# A Guided Synthesizer for Blendshape Characters Supplementary Information

Wan-Chun Ma J.P. Lewis
Weta Digital

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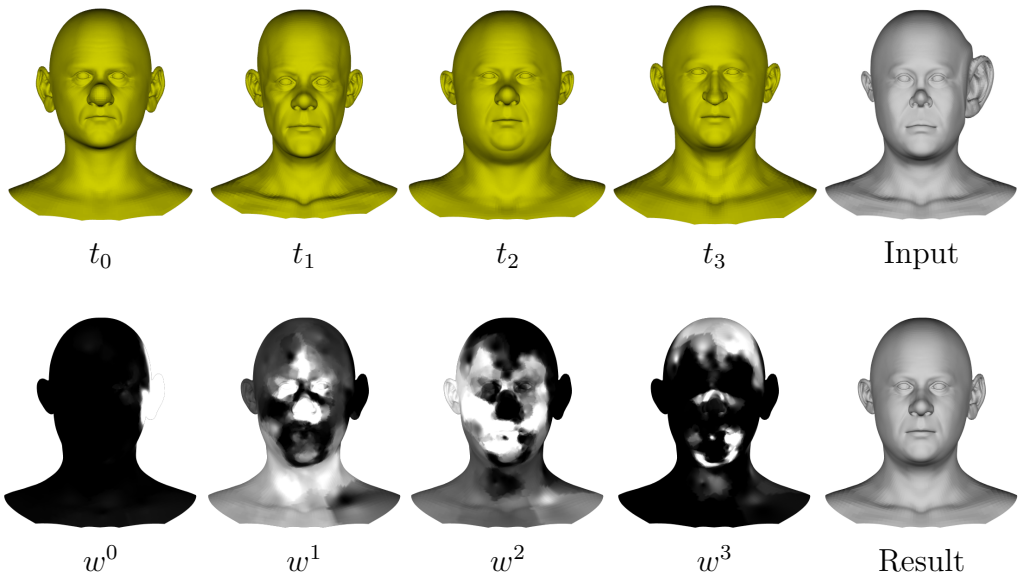


Figure 1: Visualization of blending weights. The optimal composition step computes these blending weights based on the user input. Note that the left ear of the input shape is oddly large, however since our system only produces result within the convex space of all the training characters, the left ear of the output shape is mostly copied from $t_0$, where the largest ear locates among all the training characters.

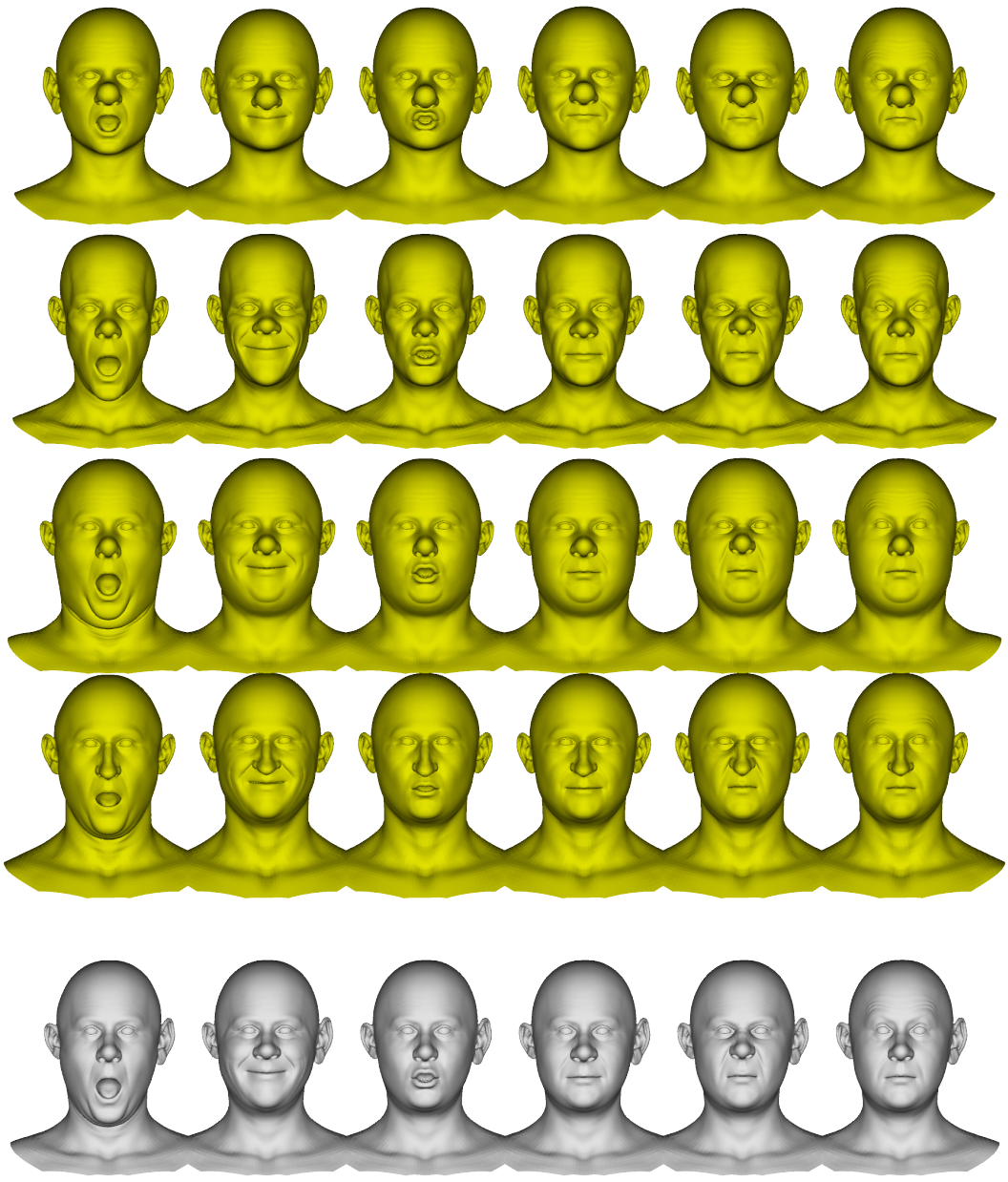

Figure 2: Synthesized expressions. The top four rows show six expressions of each input characters. The bottom row shows corresponding expressions which is synthesized based on the recovered weights shown in Figure 1.

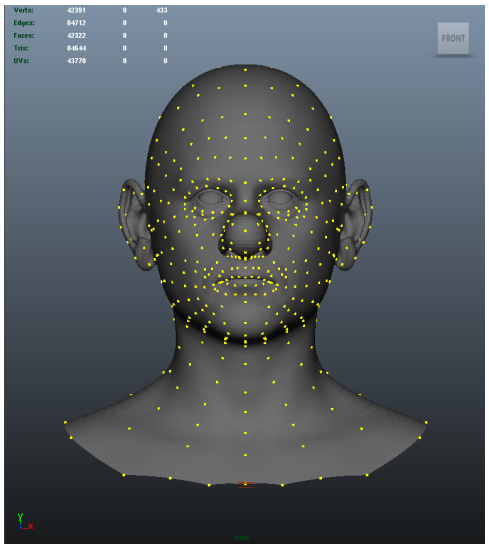


Figure 3: The actual points that are sampled for computing optimal composition (in yellow color). The weights will be computed at each of these points in the optimal composition step. Later on these weights will be propagated to rest of the vertices in the model by radial basis functions or other scattered data interpolation techniques.

Blending positions Blending edges

Figure 4: Since the character targets are usually in different sizes and locations, directly blending the vertex positions is invalid. Gradient domain processing such as edge blending followed by a surface integration yeilds correct results.