Segmentation-Based Skinning

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Skeleton-driven animation is popular by its simplicity and intuitive control of the limbs of a character. Linear blend skinning (LBS) is up to date the most efficient and simple deformation method; however, painting influence skinning weights is not intuitive, and it suffers the candy-wrapper artifact. In this paper, we propose an approach based on mesh segmentation for skinning and skeleton-driven computer animation. We propose a novel and fast method, based on watershed segmentation to deal with characters in T-Pose and arbitrary poses, a simple weight assign algorithm based in the rigid skinning obtained with the segmentation algorithm for the LBS deformation method, and finally, a modified version of the LBS that avoids the loss of volume in twist rotations using the segmentation stage output values.

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