Musical Compositions Exploring
Real-time Human-computer Interaction
with
Acoustic Instruments

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ABSTRACT

“Musical Compositions Exploring Real-time Human-computer Interaction with Acoustic Instruments”

Performing music with computer-aided technology has been used extensively in recent times. The use of technology in writing compositions allows composers to create electro-acoustic music with more flexibility, including the use of interactivity and multi-media. In order to explore real-time human-computer interaction with acoustic instruments, I have written two interactive compositions (Reality & Dreams and 2motions) using the software Max/MSP (cycling74.com) and program ArtsSync (C.Keyes & M.Wierckx 2006).

In Reality & Dreams, the use of eight-channel DSP techniques with a unique spatial design combines in real-time with an acoustic piano producing different kinds of sound movements and effects throughout the space in a concert hall. Microphones and a MIDI foot pedal are used for human/computer interactivity. In 2motions, the program ArtsSync is used to produce real-time interactive graphics [multimedia] by analyzing the input audio signal resulting in different images in each performance mirroring the slight musical changes from performance to performance. The human/computer interactivity of both pieces is discussed in detail.
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