Note to Self: You Must Remember This - LESS BOW!!!

Digital Preservation of New Media Art Through Exploration of Established Symbolic Representation Systems

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What is New Media Art

- Multimedia (audio, images, video, text)
- (Very) Often involves data from the Internet or a Network
- Viewer often interacts with work or the work is created through interaction
- Variable & Ephemeral - performance / viewing is tied to a specific time, place, context
Loops, 2001-04

- A Digital Portrait of Merce Cunningham by Paul Kaiser, Shelly Eshkar, and Mark Downie
- Abstract digital portrait
- Never repeats
- AI used to randomize data gathered from Cunningham

http://www.openendedgroup.com/artworks/loops/loops_excerpt.mov
Preservation Issues for this work

- 1. Viewing Mechanisms
- 2. Hardware and Software
- 3. Programs and Algorithms
- 4. Technology Advances - Ignore?
General Preservation Methods

- Emulation
- Migration
- Re-Interpretation
  - Archiving the Avant Garde
  - Artist Questionnaire
  - MANS (Media Art Notation System)
Goals of Research

- Discover those characteristics of a variable art work that are **constant**, and considered fundamentally important for authentic representation from the creator and performer point of view;

- Discover those characteristics of a variable art work that are essential but **not constant**, generally considered to be open to interpretation on the part of the creator, performer or artistic director;

- Discover those characteristics that are not essential to a work's authentic performance.

- Determine the **methods** by which artists, in practice, communicate these important or variable characteristics among themselves across time and space in order to achieve reliable performances or representations of the original;
Nelson Goodman - Language of Art

- Representation
- Authenticity
- Notational Forms
  - Autographic vs. Allographic
  - Single vs. Multiple
Not Forgeable = Allographic & Multiple
Interpretative Method

• Existing Models
  • Music
  • Drama
  • Dance

• Similarities with New Media Art
  • Performance-Based
  • Not Forgeable
  • Allographic & Multiple
Focus on Music

• Unity of Artistic Vision: artists using multiple instruments - in the case of composers, and libraries, data sources, etc. in the case of programmers, in a very specific way to achieve one end result

• Dense, symbolic notational language (Not true for drama, which uses language)

• Existence of tools (instruments / computers) essential for performance (Not necessarily true for dance, which uses people)
Musical Scores

• Score is primary means by which information is transferred from one generation of musicians to another.

• By observing rehearsal processes, and annotated scores, can formulate some hypotheses regarding “important” and / or difficult parts of a piece.

• Hope is to transfer some of those findings to similar, variable art form - new media art.
Methods of Research

• Qualitative, Intensive Research
• Ethnography of Communication Model
• Annotation Studies
Process

• 1. Collect data from musicians - rehearsal observations, interviews, and annotated scores

• 2. Generate hypotheses based on annotations.

• 3. Formulate Notation Framework for New Media Art

• 4. Test framework / hypotheses with artists / curators / archivists
<table>
<thead>
<tr>
<th>Amateur Composer</th>
<th>Pre-Professional Composer</th>
<th>Professional Composer</th>
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<tbody>
<tr>
<td>Amateur Conductor</td>
<td>Pre-Professional Conductor</td>
<td>Professional Conductor</td>
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<tr>
<td>Amateur Musician (NO Conductor)</td>
<td>Pre-Professional Musician (NO Conductor)</td>
<td>Professional Musician (NO Conductor)</td>
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<tr>
<td>Amateur Musician (With Conductor)</td>
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**Blue** - Score and Interviews  
**Green** = Contacted
Annotation Framework

• Textual & Symbolic

Rhythm: “don’t rush!” “WAIT” / accent marks either above or below staff
Emotive / Mood: “heroic” “vivace” / happy face
Technical: “less bow!!” “FROG” / bowing instructions “V” or “∏”
Dynamics: “not too loud” “<” (crescendo); “>” (decrescendo)
Articulation: “dit” “dat” / ties and slurs...
Attentive: “Andrea!” “Listen to cello!” / stars, glasses, circles

• Numerical

Technical: Fingering Instructions, Tempo
Structural: Bar numbers
Beethoven, Opus 18, No. 3. Viola
Pre-Professional, No Conductor

1. text: rhythm; 2. text: dynamics; 3. text: rhythm; 4. symbol: dynamics; 5. text: attentive; 6. text: technical (bowing); 7. text: rhythm; 8. text: technical (bowing)
Annotation Methodology

- Analyze annotated scores, looking for *n-way consensus*, seeing if there are any “important” or consistently documented sections of the musical work

  **Normalization:** at the basic unit of annotation (bar)
  **Recording:** all instances of annotations; where, what kind
  **Counting:** providing percentage counts for units annotated
  **Consensus analysis:** how often annotators concur on selections

  Semi-structured interviews with selected orchestra members to discuss annotative styles.
// scribble (by sampling motion forward in time)
snew Event(45 + 30 + 25).add(new String[]{
    "s_onlyPoints=0",
    "s_forwardSampling=10",
    "s_xrayContext=0"  // ???
});

// complicate matters by introducing some "whiteGia"
snew Event(45 + 30 + 45).add(new String[]{
    "s_whiteGia=20",
    "s_nothing=1",
    "s_accPointSize=0",
    "pointTrans=0.0001"
});

// move camera towards bands
snew Event(45 + 30 + 45 + 20 + 20).add(new String[]{
    "s_forwardSampling=10",
    "s_nothing=0",
    "s_cameraTime=0.47"
});

// transition to "whiteGia" complete
snew Event(45 + 30 + 45 + 20 + 25).add(new String[]{
    "s_whiteGia=100",
    "s_nothing=0",
    "s_xrayContext=0"
});
Initial Findings:

- Composer vs. Performer Annotations
- Presence of a Conductor
- Different Skill Levels
Conclusions & Concerns

- Is this two dissertations? Any ideas on how to make this project more tractable?

Questions???