Trends at NIME – Reflections on Editing “A NIME Reader”

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A NIME Reader - Fifteen Years of New Interfaces for Musical Expression

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1. Introduction: ‘A NIME Reader’
2. Selection Process
‘A NIME Reader’
(not ‘The NIME Reader’)

- Limitation to ~30 articles based on page count
- ~2 articles/year of NIME
- from ~1200 articles!
- How to represent all interests (not possible!)
- Influence: Total Citations & Citations/Year (multi-subjective measures)
- List modified through discussion
- Represent major interests & include some less well-cited topics
- ‘Reader’ is a beginning and not an endpoint
<table>
<thead>
<tr>
<th>Year/Item</th>
<th>Title</th>
<th>Author(s)</th>
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<tbody>
<tr>
<td>2001a</td>
<td>Principles for Designing Computer Music Controllers</td>
<td>Cook</td>
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<td>2001b</td>
<td>Problems and Prospects for Intimate Musical Control of Computers</td>
<td>Wessel &amp; Wright</td>
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<td>2002a</td>
<td>The importance of parameter mapping in electronic instrument design</td>
<td>Hunt, Wanderley &amp; Paradis</td>
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<td>2002b</td>
<td>Multimodal Interaction in Music Using the Electromyogram and Relative Position Sensing</td>
<td>Tanaka &amp; Knapp</td>
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<td>2002c</td>
<td>The Plank: Designing a Simple Haptic Controller</td>
<td>Verplank, Gurevich &amp; Mathews</td>
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<td>2003a</td>
<td>Contexts of Collaborative Musical Experiences</td>
<td>Blaine &amp; Fels</td>
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<td>2003b</td>
<td>Sonigraphical Instruments: From FMOL to the reacTable*</td>
<td>Jordà</td>
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<td>2003c</td>
<td>Designing, Playing, and Performing with a Vision-based Mouth Interface</td>
<td>Lyons, Haehnel &amp; Tetsutani</td>
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<td>2003d</td>
<td>OpenSound Control: State of the Art 2003</td>
<td>Wright, Freed &amp; Momeni</td>
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<td>2004a</td>
<td>The Electronic Sitar Controller</td>
<td>Kapur, Lazier, Davidson, Wilson &amp; Cook</td>
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<td>2004b</td>
<td>PebbleBox and CrumbleBag: Tactile Interfaces for Granular Synthesis</td>
<td>O’Modhrain &amp; Essl</td>
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<td>2004c</td>
<td>Toward a Generalized Friction Controller: From the Bowed String to Unusual Musical Instruments</td>
<td>Serafin &amp; Young</td>
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<td>2005a</td>
<td>Towards a Dimension Space for Musical Devices</td>
<td>Birnbaum, Fiebrink, Malloch &amp; Wanderley</td>
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<td>2005b</td>
<td>The Overtone Violin</td>
<td>Overholt</td>
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<td>2006a</td>
<td>Sensemble: A Wireless, Compact, Multi-User Sensor System for Interactive Dance</td>
<td>Aylward &amp; Paradiso</td>
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<td>2006b</td>
<td>Mobile Music Technology: Report on an Emerging Community</td>
<td>Gaye, Holmquist, Behrendt &amp; Tanaka</td>
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<td>2007b</td>
<td>Don’t Forget the Laptop: Using Native Input Capabilities for Expressive Musical Control</td>
<td>Fiebrink, Wang &amp; Cook</td>
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<td>2007c</td>
<td>Expression and its Discontents: Toward an Ecology of Musical Creation</td>
<td>Gurevich &amp; Treviño</td>
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<td>2007d</td>
<td>The Acoustic, the Digital and the Body: A Survey on Musical Instruments</td>
<td>Magnusson &amp; Mendieta</td>
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<td>2008</td>
<td>Eight Years of Practice on the Hyper-Flute: Technological and Musical Perspectives</td>
<td>Palacio-Quintin</td>
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<td>2012a</td>
<td>The Fingerphone: a Case Study of Sustainable Instrument Redesign</td>
<td>Freed</td>
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<td>2012b</td>
<td>To be inside someone else’s dream: Music for Sleeping &amp; Waking Minds</td>
<td>Ouzounian, Knapp, Lyon &amp; DuBois</td>
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<tr>
<td>2012c</td>
<td>TouchKeys: Capacitive Multi-Touch Sensing on a Physical Keyboard</td>
<td>McPherson</td>
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<td>2013</td>
<td>The Web Browser As Synthesizer And Interface</td>
<td>Roberts, Wakefield &amp; Wright</td>
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<td>2015</td>
<td>Fourteen Years of NIME: The Value and Meaning of ‘Community’ in Interactive Music Research</td>
<td>Marquez-Borbon &amp; Stapleton</td>
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3. The Peer Commentary Process
3. Peer Commentary

- Value of open peer commentary recognized by cognitive scientist Steven Harnad (journal *Brain and Behavioural Sciences*)
- Each article has author and peer/expert commentary
- Authors and peers encouraged to exchange feedback on each other’s commentary
- Facilitation/moderation by editors
- Opportunity for revision of article/commentary
- Dialogue brings new life and growth to the work
4. Observed Trends
Toy-to-Instrument

- Sensor technologies have improved!
- Microcontrollers faster, cheaper, easier to use
- Communication protocols stable, well-supported
- Mappings more complex and sophisticated
- Design strategies are better informed
- Machine learning techniques
Buttons-to-Embodiment

- Move from keyboard, mouse, buttons towards ...
- Fluid, full-body interaction
- Progress in motion sensing
- Application to music-making
- Progress in use of bio-sensors
Individual to Community,
Stage to Street

• Increasing support for collaborative music-making
• Laptop orchestras
• Mobile music making
• Web-based performance
• Live-Coding Culture
• Strong & Growing sub-communities of NIME
‘Hacking’ to Professionalism

- Early NIMEs: tinkerers, hackers, makers
- Healthy adhocism persists
- More long-term principled studies
- Focus on process, evaluation, reflection
- Increased ‘professionalism’ of the field
The NIME Community

- Some critical theoretical studies of the NIME community
- Marquez-Borbon and Stapleton (2015): “lack of coherent vision and critical reflection”
- Gender imbalance (Born & Devine, 2015)
- Anthology for increasing self-awareness of the field
5. Future Directions
Continuing Relevance of NIME?

- Competition from SMC, TEI, CHI, ICMC, ISMIR, MOCO, ICLC, etc...
- What aspects of NIME are strongest?
- Shortcomings? Neglected interests?
- How to make research achievements accessible?
- How to promote relevance to wider community?
Digesting the Past

• Nurturing ideas: expand ideas and research directions
• Making pre-existing work visible/usable
• Education of future researchers and artists

• Ongoing open peer commentary?
• Active repository of musical interface designs:
  code, hardware specs, data+++ > NIMEhub
• Avoid ‘Demo & Die’
Further Anthologies?

• Do not intend a NIME “canon”
• Other anthologies encouraged!
  – specialized topics (mobile, web, machine learning etc...)
  – themed collections (gesture, liveness, community ...)
  – neglected works, odd technologies, comical interfaces ...
• We hope this collection will be the first of many
• Worth looking for ways to support ongoing open peer commentary
Acknowledgement

• Thanks to all the authors and commentators who have contributed!
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