

Music via Motion

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Coat of Invisible Notes

*dance, costume, music and
technology*

6.00pm Friday 29th September 2000
Clothworkers Centenary Concert Hall
University of Leeds

Admission Free

With special thanks to

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Velvets



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Two special dance performances, featuring a world premiere of an original interdisciplinary collaboration – CoIN (Coat of Invisible Notes), integrating dance, costume and music, and technology:

- 6:00 PM Friday 29th September 2000
Clothworkers Centenary Concert Hall, University of Leeds
Admission Free
- 7:30 PM Saturday 7th October 2000
Powerhouse 1, Showcase Theatre, Smythe Street, Wakefield
Tickets: £6/£4 concs

Members of the CoIN project:

Kia Ng (inventor of MvM)
Sita Popat (choreographer)
Christine Hughes (costume designer)
Bee Ong (software)
Ewan Stefani (composer)

with dancers from Bretton Hall College:

Rachel Clark
Jerry Greg
Jonathan Hate
Sarah Poulter
Danielle Rains



The Coat of Invisible Notes (CoIN)

The CoIN project brings together multiple creative domains to build specially designed costumes, music and dance within an interactive audio-visual augmented environment.

Music via Motion

The project uses a motion and colour sensitive system created by Dr. Kia Ng, at the University of Leeds Interdisciplinary Centre for Scientific Research in Music. The system, *Music via Motion* (MvM), uses a video camera to survey a live scene and track visual changes. Detected motions and colours are used to generate musical events using an extensible set of predefined mapping functions. This allows anyone to control musical sounds with their physical movements in front of the camera in real time. For example, a simple wave of the hand would result in a series of musical notes (or sound) corresponding to the speed and position of the movement. Imagine a virtual keyboard in front of a user: by moving his/her hand from left to right, the user plays a series of notes from a lower pitch to a higher pitch.

Currently, MvM has been equipped with several mapping functions, including a distance-to-MIDI-events mapping with many configurable parameters, such as scale type, pitch range and others. Parameters of motion such as proximity, trajectory, velocity and direction can also be tracked and mapped onto musical parameters such as pitch, velocity, timbre and duration. MvM also offers user configurable '*active regions*' where detected visual activities in certain areas can be mapped onto different MIDI channels.

For CoIN performances, MvM is configured to track the colour where visual changes were detected. Detected colours are used to control the choice of musical sound and effects. This feature is fully explored and particularly clear in a section of the choreography where the dancers are divided into two groups, wearing costumes in different colours. The contrasting movements and interactions between the two groups create interesting musical *dialogues* with two different musical sounds.

MvM brings together multiple creative domains to create an interactive and augmented environment, providing the users with real-time control of musical sound by their physical movement. In front of the camera, the users seem to be able to swim with the wave of musical sound and pick invisible musical notes from the air. With the advancement in science and technology, Dr Ng hopes that systems like the MvM will integrate art and science to offer artistic and creative sensory experience.

Costumes

The costumes in this project are not merely visual decoration but an integral part of the project. Christine Hughes's costume designs for this project make use of large vibrant area of colour, combining luscious fabrics such as satin, chiffon and fantastic crushed velvets in rich vibrant colours, featuring *blocks* of colour and texture both inside and out.

A particular feature of the costumes is that they are reversible and can be split apart into sections allowing the users to **re-assemble and re-configure** them to achieve different visual effects. These various changes in turn are detected by MvM and can be used to alter the character of the musical responses.

Crushed velvets are ideal for this project because they move beautifully on the dancers, and they do not crumple. The costumes are finished off with some outrageous headdresses including a bright pink bra on the head of one of the 'flirty girls' and the '3 tree spirits' whose headdresses are made from cut up plastic milk and soft drinks bottles, bubble plastic and loafahs!

Sound and Music

In tune with the costume design, which will make use of everyday objects, the music composed by Dr Ewan Stefani feature sound derived from similar sources. The intension of the music is to bring familiar sounds into the performance to encourage the audience to perceive them differently in this artistic context. A background layer of music was specially composed for these two performances, with synthesized and sampled sounds, and effects to be triggered by MvM, to produce a musical and coherent performance.

Dance

With the costumes, sound and music, Sita Popat's choreography experiments with the control that the MvM software gives the performer over all elements of the performance. Energetic, fun dance sections, triggering cascades of sound, are juxtaposed with stillness and isolated movements, which clearly illustrate the relationship between body and technology. The vibrant, flowing costumes accentuate the movement and allow specific dancers to be tracked by their colours, so that the relationship between dance and sound becomes more complex and refined. As the dancers perform the aural as well as the visual elements, this has proved a challenging choreographic project. Popat has worked to achieve a synthesis of movement and costume, dance and sound, body and technology in this celebration of art and science together.

Further information on MvM and CoIN are available online at www.compmus.com/mvm and www.kcng.org/mvm