

Submission for Porto International Conference on Musical Gesture as Creative Interface

Andreas Bergsland and Robert Wechsler

Abstract:

Any gesture can be musical. Affording difference in musical interaction design.

Motion Composer is a device that turns movement into music through motion tracking technology, developed with a special regard for people with different abilities (a term we prefer to use instead of the adjective "disabled"). In our presentation we would like to discuss a series of design principles applied in the development to afford different abilities. Central among these principles is the view that there is musical potential in any gesture. This implies that no matter the range of abilities a user possesses, the Motion Composer device should be able to translate that into a musical gesture that feels interesting and relevant to the user. The blinking of an eye, the shaking of the head, the falling to the floor, the rotation of the hips - all those gestures/actions can render interesting musical results with the appropriate design, in our view. Other design principles we discuss are 2) Expressivity does not necessarily depend on skills and virtuosity; 3) Aesthetic, social and health issues can go hand in hand; 4) Non-intended usage as well as technical flaws and errors can prove to be valuable in the design process; 5) The interaction design should allow for different degrees of control over the musical parameters; 6) Stillness is just as interesting as movement; 7) We aim for rich and interesting musical sounds; 8) Since user evaluation of what is rich and interesting varies, our device needs to encompass a wide range of music and interaction possibilities. In our discussion we will relate the principles to experiences from the over 50 workshops with users with different abilities we have had across Europe during the last 3-4 years. Moreover, we will relate our discussion to two notions we have introduced earlier, instrumental and open affordances. Lastly, we will also touch upon some ethical questions we have come across in the development process.

Video examples and pictures + description of the device can be found at

www.palindrome.de/guthman and
<http://www.palindrome.de/motioncomposer>

Bios:

Andreas Bergsland holds an associate professor position at the music technology program at Norwegian University of Science and Technology. His research interests in recent years have included voice in electroacoustic music (PhD entitled "Experiencing voices in Electroacoustic Music" from 2010), live-electronics from a performative perspective and movement-sound interaction for users with and without disabilities. Bergsland has also been involved in composition and sound design for exhibitions, installations, large scale multi-media events, in addition to doing live-electronics performances and working with computer instrument design for motion capture systems. In addition, he has recently composed several pieces for interactive dance that have been presented in Denmark, Germany, Greece, Italy, Canada and the US in

collaboration with choreographer Robert Wechsler.

Robert Wechsler is a choreographer, dancer and developer of interactive methods of performing. A Fulbright Fellow, he studied ten years with Merce Cunningham and John Cage. He is the director of Palindrome Dance Company and holds degrees from State University of New York at Purchase and New York University. In 2002, he won first prize at the Berlin Transmediale for "best interactive art". He has written numerous articles on dance and technology and is co-author of the book, "Disability Informatics and Computer Access for Motor Limitations". He lives in Weimar, Germany where he directs the MotionComposer project.