

## Music and Technology

### 1. Abstract

Research in Music and Technology develops software and hardware tools for performance and composition of electronic and computer music as well as the creation of new interfaces for musical expression. Work in this area has also covered the field of real time, spatialization of multi-channel sound. Tools recently developed are:

#### 1. META-EVI

A new electronic music instrument based on sensor technologies. This new controller, which uses a brass type fingering system is a wind driven synthesizer that presents significant advancements in the performance of electronic music. Among many of its features the “Meta-EVI” is capable of playing complex harmonies in real time while at the same time, and independently, playing melodic lines. The instrument can also be used as a sample player allowing the user to have instant access to over fifty sounds which can also be processed in real time. Other important innovations consist of using body motions that are translated into music parameters and directly brought into the performance. The “Meta-EVI” was partly developed at NYU, USA, as a part of a sabbatical leave research project.

#### 2. REAL-MOVE.

A software program for real-time, multi-channel spatialization of audio. This software allows the user to move sounds played in real-time as well as sounds previously recorded, within a quadraphonic diffusion space. Complex sound trajectories can be achieved and the sounds being spatialized can also be modified through the use of digital processing techniques. “Real-Move” has been presented at several international conferences and it has been used in both electronic and acoustic music compositions.

Activities completed within the project:

The META-EVI controller was presented and demoed at the *Dorkbot Meeting – New York City* last January 3<sup>rd</sup> 2007. It was also presented at the *ARTECH 2006 International Conference* in November of 2006, in Pontevedra, Spain, and more recently, at the *Guimaramus 2007* in Guimarães, in March of 2007 and at the *Performa 2007 International Conference*, held at the University at Aveiro in May of 2007.

The software REAL-MOVE was first presented at the *3<sup>rd</sup> Practice Electronic Music Festival* in Richmond, Virginia, USA in October of 2004. It was also shown at the *ARTECH 2004 International Conference* in Lisbon and at the *Musica Viva Electronic Music Festival*, also in Lisbon, in September of 2005.