

Comparative Musical Instrument Design

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Abstract

The design of digital musical instruments (DMIs) serves many simultaneous goals, both aesthetic and technical. While most instruments are first and foremost artistic products, their creation and use can also yield insight on how musicians creatively interact with technology, and DMIs can even inform human-computer interaction research beyond the musical domain. This talk discusses a comparative approach to musical instrument design, in which two or more variations on the same instrument are created and compared in a performance context. Several case studies will be presented, drawing on the work of members of the Augmented Instruments Laboratory at Queen Mary University of London. In our lab, comparative instrument design has been used

to investigate themes including accessibility to novices, skill transfer for experts, perception of the audience, hackability and appropriation. The talk will present the specific instruments and what we learned from them, concluding with a general reflection on how individual DMI designs can simultaneously serve goals of research and artistic practice.