Supplemental Document:
Interface Techniques for 3D Control of Spatial Keyframing

Igor Mordatch, Patrick Coleman, Karan Singh, and Ravin Balakrishnan
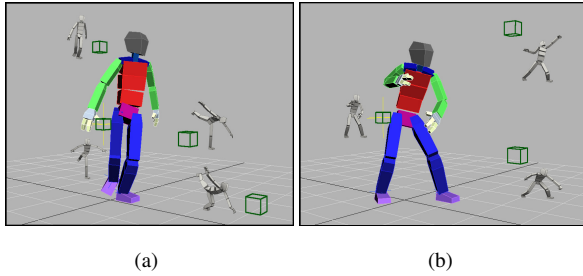
(a)   (b)

Figure 1: Example 3D control spaces for spatial keyframing. 3D cursor location defines the interpolated pose. As in the original spatial keyframing system, we use radial basis functions to interpolate among the example poses.
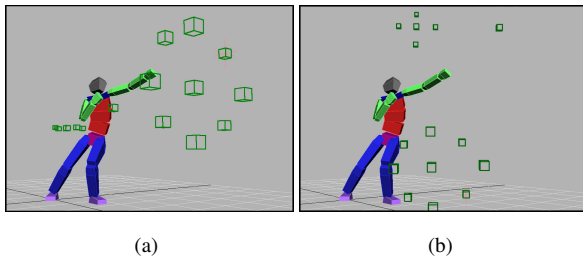

(a)   (b)

Figure 2: As control targets exist in 3D space, some pose sets can be difficult to navigate from a particular view, for example the set to the left of the character (a). Repositioning each set of poses relative to the current view alleviates this difficulty (b). Here, we apply an optional clustering pass to the entire set of poses and lay out each cluster independently. This changes the global interpolation space, but it can be useful when users organize poses into task–specific pose clusters.
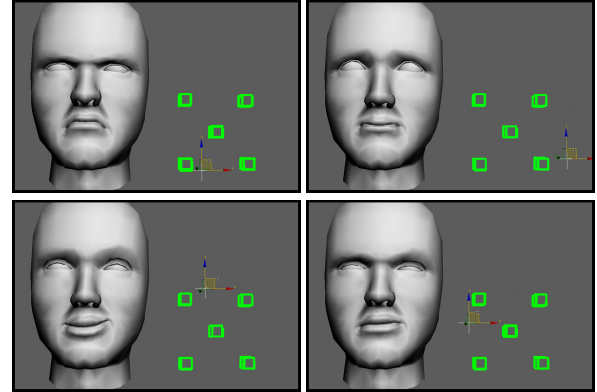

Figure 3: We can control any parameterized model with our 3D spatial keyframing system. Here, we apply it to multi–target facial animation.
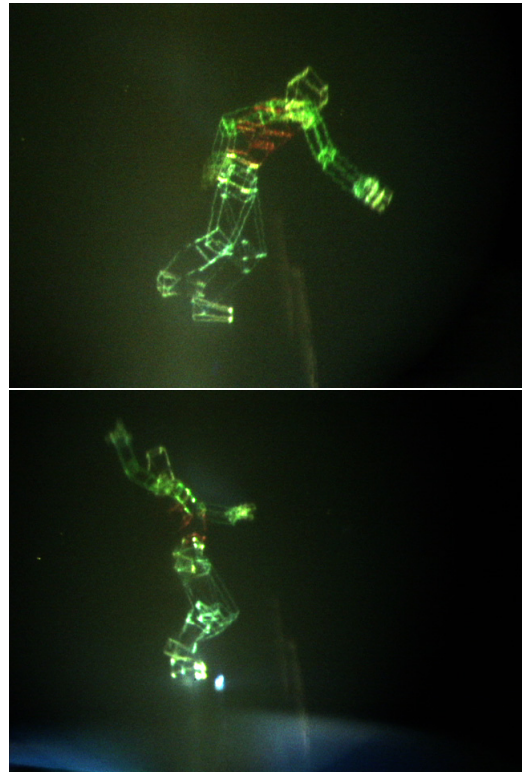

Figure 4: Two photographs of character poses created interactively using our 3D tracking interface and volumetric display. In the first, a character reaches forward. In the second, a character reaches as part of a dance motion.