

Motion Capture in Action

October 2, 2007
Warner Bentley Theater

Motion Capture In Action combines the ancient art of dance with state of the art technology. Motion capture optically captures the movements and expressions of an actor or dancer and translates it onto a computer generated image (CGI) to bring the digital image to life. In this case, we fit three dancers, Jonah Bokaer (Merce Cunningham Dance Co.), Emily Cross (Dartmouth Dance Ensemble) and Jennifer Armstrong (Dartmouth Dance Ensemble Instructor), with specially designed suits. The dancers will perform Merce Cunningham dances and work choreographed specifically for this demonstration. As they dance, their motion will be instantaneously transferred to three computer generated 3D models that will dance along in unison with the dancers.



“Boobie” by Merce Cunningham

The 3D computer models are based on a drawing done by Merce Cunningham. The models were created by Rachel Forman (09), a student in the Digital Arts Minor program, offered through the Computer Science Department. Lorie Loeb, co-director of the Digital Arts program and a Research Assistant Professor in Computer Science, is the faculty advisor for the project. The motion capture system was purchased by Dartmouth with an NSF, CISE Computing Research Infrastructure Grant, awarded to Prof's Hany Farid, Fabio Pellacini, Devin Balkcom and Lorie Loeb. Colin Treseler (09) and a team of students worked on the set up and installation of this piece.

The NSF grant (\$427,000) was awarded to Prof's Farid, Pellacini, Balkcom and Loeb to create a Digital Imaging Laboratory to support research, the Digital Arts Minor and cross-disciplinary work. The laboratory will house equipment for the capture, display, production and analysis of digital media in 2, 3 and 4 dimensions.