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AUGMENTED MUSICAL PERFORMANCE



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Augmenting an acoustic instrument places some limitations on the designer's palette of feasible gestures because of the performance gestures and existing mechanical interface, which have been developed over centuries of acoustic practice. A fundamental question when augmenting an instrument is whether it should be playable in the existing way: to what degree, if any, will augmentation modify traditional techniques? The goal, according to our definition of "augmented", is to expand the gestural palette. The use of nonstandard performance gestures can also be exploited for augmentation and is, thus, a form of technique overloading.

The gestural control of electronic instruments encompasses a wide range of approaches and types of works, e.g. modifying acoustic instruments for mixed acoustic/electronics music, public interactive installations, and performances where a dancer interacts with a sound environment. For these types of performances and interactions, the boundaries between, for instance, control and communicative gestures tend to get blurred. In the case of digital interactive performances, such as when a dancer is controlling the sound produced, there is very little distinction between sound-producing gestures, gestures made, or accompanying movements. To give enough freedom to the performers, the design of the interaction between sound and gesture is generally not as deterministic as in performances of acoustic music.

In our perspective, augmented instruments and systems should preserve, as much as possible, the technique that experienced musicians gain along several years of studying the acoustic instrument. The problem with augmented instruments is that they require, most of times, a new learning process of playing the instrument, some of them with a complex learning curve. Our system is prototyped in a perspective of retaining the quality of the performance practice gained over years of studying and practicing the acoustic instrument. Considering the electric guitar one of the most successful examples of instruments augmentations and, at the same time, one of the first instruments to be augmented, we consider that the preservation of the playing interface was a key factor of success, allied to the necessity of exploring new sonic possibilities for new genres of music aesthetics. The same principles are applied to the Buchla's Keyboard from the 70's, that stills influence new instruments, both physical instruments and digital applications.

The first benefit of this augmentation system is the possibility to recover and recast pieces written for other systems to produce electronics that are already

outdated. This possibility adds focus to the performance, once that the saxophonist can concentrate all efforts on his main instrument. On the other side, The outcomes of the experience suggest that certain forms of continuous multi parametric mappings are beneficial to create new pieces of music, sound materials and performative environments. The different instruments, even from the same instrumental family produce different involuntary gestures under the same performance conditions. Traditional music instruments and digital technology, including new interfaces for music expression, are able to influence and interact mutually creating Augmented Performance environments.