

ECU Media Release

Wednesday, 24 September 2014

EMBARGOED – 1pm Tuesday 30 September 2014

Motion capture raises the barre for WAAPA dancers

Elite dance students now have access to a state-of-the-art motion capture facility which aims to improve teaching and prevent injuries.

The facility is the first of its kind bringing together motion capture technology and the expertise of a specialised biomechanist into an elite dance program.

It uses tiny markers on dancers' bodies to map their movements in 3D and create a video which can be reviewed as part of teaching, or even utilised in performance.

By tracking their movements, the facility's resident biomechanist Dr Luke Hopper hopes to assist dancers in refining their technique to prevent injuries.

Dance lecturer Andries Weidemann believes the possibilities for using the facility for teaching are almost endless.

The ability to view choreographed movements from any angle is uniquely valuable according to Mr Weidemann as dancers are usually only able to evaluate their movements in a mirror.

Quick Facts

- The ECU Motion Capture Facility, developed by ECU eResearch and supported by iVEC@ECU, is the only motion capture setup of its kind to incorporate the skills of a biomechanist directly into a university dance program in the interest of preventing dance injuries.
- The 12 Vicon motion capture cameras can accurately map around 20 sqm required for a rehearsal space.
- 40 to 50 markers are attached to each dancers' body.
- The facility captures at up to 500fps which allows recording of very fast movement and high quality slow motion playback.
- The facility will be used to support research in multiple disciplines across the university including Animation.

Quotes

"What makes motion capture at Mount Lawley unique is that we have access to a large cohort of talented dancers, in addition to scientific and artistic academics who are willing and able to use the lab in the investigation of the prevention of dance injuries."

"The motion capture lab is a state of the art facility which can measure 3D human movement.

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“It is firmly believed in the dance industry that performing with ‘incorrect technique’ will cause injury, but there is a lack of scientific evidence that supports these beliefs.

“This opportunity will allow us to ask the questions of whether a particular movement style will predispose a dancer to injury and can we measure how dancers’ movement proficiency improves as they progress through their training.

“Here we hope to provide a new form of visual feedback to the dancers’ of their movements using motion capture and see if this improves learning in dance training.

“The lab also has the capacity to record specific choreographic works as an archive for other choreographers to refer to in future productions.”

Dr Luke Hopper

Biomechanist and health in performing arts specialist, ECU

“Dancers learn by watching, copying and experimenting with movement on their own until they have integrated that movement into patterns that they can replicate easily.

“Seeing their motion captured and placed on an avatar gives the students a perspective that they have not had before and that this can lead to new insights about their performance.

“At the moment we are looking at creating an integrated performance segment that involves capturing motion and creatively developing it into a film clip. As we do this we will have a choreographer creating movement for dancers that is performed simultaneously to the clip being projected in the performance. In a sense, the motion capture will become one of the performers in the piece.”

Andries Weidemann

Dance Lecturer

WAAPA

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Media contact: Ben Jones, Corporate Communications Officer, (08) 6304 2381, 0439 529 551 or b.jones2@ecu.edu.au