

DANNY GOES DIGITAL

Several years ago renowned notator Rhonda Ryman was demonstrating the usefulness of a new character animation software called DanceForms, for notating dance, in particular ballet. An interested, yet skeptical observer, the late Lawrence Adams, co-founder of Dance Collection Danse, challenged Ms. Ryman. "That's a great tool, Rhonda, for ballet perhaps, with its standards movements and vocabulary." He said. "but how useful is it for modern dance styles, for example, for Danny Grossman's Curious Schools of Theatrical Dancing."

Rhonda recalls the conversation. "It was like an acid test in that Lawrence believed that if DanceForms could represent Curious -with all its dynamic changes, and unconventional rolls and isolations-it could represent anything!"

Since then Rhonda has taken on this challenge, diligently notating Curious using the DanceForms, the software developed by Credo Interactive, a Vancouver-based company. The result is an animated stick figure who the company affectionately calls 'Gregorio'. Although nearly technically precise, in terms of motions, Gregorio lacks dynamism, musicality, and smoothness of movement.



Eddie gets suited up with reflective sensors attached by velcro to a special suit.

In an effort to address this, the project has taken on a new dimension, quite literally. Recently, Danny Grossman and Eddie Kastrau traveled to Western Michigan University in Kalamazoo, Michigan, to investigate the potential of motion capture in the preservation and recreation of dance. Donning a motion capture suit, Eddie danced through the sections of the solo Curious, while information from the suit was recorded digitally. Professor Ryman hopes to use the motion capture data as unique complementary data to her score of Curious, which she has already notated and key-framed in DanceForms. The keyframed animation, like a music score, represents the choreography as Danny envisioned it, whereas the mocap animation, like a recording of one interpretation, represents what Eddie achieved.

The motion capture project is the result of a Digital Media in the Performing Arts Innovation Grant (www.wmich.edu/digitalmedia/). Spearheaded by Project Director Kevin Abbott (Office of Information Technology) and Co-Director David Curwen (Associate Professor, Dance) of Western Michigan University Dance, the goal has been to explore the capabilities of these sophisticated technologies in order to create new conceptual and theatrical environments for the performing arts. Already the grant has produced an evening of student work and a Department of Theatre production of *Dr. Faustus*, both of which have utilized motion capture, stereoscopic 3D projections and computer animation. The grant will conclude this Fall with a dance technology performance, which will explore issues of identity and intimacy.



Dancing Curious in the MoCap suit.

Motion Capture, is a technological advancement that allows for the recording and digitization of motion translated through a motion capture suit, equipped with reflective sensors. Infrared cameras placed around the stage, 'capture' reflections from the tabs worn by the subject, creating a three dimensional digital dancer. The resulting data, can then be imported into animation software such as DanceForms.

Those familiar with the making of *The Lord of the Rings*, in particular, the animation for the character Gollum, will recognize this technology. Actor Andy Sirkus wore a motion capture suit, upon which animators later super-imposed the figure of Gollum, resulting in a very life-like creature. In fact, WMU acquired their set of infrared cameras from the movie *"The Polar Express"*, who had used it as a back up system.

In addition to anticipating the re-animation of Gregorio, using the MoCap data, Kevin and David have scanned their database of animations, and have jokingly offered to animate "T-Rex" dancing in Curious, bringing new meaning to the term, Endangered Dance. Stay tuned...

