Hands On 2009

David Wessel - composer and performer

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Year of Composition 2009

Narrative Description:

Hands On uses SLABS -- two arrays of pressure sensitive touch pads, one with 32 pads and another with 24. These arrays send x, y, and pressure values from each of the sensors -- 96 values for the 32 pad interface and 72 values for the 24 pad interface -- as audio rate data. This high-rate audio-sample-synchronous transmission to the host provides for a high degree of control intimacy. A variety of mappings are used between the gesture data and the generative algorithms written in Max/MSP. Examples include massive oscillator bank synthesis, granular synthesis, physical modeling synthesis, and a variety of control structures for rhythm. In Hands On the act of composition is shifted from the sequencing musical events towards the design of the mappings, the generative algorithms, and the overall organization of the musical material. The performance itself is the result of many hours of interactive exploration and practice with the instrument.

The work will be performed solo, hopefully with a multi-channel sound system. The pressure measurements from each of the pads are mapped to dynamics allowing direct control of this important dimension for musical expression. In general if my hands are not on the interface the instrument is silenced.

Two links to demonstrations short pieces using SLABS. My blog has documentation in addition to the video.

http://www.youtube.com/watch?v=q_mtCZqN0Ms

http://cnmat.berkeley.edu/user/david_wessel/blog

Program Note:

Hands On uses two arrays of pressure sensitive touch pads, one with 32 pads and another with 24. These arrays send x, y, and pressure values from all the sensors -- 96 values for the 32 pad interface and 72 values for the 24 pad interface -- as audio rate data. This high-rate audio-sample-synchronous transmission to the host provides for a high degree
of control intimacy. A variety of mappings are used between the gesture data and the generative algorithms written in Max/MSP. Examples include massive oscillator bank synthesis, granular synthesis, physical modeling synthesis, and a variety of control structures for rhythm. In Hands On the act of composition is shifted from the sequencing of musical events towards the design of the mappings, the generative algorithms, and the overall organization of the musical material. The performance itself is the result of many hours of interactive exploration and practice with the instrument. The pressure measurements from each of the pads are mapped to dynamics allowing direct control of this important dimension for musical expression. In general, if my hands are not on the interface the instrument is silent.

BIO

David Wessel received a BS in Mathematical Statistics from the University of Illinois and then a PhD in Mathematical and Theoretical Psychology from Stanford in 1972. From his high school years onwards his musical activities were central to his life and he committed himself to blending his science and technology skills with his musical interests. In the early 70’s his experiments with perceptually-based dimensionality reduction techniques provided expressively powerful control of high-dimensional sinusoidal-track sound synthesis algorithms. In 1976, at the invitation of Pierre Boulez he moved to Paris to work as a researcher at the then nascent Institut de Recherche et Coordination Acoustique/Musique IRCAM. In 1979 he was made head of IRCAM's Pedagogy Unit and linked the science and technology side of the institute with the artistic side. In the mid-eighties he started a new unit in IRCAM dedicated to developing real-time music software for personal computers. At the time Wessel taught the first computer music class at the Paris Conservatory. He was recognized as Chevalier dans l'Ordre des Arts et des Lettres by the French Minister of Culture. In 1988, he arrived at UC Berkeley as Professor of Music with the charge of building the interdisciplinary Center for New Music and Audio Technologies (CNMAT). He organized CNMAT as a laboratory wherein both science and technology people interact on daily basis with musicians. Wessel insists on an instrumental conception – the computer as musical instrument equipped with gesture sensing devices and sound diffusion systems.

SET-UP

The set up involves two SLABS arrays and two Macintosh Mac Pro laptop computers. I will bring all hardware, stands, power strips, extension cords, and cables. My audio interfaces provide the house sound system stage snake via my supplied male 10' XLR snakes from 2 upwards to 16 channels of audio. The total footprint is 5’ by 5’ so the set up can be on a side region of the stage allowing a rapid change prior to and after the
performance. No special lighting is required. A spot on me and the SLABS would be fine but not necessary.

The set-up and sound check prior to the concert will take no more than 30 minutes if the house system is in place.

A photo SLABS 32 is on the next page.