

Research Directions

Office of Research Services

Real-time Interfaces for Electronic Music

Dr Garth Paine and Associate Professor Kate Stevens from MARCS Auditory Laboratories, along with researchers from the University of Canberra, McGill University, Canada, and industry partners the Electronic Music Foundation in New York and Infusion Systems, Canada have been granted an Australian Research Council Linkage grant to develop a unified theory of how electronic music artists practice and perform.



'The area of new interfaces for musical expression has no standard approach and is extremely varied in terms of the way artists practice, perform and interact with their instrument', says Dr Paine. 'Musicians continually adapt existing technologies for music making, seeking instruments that express the evolving cultural climate. However, current designs for electronic musical instruments are often based on models of user interaction derived from theories of computer interaction, industrial design or digital signal processing, rather than on musical content or artistic performance parameters. As a result these instruments lack the subtlety and nuanced expression of traditional acoustic instruments.'

This project seeks a remedy to this disjuncture by developing a unified theory of practice for the application of new interfaces for real-time electronic music performance. A crucial step in the development of new musical interfaces is the design of the relationship between the performer's physical gestures and the parameters that control the generation of the instruments sounds. This design element is made difficult because there is no standardised method for comparison of interactive music systems across performance, installation and related contexts. Researchers will create a design template using psychological experiments that will develop a taxonomic classification of performance characteristics that can be perceived and the music-gesture link.

The results of the project will be communicated to popular and commercial audiences in the areas of music technology, electronic arts and information technology so that the model of performance interfaces can be incorporated into future design and artistic expression. The project will include a festival of new interfaces for musical performance in New York.

Project Title: Performance practice in new interfaces for real-time electronic music performance

Funding has been set at: \$130,793 from ARC; \$332,015 support from partners

Partner Organisations: Thumtronics; Electronic Music Foundation; Australian Music Centre and Infusion Systems

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