Motivation

It’s not often that we bring up market share when talking about computer music. Yet no one can deny that learning, studying and composing electronic music are the privilege of a rarefied few. On face value this isn’t so surprising, but deeper inspection reveals an apparent contradiction. Painting, for example, has fallen out of the purview of popular culture (at least relative to mass media), but then so have the tools necessary to produce and consume painting: supplies, classes, exposure, etc. Computers, on the other hand, have never been more ubiquitous, especially following the rise of the mobile smartphone. Indeed, never in human history has a tool so powerful been in the hands of so many. It may not be long before every person on the planet carries a tiny computer in his pocket. All of mankind will soon have the technological tools to produce and enjoy experimental music. As computer musicians we have a responsibility to make sure that the proliferation of knowledge parallels the proliferation of these tools.

Discussion

In trying to meet with this responsibility, my recent work has focused on a simple question: How can we make the iPhone into a musical instrument? I emphasize that asking this question is entirely different from asking how to make music with an iPhone. Many entities, both individuals and corporations, have already answered this question in a hundred different ways. But
I insist that an interface for making music is not necessarily a musical instrument. Playing an instrument is about more than the sound produced—it’s about a relationship to that sound brought into being by the mapping from performance gesture to sound.

Investigating the possibility of making the iPhone into an expressive instrument has led me to Gelie, a prototypical implementation of a gesture-based musical controller. Gelie allows several phones to cooperate on making sound through wireless communication with a desktop computer. Users make sound by performing gestures with their phones; the central computer analyzes the linear acceleration of each phone and generates sound accordingly. Performers can also update the signal processing chain in real time through a reacTable-like interface visible on each phone. Of principle interest is where Gelie succeeds in providing an expressive interface for musical production, as well as where it falls short. My discussion will cite implementation and experimentation, in addition to demonstration.