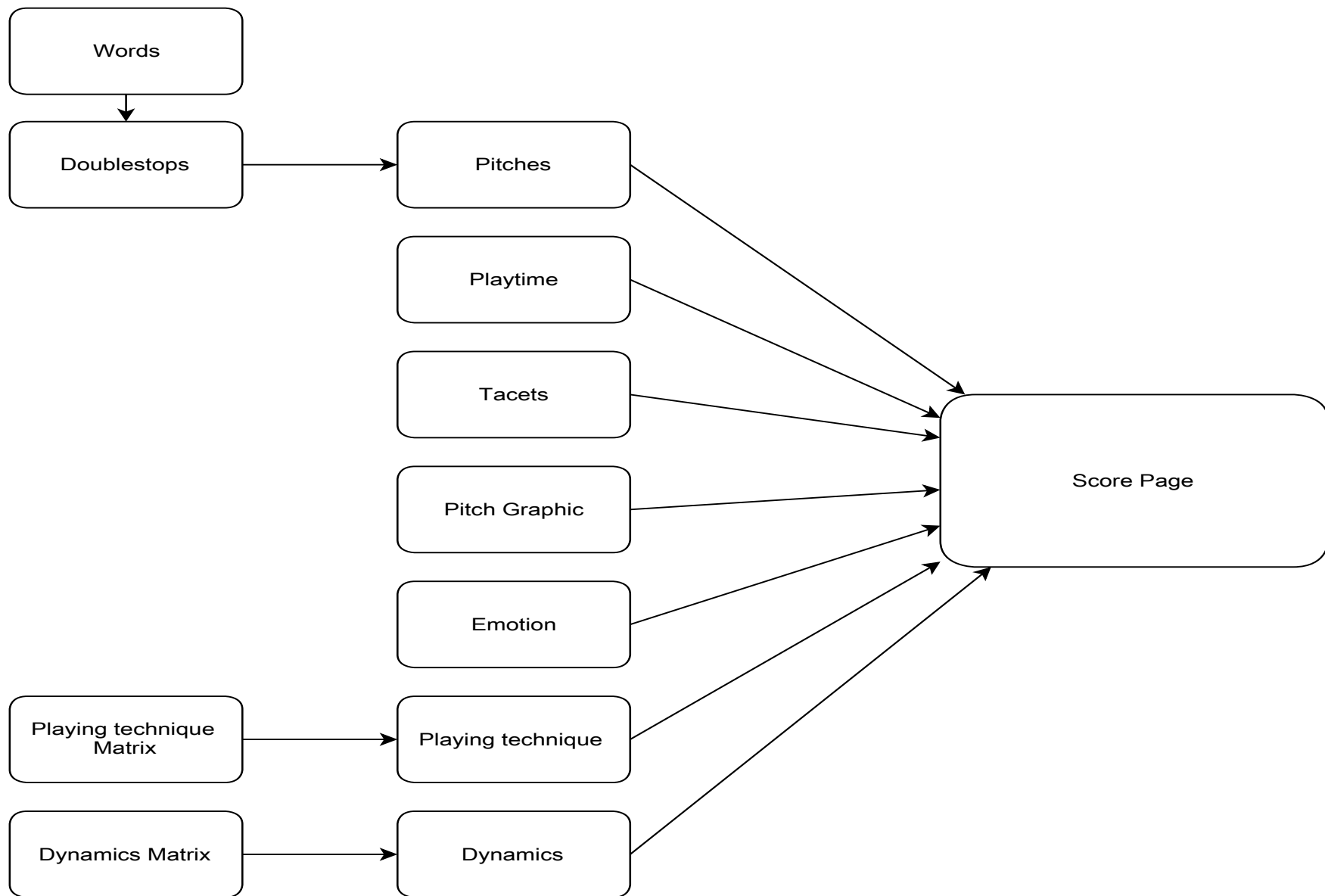
ALIEN LANDS IV SENTIENT *for 4 percussionists*

modular animated, algorithmically live-assembled comprovisation score
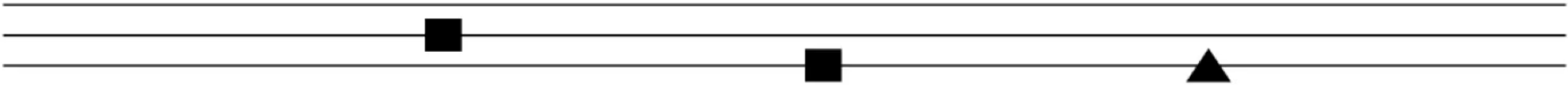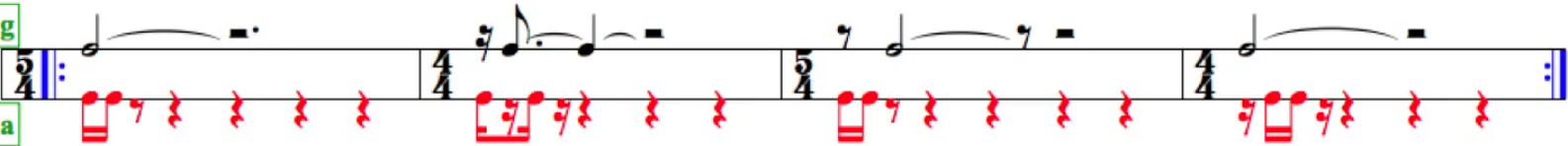
NATIVE ALIEN *for 1 improviser & computer improvisation environment*
interactive live-generated comprovisation score
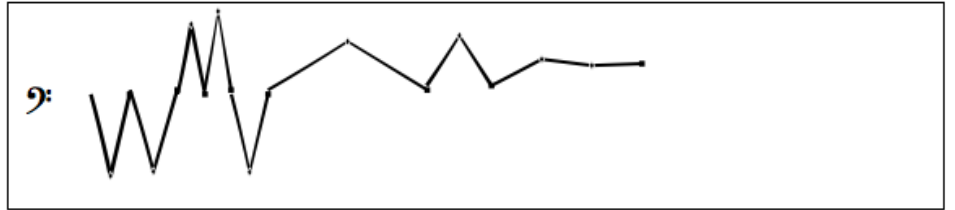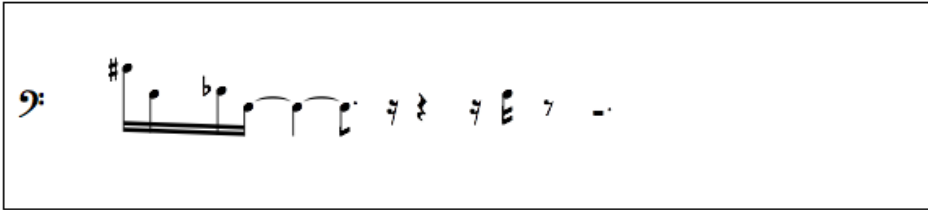
SHRINGARA [Love/Eroticism]

...a gentle fire in my flesh...

p fast chaotic pitch fluctuations using both voice and slide
maintain a sense of the starting pitch throughout

SHRINGARA [Love/Eroticism]

NEXT SEED:
[Heroic]

0

1/19

DATA FLOW DIAGRAM: NATIVE ALIEN SCORE

```
                                                    ┌──────────────┐
                                                    │  Performer   │◄───────────┐
                                                    └──────────────┘            │
                                                         │ (Audio Input)        │
                                                         ▼                      │
   ┌──────────────────┐                           ┌──────────────┐             │
   │ triggers new     │                           │ OMAX Software│─────────┐   │
   │ **preset**       │                           └──────────────┘         │   │
   │ behaviour of     │                                  │                 │   │
   │ software         │         (Footswitch)             ▼                 ▼   │
   │ corresponding to │                      ┌──────────────────┐  ┌──────────────────┐
   │ selected mood    │                      │ continuous        │  │ continuous       │
   └──────────────────┘                      │ **analysis** of   │  │ **analysis** of  │
          ▲                                  │ pitch and phrasing│  │ spectral flux -  │
          │                                  │ information       │  │ difference of    │
          │                                  └──────────────────┘  │ energy between   │
                                                                    │ frames (zsa.flux~)│
                                                                    └──────────────────┘
```
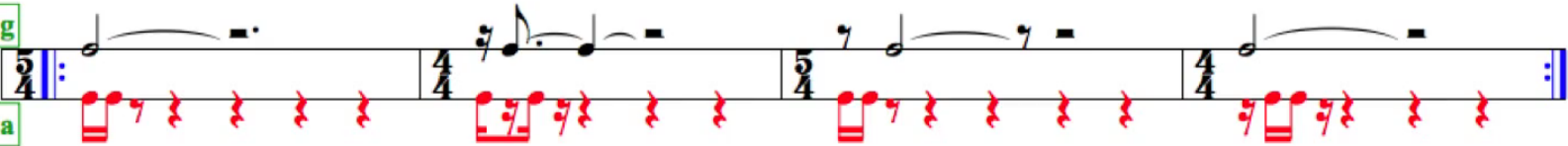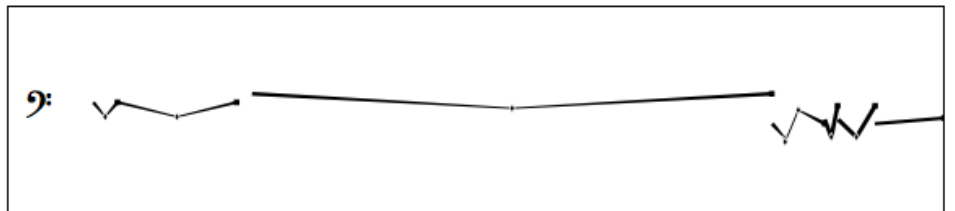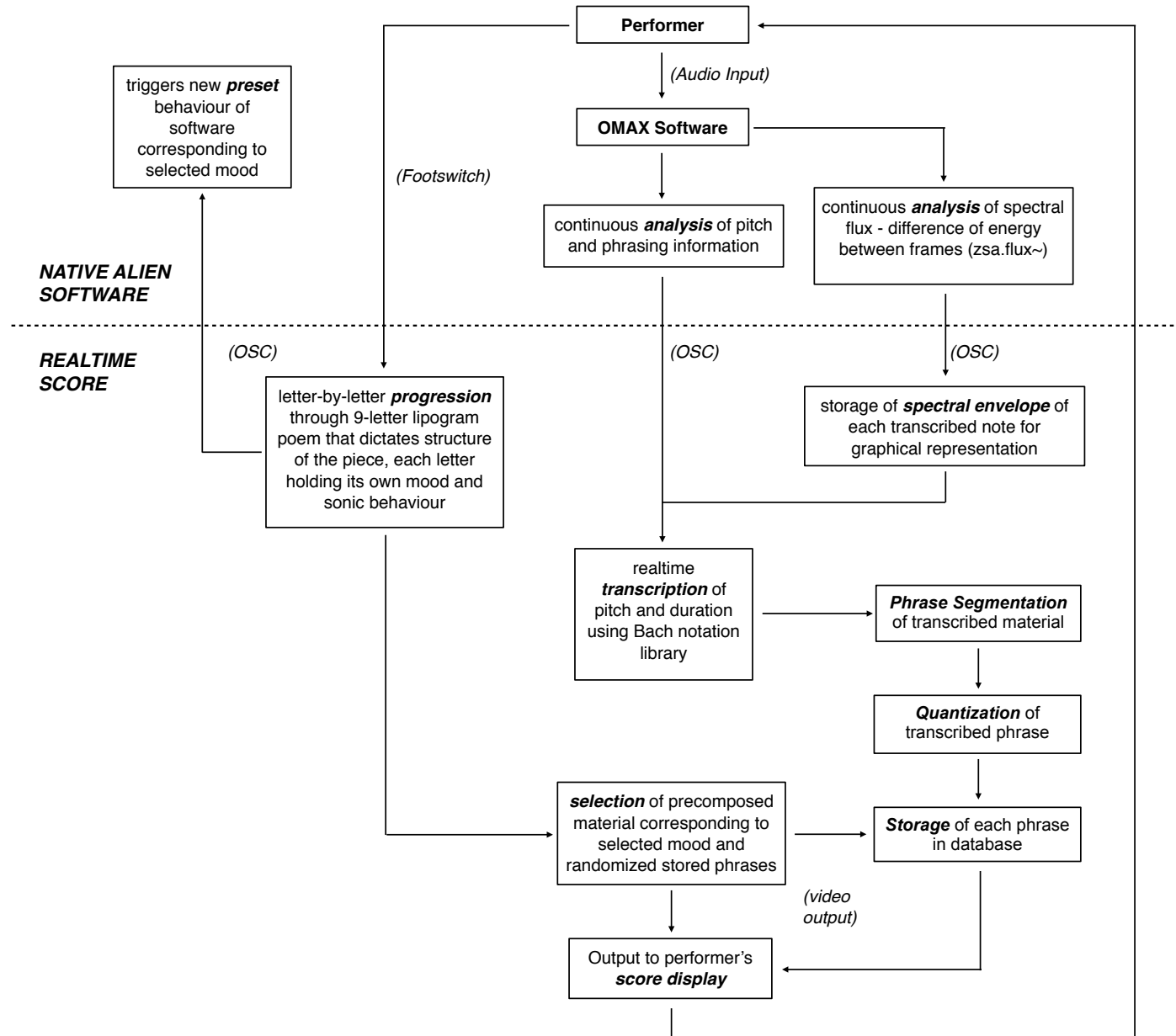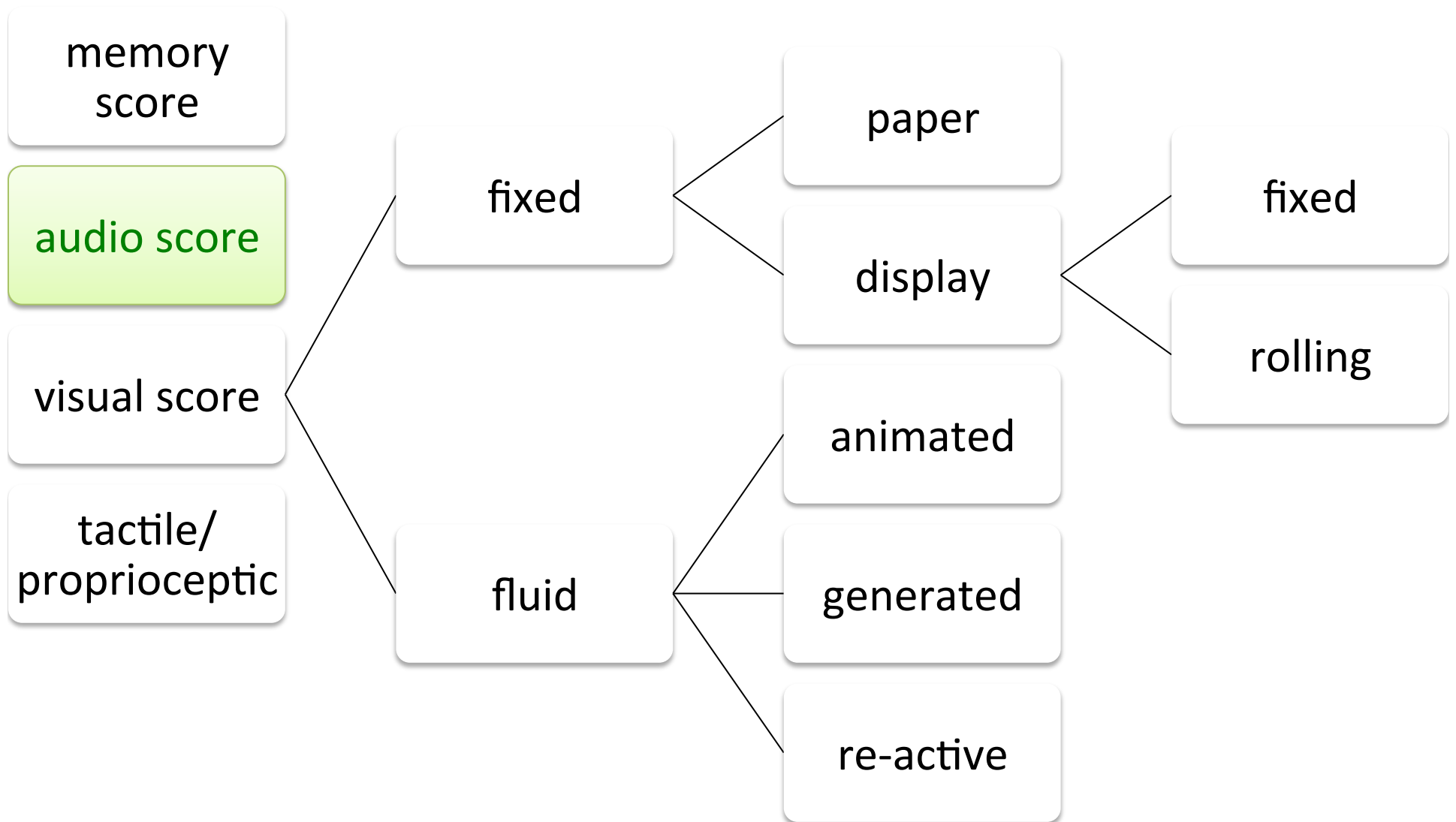
NATIVE ALIEN SOFTWARE

- -

REALTIME SCORE

```
      (OSC)                                    (OSC)              (OSC)
   ┌──────────────────┐                                     ┌──────────────────┐
   │ letter-by-letter │                                     │ storage of       │
   │ **progression**  │                                     │ **spectral       │
   │ through 9-letter │                                     │ envelope** of    │
   │ lipogram poem    │                                     │ each transcribed │
   │ that dictates    │                                     │ note for         │
   │ structure of the │                                     │ graphical        │
   │ piece, each      │                                     │ representation   │
   │ letter holding   │                                     └──────────────────┘
   │ its own mood and │
   │ sonic behaviour  │
   └──────────────────┘
           │                  ┌──────────────────┐     ┌──────────────────┐
           │                  │ realtime          │────▶│ **Phrase         │
           │                  │ **transcription**│     │ Segmentation**   │
           │                  │ of pitch and     │     │ of transcribed   │
           │                  │ duration using   │     │ material         │
           │                  │ Bach notation    │     └──────────────────┘
           │                  │ library          │              │
           │                  └──────────────────┘              ▼
           │                                            ┌──────────────────┐
           │                                            │ **Quantization** │
           │                                            │ of transcribed   │
           │                                            │ phrase           │
           │                                            └──────────────────┘
           │           ┌──────────────────┐                    │
           └──────────▶│ **selection** of │     ┌──────────────────┐
                       │ precomposed      │────▶│ **Storage** of   │
                       │ material         │     │ each phrase in   │
                       │ corresponding to │     │ database         │
                       │ selected mood and│     └──────────────────┘
                       │ randomized stored│              │
                       │ phrases          │    (video     │
                       └──────────────────┘    output)    │
                                │                          │
                                ▼                          ▼
                       ┌──────────────────┐
                       │ Output to        │◄──────────────┘
                       │ performer's      │
                       │ **score display**│
                       └──────────────────┘
                                │
                                └──────────────────────────────────┘
```

Scores

memory score

audio score

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tactile/proprioceptic

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- display
  - fixed
  - rolling

fluid
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- generated
- re-active

Oiseaux d'Ailleurs

for 10 improvisers, written and audio score
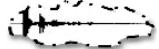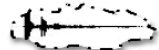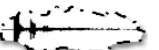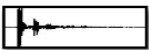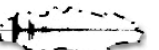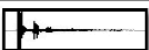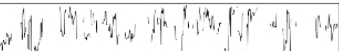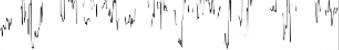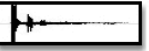
Oiseaux d'Ailleurs

pour 10 musiciens-oiseaux

dedié a l'Ensemble Supermusique Montréal

Sandeep Bhagwati

Partition

	13		**8**		**13**		**5**		**8**
1		2		3		4		5	

Voix — [Indian Pitta] — Signaux Rugueux / Gliss↘ Rubato — libre

Sax Appeaux — [Indian Pitta] — Bourdon Bruiteux / Gazouillements Parlando

Clarinette basse — [Kabir Phrase 1] — Signaux Rugueux / Gliss↘ Rubato — [Melos B1] — Mélodies Rugueuses / Gliss↘ Rubato

Trombone — [Kabir Phrase 1] — Bourdon Bruiteux / Gazouillements Parlando — A1 — B 1

Je chante sans bouche
Je marche sans pieds
Je vole sans ailes

Violon — A1 — B 1

Cello — [Kabir Phrase 2] — Mélodies Rugueuses / Gliss↘ Rubato

Je ne suis pas de ce pays

Contrebasse — Frères, quêteurs, / Je ne suis pas de ce pays

Les gens d'ici sont inconscients
Chaque moment trempé dans le regret

Electronique — libre

Je suis un oiseau d'ailleurs, mon pote

Percussion — [Kabir Phrase 2] — [Kabir Phrase 3]

Batterie — Bourdon Bruiteux / Gazouillements Parlando — libre

Pardesi Panchhi (Alien Birds)
for improvisers moving in space
fixed comprovisation score

• omnidirectional interaction

STREET PERFORMANCE
but also:
Berlin Philharmonie [Scharoun]

• focused interaction

CONCERT/THEATRE PERFORMANCE
but also:
political rally

Ambulatory Concert: sound source travels through fixed audience (spatialized music) or audience members walk past stationary sound sources (performance-installations)

How do performers interact with an audience?
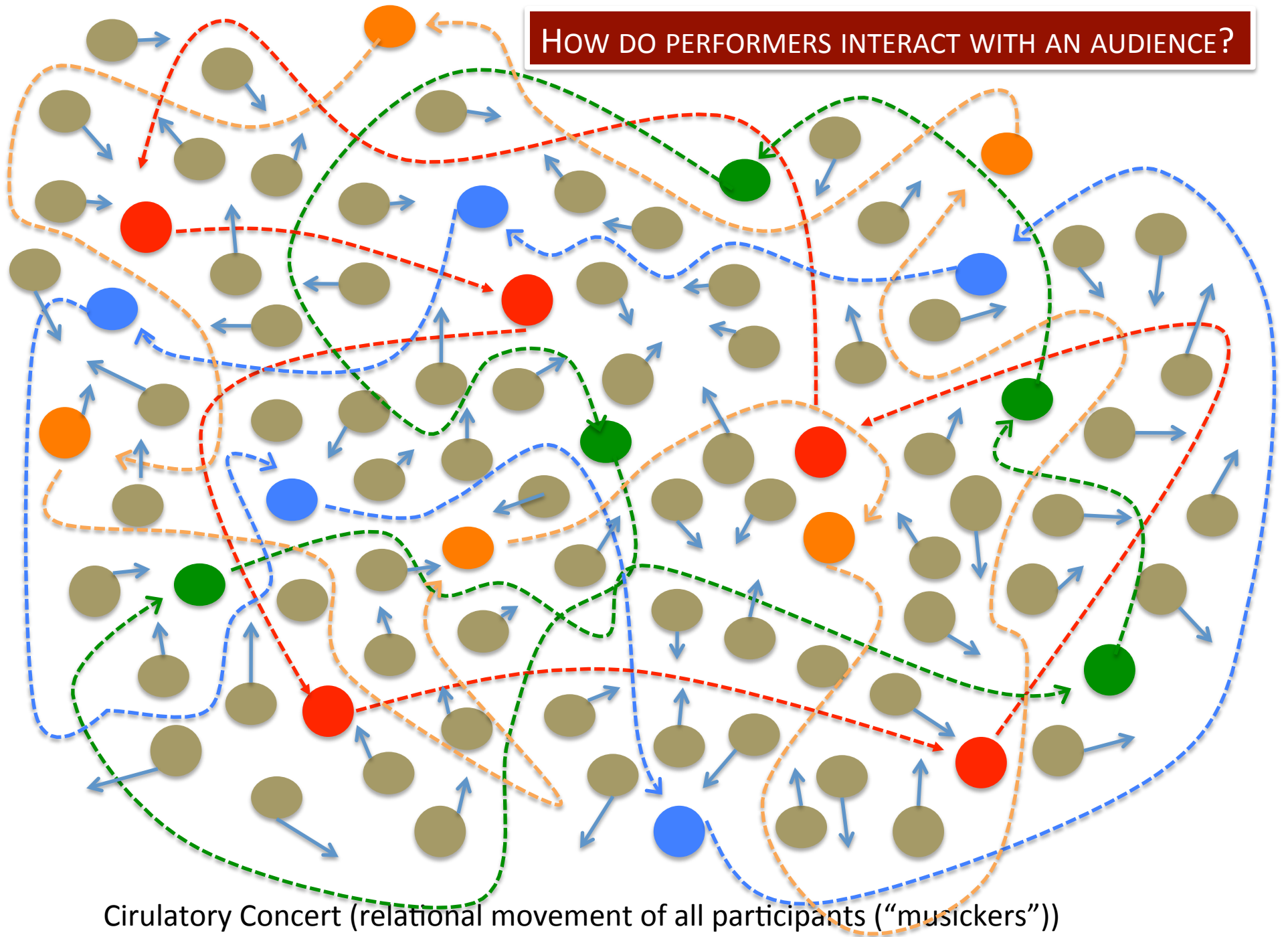
Cirulatory Concert (relational movement of all participants ("musickers"))

Why non-visual scores ?

- as visual scores become animated and interactive musicians become more 'glued to the page' than ever

- musicians can hardly move

- every type of performance is also theatrical – a visual score always perpetuates the eurological divide between platonic score ideal and not-so-ideal real performance

- non-visual scores add more creative and aesthetic options to score-driven musicking, especially circulatory and relational musicking

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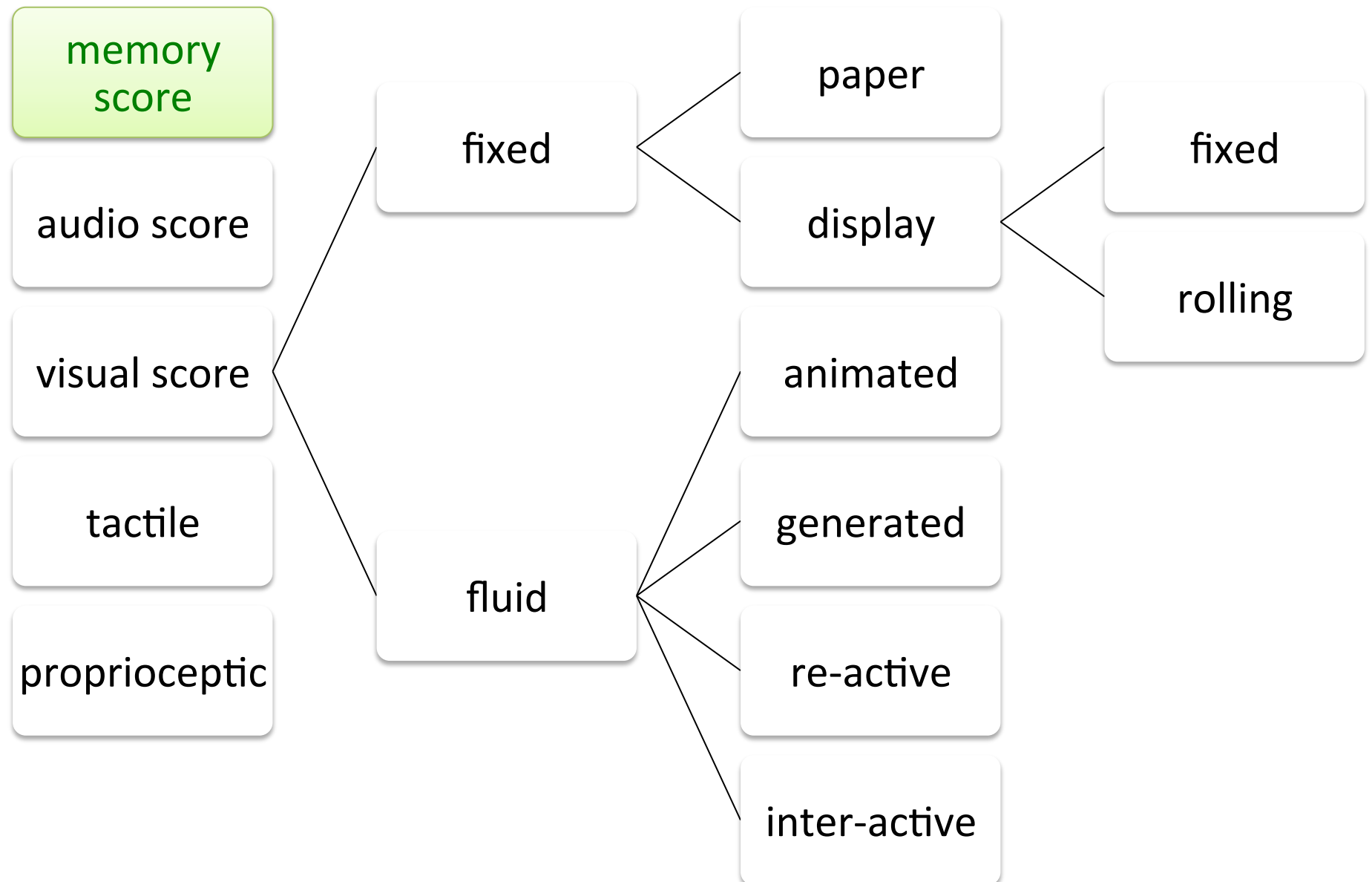
Sandeep Bhagwati **NEXUS**

Music for 5 players in a wireless network

Jen Reimer, French Horn

Concordia Downtown Campus
The Five Paths

Alto Flute

French Horn

Eb Clarinet

Trumpet

Bass Clarinet

Image © 2010 DigitalGlobe
© 2010 Google

Sandeep Bhagwati NEXUS

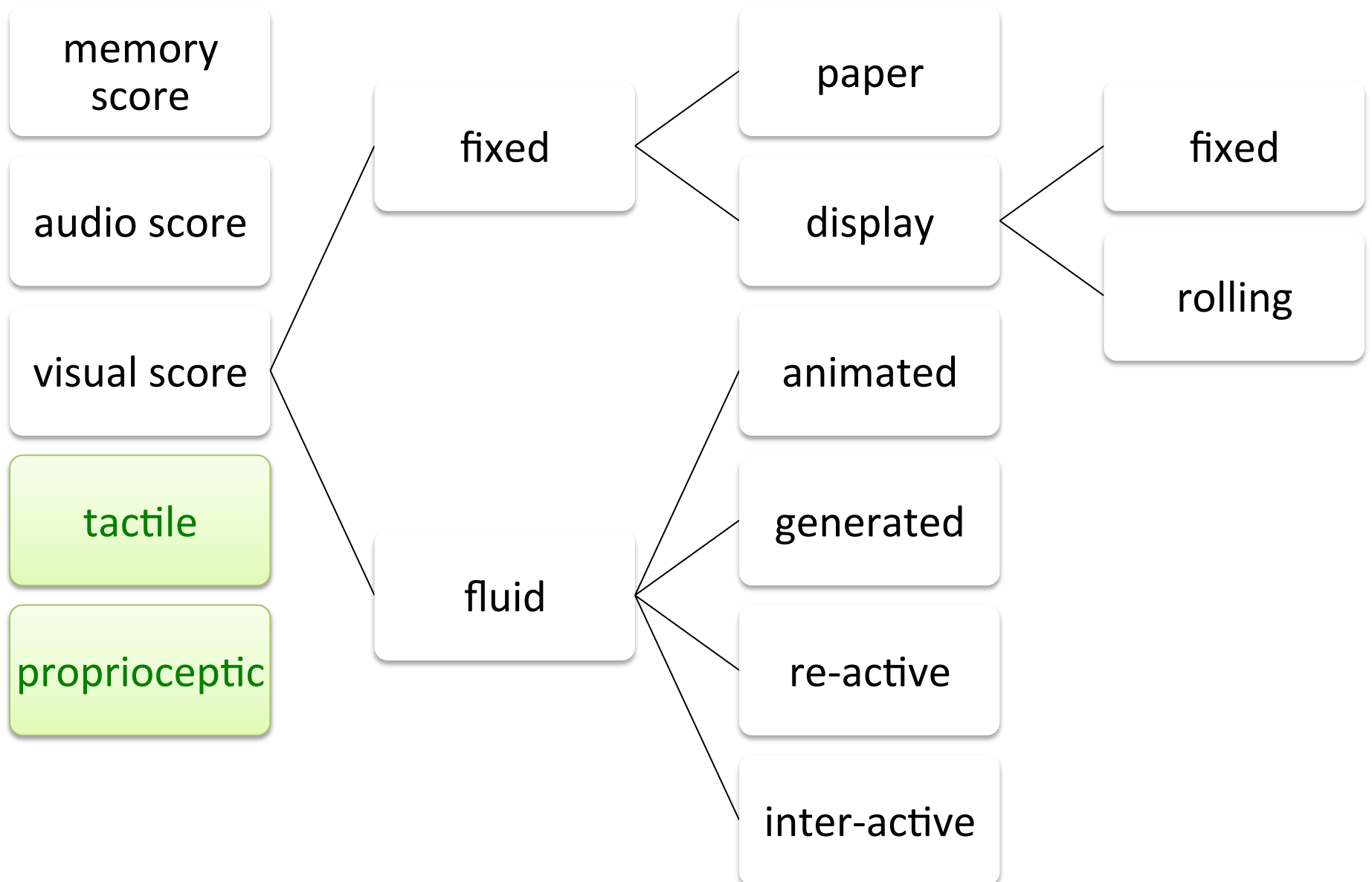Music for 5 players in a wireless network

Lori Freedman, Bass Clarinet

Sandeep Bhagwati NEXUS

Music for 5 players in a wireless network

Guy Pelletier, Alto Flute in G

Scores

memory score

audio score

visual score

tactile

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fixed — paper

fixed — display — fixed

display — rolling

fluid — animated

fluid — generated

fluid — re-active

fluid — inter-active

Body Suit Score

Body Suit Score

Could
as
as
as
as
listening to
engaging music
swimming an
with
running through
exploring a sprawling
dolphins
a
become
activity
storm,
cave   ?

Body Suit Score

Body Suit Score

a new research-creation project – we just got a major 4 year grant

a collaboration between 4 Montréal labs matralab and XS lab (Berzowska) [Concordia] and IDMIL (Wanderley) and MPBL (Cossette) [McGill]

Body Suit Score

shall enable musicians in an ensemble to

- receive coded score information
- send involuntary body and location information
- send voluntary score information
- receive involuntary body and location information

Body Suit Score
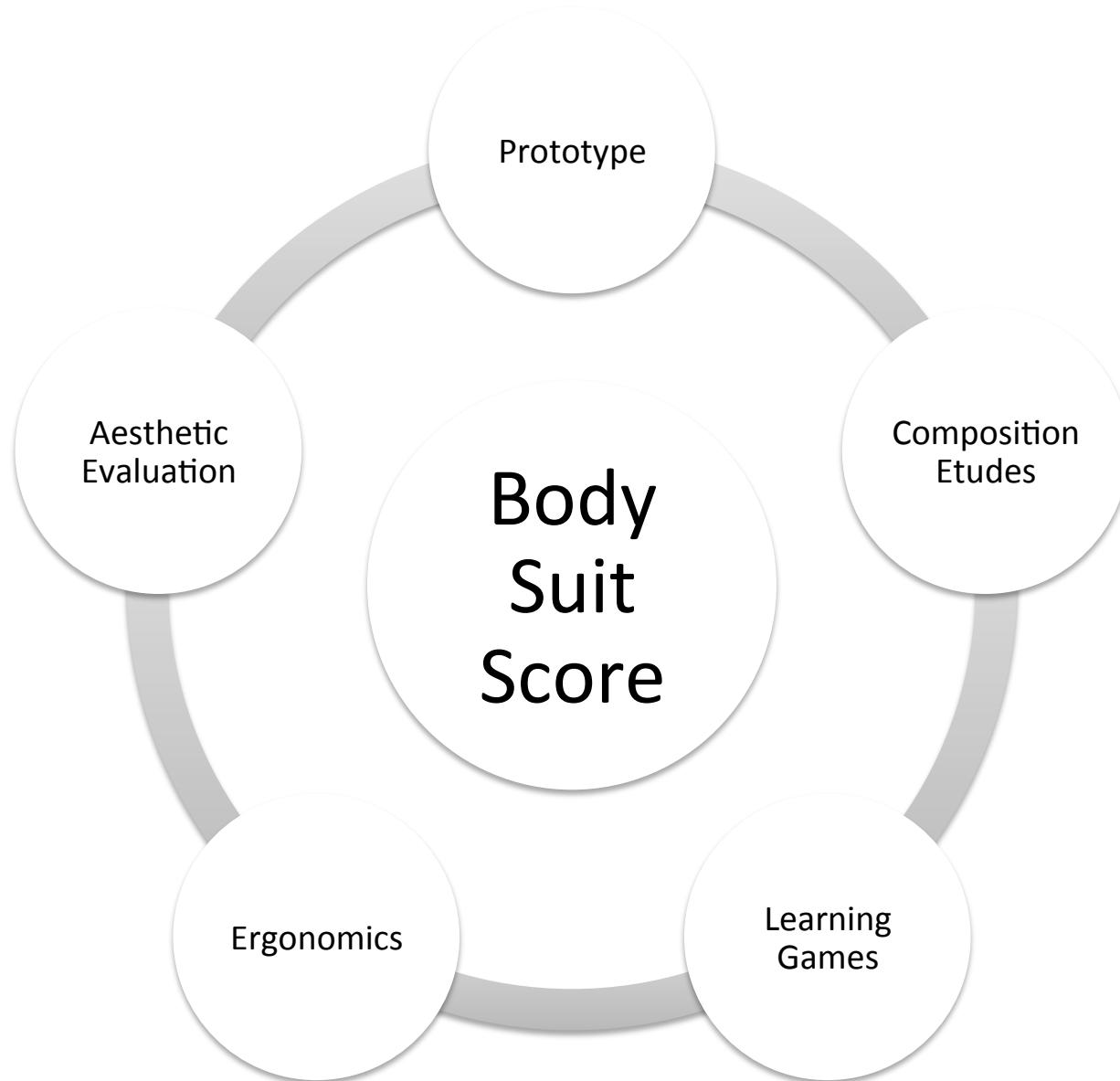
Body Suit Score

Questions:

1) Ergonomics: how and where to place actuators and sensors in order to not disturb performance (but still hi-rez) ➔ feedback from performers

2) Aesthetics: What kind of musicking would need the unique use of the Body Suit Score ?
➔ feedback from composers

Body Suit Score