

VaRionettes is an interactive installation that demonstrates simple and natural control of complex actions and gestural expressions of a virtual actor (an avatar) using a vision-based interface. Users control a virtual actor directly with their hands, without the use of markers, gloves, sensors, or wires. Images of users' hands are captured by a pair of video cameras and processed to recognize gestures and extract 3D pose and motion parameters. This visual information is translated into commands and parameters that control the avatar's posture, actions, and behaviors. Users can control the positions, motions, and gestures

of the avatar's hands, its head direction, and its walking or running behaviors. The avatar's responses are instantaneous and precise, due to the speed and accuracy of the Bell Labs Gesture Recognition technology. This system provides a simple and intuitive interface to a rich set of behaviors that enable complex interactions with other virtual actors in a virtual theater or with other participants in a virtual conference.



*Dancing Avatars*

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