

Research Directions

Office of Research Services

Interactive Music Systems

Dr Garth Paine, MARCS Auditory Laboratories and Dr Alan Lem, School of Communication Arts, together with Nordoff-Robbins Music Therapy Australia hope to increase physically disabled people's access to Creative Music Therapy by developing specialist audio technology - a velocity-sensitive non-speech audio system - with funding under the UWS Research Partnership Program.



'Sonification (non-speech audio) devices provide a medium through which profoundly disabled individuals can become relatively communicative using music and sound. The sense of control, agency and independence which this provides can be a powerful motivator, stimulating learning and interaction in other areas' Dr Paine explains. Dr Lem enthuses that 'Creative Music Therapy (CMT) is a form of music therapy based on a client-therapist relationship and musical improvisation. CMT is readily available to most people except those with the most severe physical disabilities because they face difficulties with motor control and the available electronic sonification devices are not sensitive to the dynamic qualities of movement.'

The development researchers are aiming for is to make the system velocity-sensitive (i.e. the piano responds to the force with which the keys are initially pressed) – so that it will provide responses to movement in a way not possible before. In particular, it will offer dynamic feedback to clients, stimulate their expressive communication, and increase their level of engagement, increasing the benefit of therapy. These developments will allow the sonification to truly carry the quality of the gesture the client makes rather than simply trigger a pre-recorded sound as current systems do. Such developments will allow clients to use their eye-lashes, lips or other minimal and constrained movements to engage in music therapy in ways previously impossible.

Data collected during the project will also lay the foundations for future research by music and other therapists towards a greater understanding of the role of movement in emotional expression.

Project Title: *Applications of Interactive Music Systems in improvisational music therapy*

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<http://www.uws.edu.au/about/adminorg/devint/ors/fundingopps/internalgrants>