Building Collaborative Graphical interFaces in the Audicle

Motivation
- emergence (simple components, complex interactions)
- exploring new instruments for Princeton Laptop Orchestra
- new paradigms for electronically-mediated performance and pedagogy

The Audicle
- platform for implementing high-performance graphical interface
- combined with real-time sound synthesis in ChucK
- graphics in C++/OpenGL (coming soon: GLucK)

Princeton Laptop Orchestra
- 15 humans, 15 laptops
- 90 independently addressable speakers
- can be machine-synchronized
- instructed by Dan Trueman, Perry Cook, Scott Smallwood, and Ge Wang

interFaces
- simplicity of use; complexity in collaboration
- tightly-timed synchronization (across hosts)
- as direct and as immediate as possible
- easily programmable (mapping to sound + graphics)

Non-Specific Groove Interface
(below) One possible score (right)

On The Floor Gambling Interface
(above, with Scott Smallwood)

http://audicle.cs.princeton.edu/
http://plork.cs.princeton.edu/

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15 laptops, 90 independently addressable speakers
Wireless LAN Conducting Area (optional)

The Audicle is a platform for implementing high-performance graphical interfaces, combining real-time sound synthesis in ChucK with graphics in C++/OpenGL (coming soon: GLucK). It was designed for the Princeton Laptop Orchestra, which consists of 15 humans using 15 laptops, each with 90 independently addressable speakers. This ensemble can be machine-synchronized, instructed by Dan Trueman, Perry Cook, Scott Smallwood, and Ge Wang.

The interFaces concept emphasizes simplicity of use while offering complexity in collaboration. It provides tightly-timed synchronization across hosts, allowing for as direct and immediate control as possible. The interfaces are easily programmable, mapping to sound and graphics. The non-specific groove interface is an example of such an interface, shown alongside a possible score for one of the performances.

The Princeton Laptop Orchestra is a collaborative ensemble that combines technology with human creativity, offering new paradigms for electronically-mediated performance and pedagogy. The Audicle platform serves as a foundation for this work, enabling innovative and interactive musical experiences.