

Scott Douglas
Maya Modeling – Flour Sack Assignment
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Polygon Modeling vs. Subdivision Surface Modeling

I chose to model the flour sacks using Polygonal modeling and Subdivision surfaces modeling. Each method showed its weaknesses and strengths when tested using skeleton deformations.

Subdivision surface modeling provided the best approach for modeling the flour sack. Subdivision surface modeling maintains smooth edges and a lot of shape information, even when more extreme skeleton deformations are applied. Even when the flour sack was deformed in many directions, its geometry remained smooth.

Polygonal modeling of the flour sack created rigid edges and points. When deforming the flour sack, the geometry would often break if it was deformed the same amount that a subdivision surface could be deformed. These results were obtained using a model with a fairly high polygon count. It would be interesting to see if the results hold true for low polygon count models as well. I think it would deform better overall, but would look worse without the larger number of polygons.

Subdivision surface modeling offers more versatility and control than polygonal modeling. With subdivision surfaces modeling, you can model in standard mode or polygon proxy mode, which allows you to pick whichever method is best for the project. It's like polygonal modeling with extra refinement capabilities.

Subdivision surface modeling was best for modeling a flour sack, but polygonal modeling has its place. Choose polygonal modeling if your model doesn't need to bend much, and wants to seem rigid. Choose subdivision surface modeling if your object needs to be bent a lot, has short bones, or needs to maintain a smooth shape.