Curvature-weighted Surface Simplification Algorithm using 
Vertex-based Geometric Features

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ABSTRACT

The QEM algorithm is frequently used to simplify the surface model which utilized the vertex-pair algorithm. The simplified model acquired by using such an algorithm has the advantage of possessing small storage capacity compared to the original model. However, since there are a number of cases when significant features are lost geometrically, these features were preserved by taking advantage of the curvature-weighted algorithm. By using the vertex-based geometric features, this study suggested a method which preserves the geometric features better than previous algorithm. In a bid to show that the suggested method is effective, an experiment on simplification is conducted by using several models. This study found that geometrically important features are preserved well when there is a local feature and the error with the original surface is similar to the previous algorithms when there is no local feature.

REFERENCES