Sketch-Based Modeling with the BlobTree (sketches_0292)

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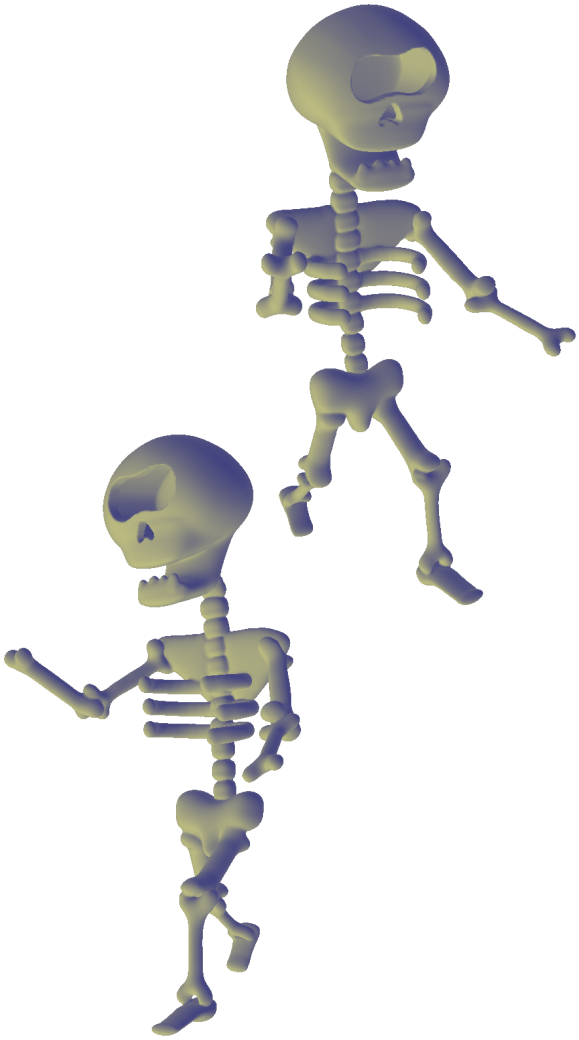

Figure 1: Several views of the skeleton model. This model is composed of 36 blended sketch primitives and 3 CSG difference operations. The skull was "hollowed out" as a final step, a complex topological operation that would be very difficult to support interactively without an underlying volume-modeling system.

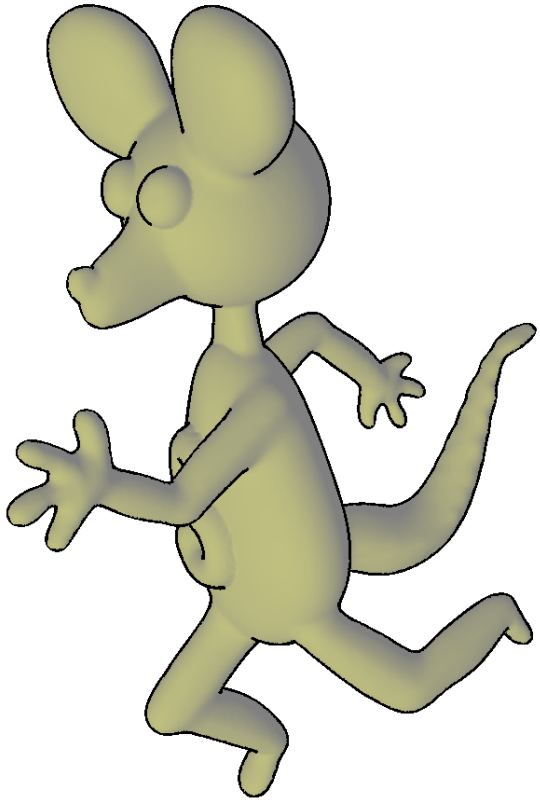

Figure 2: Rat character created with 20 blended sketch primitives. The blended primitives are represented independently in the BlobTree hierarchy and can be manipulated interactively. Because the BlobTree functions as a scene graph, this model could be animated directly.

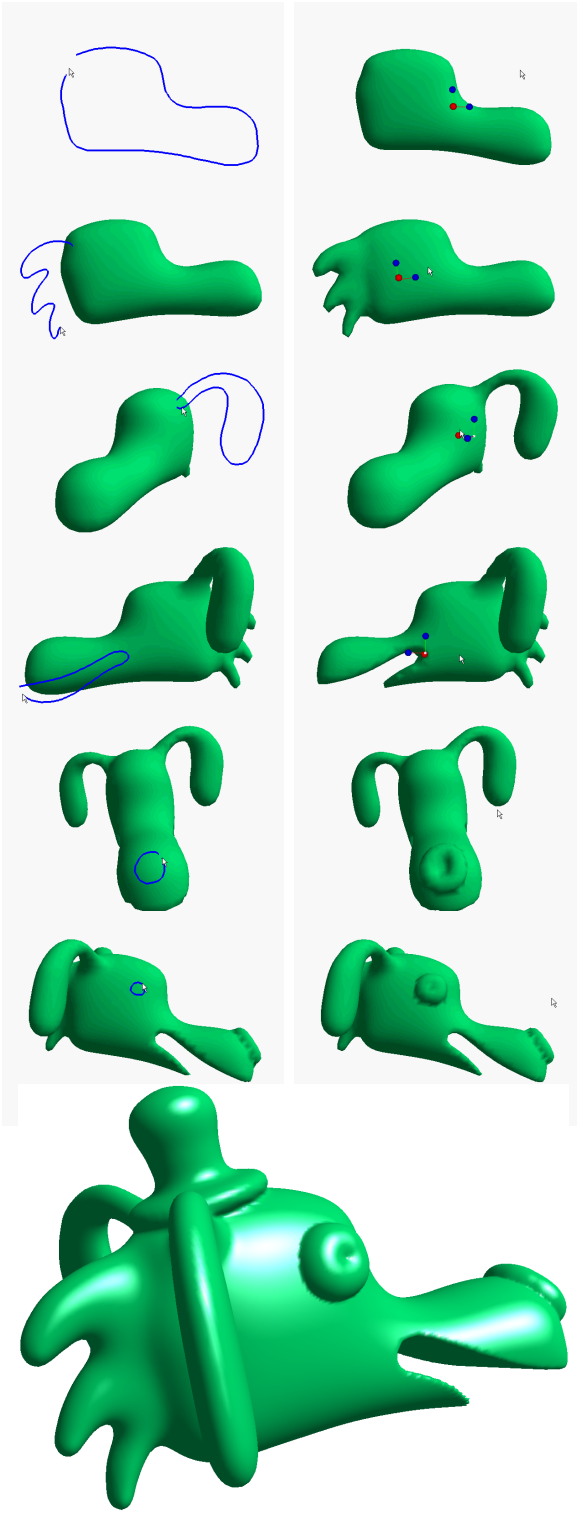

Figure 3: Screenshots from a sketch-modeling session. Sketches are shown in left column, resulting 3D model is shown on right. The entire sketching session lasts only two minutes. The high-resolution triangle mesh used to produce the final image is computed in an additional few seconds.

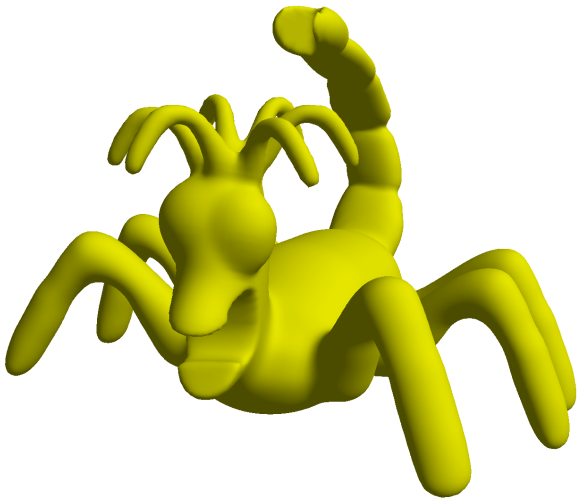

Figure 4: This scorpion model was constructed in a few minutes with our sketching system.

Figure 5: The result of 3D “doodling”.