

# VIVO (Video Interactive VST Orchestra) and the aesthetics of interaction

*Fabio Paolizzo*  
*University of Kent*

*United Kingdom*

*info@fabioaolizzo.com*  
*http://fabioaolizzo.com*

In: Motje Wolf & Andrew Hill (Eds.)  
Proceedings of Sound, Sight, Space and Play 2010  
Postgraduate Symposium for the Creative Sonic Arts  
De Montfort University Leicester, United Kingdom, 2-4 June 2010  
<http://www.mti.dmu.ac.uk/events-conferences/sssp2010/>

## **Abstract**

The research is drawn across the fields of musicology, composition and software development with the aim of achieving a collective intelligence and self-awareness through self-reflection in interactive music.

The present study recognises that for a collective self-awareness to occur through self-reflection in music, specific structures of interrelation have to be adopted, which may enhance the human agent's awareness of the own self as related to the machine. These structures are then implemented in a piece of software. Specific art projects are designed along the investigation to finally test/improve the framework through art practice. The art works spanned the disciplines of music, dance, theatre/performance, film-making, net-art, sport/music interactive public art.

The implementations include: a module for adaptive video tracking that is derived from the feedback loop of action/perception (Vaggione 2001); an adaptive graphic score which is designed upon a previous multi-modal comparative analysis (Impett 2001); a dynamic host for audio software, where the concept of open content is merged within the dynamic orchestration model (Paine 2004).

The piece of software, which provides outcomes that are informed by these structures, is VIVO. This software musical instrument is able to generate an adaptive musical answer to reflect the agents' behaviour by controlling external audio-plug-ins (VST, DirectX, AU).

The paper illustrates its main features, the theories behind the implementations and the partial evidence that was gathered from tests, which are still in progress, within specific art projects.

*Fabio Paolizzo: VIVO (Video Interactive VST Orchestra) and the aesthetics of interaction*

In: Motje Wolf & Andrew Hill (Eds.)  
Proceedings of Sou

will not be able to relate their descriptions to what they already know as music, in an effective way. Also, as a consequence, individuals will find it difficult, or even impossible, to agree their descriptions. Therefore, at best, the knowledge that might arise will be fragmented. It is crucial to understand for the present study, how such a quality can be improved, without compromising the real potential of electroacoustic music.

As pointed out by previous researchers, the meaning of any compositional technique, or any chunk of musical knowledge, arises from its function in support of a specific musical action, which in turn has a strong bearing on the question of how this action is perceived (Vaggione 2001).

This process, named the feedback loop of action/perception, constitutes the pertinent instance of validation of musical processes. Within the contexts described

*Fabio Paolizzo: VIVO (Video Interactive VST Orchestra) and the aesthetics of interaction*

In: Motje Wolf & Andrew Hill (Eds.)  
Proceedings of Sound, Sight, Space and Play 2010

emergences in the sound domain that reflect the agents behaviour.

Third-parties plug-ins:

GRM tools (INA-GRM 2004) are software audio plug-ins. These are currently used to elaborate the audio signals within the musical works that are part of the research.

In conjunction with dRack, these plug-ins allow to extend the source musical gesture over its duration and to reflect, in dynamic timbre alterations, the agents behaviour.

### **A bio-logic: Musical Embodiment**

The combination of AVT, eScore and dRack helps to create the immersion of the user within an ambient of which is able to determine the asset and that changes in response to its behaviour. This phenomenon is generally defined as embodiment (Ascott in Cilli 1999).

In this context, embodiment takes place, through music. As a consequence of the enhancement that both the audience's involvement in music and its musical expression capacity receive, it is possible

*Fabio Paolizzo: VIVO (Video Interactive VST Orchestra) and the aesthetics of interaction*

In: Motje Wolf & Andrew Hill (Eds.)  
Proceedings of Sound, Sight, Space and Play 2010  
Postgraduate Symposium for the Creative Sonic Arts  
De Montfort University Leicester, United Kingdom, 2-4 June 2010  
<http://www.mti.dmu>.

## Bibliography

CILLI, C. (1999) *La scommessa dell'arte interattiva*. Interview with Roy Ascott. Available from: [http://www.mediamente.rai.it/quotidiano/arte/a010418\\_01.asp](http://www.mediamente.rai.it/quotidiano/arte/a010418_01.asp) [Accessed 26/05/10].

IMPETT, J. (2001) *Interaction, Simulation and Invention: a Model for Interactive Music*. Available from: <http://galileo.cincom.unical.it/esg/Music/workshop/articoli/impett.pdf> [Accessed: 26/05/10].

MCLUHAN, M. (1964) *Understanding Media: The Extensions of Man*. New York: McGraw Hill.

PAINE, G. (1999) MAP2 (2000) Gestation (2001) Reeds (2004) Endangered Sounds. Available from: [http://www.garthpaine.com/Installation\\_Works/](http://www.garthpaine.com/Installation_Works/) [Accessed 26/05/10].

PAINE, G. (2004) Gesture and Musical Interaction: Interactive Engagement through Dynamic Morphology. In: *Proceedings of the 2004 Conference on New Interfaces for Musical Expression (NIME04)*. Hamamatsu, Japan.

PAOLIZZO, F. (2010) VIVO (Video Interactive VST Orchestra): An Interactive and Adaptive Musical Instrument for Self-reflection in Music. In: *The international journal of the arts in society*, 4 (6), pp. 149-159.

PAOLIZZO, F. (2006) *Musica e Interazione*. Thesis (MA), University of Rome Tor Vergata.

SMALLEY, D. (1997) Spectromorphology: explaining sound-shapes. In: *Organised Sound* 2 (2), pp. 107-113.

VAGGIONE, H. (2001) Some Ontological Remarks about Music Composition Processes. In: *Computer Music Journal*, 25 (1), pp. 54-61.

VOLTAN, A. (Undated) *Gli strumenti dell'interazione - Incontro fra la bio-logica e la new-techno-logica*.

Available from: [http://www.noemalab.org/sections/ideas/ideas\\_articles/pdf/voltan.pdf](http://www.noemalab.org/sections/ideas/ideas_articles/pdf/voltan.pdf) [Accessed 26/05/10].

WISHART, T. (1996) *On Sonic Art*.