Abstract

Generally applications in computer graphics use very high detailed models. These models are too compound for the limited hardware capacity and take much time to render and to transmit. Related fields can benefit from simplification of complex polygonal models. This introduces errors in the models during the process of simplification. It is require to judge when to stop the simplification process as rate of error change in the model is not same in every step of simplification process. It is required to measure the error in the model during simplification to judge the quality of the 3D model at every stage. It is proposed to measure the error in the model at every stage and analyze the rate of change of error in the model as a valuable tool for managing data complexity. This algorithm is implemented on 4 different sets of models. Each set contains models at different number of polygon levels. Experiments are repeated to measure error on them at each level. In order to gain in both memory and speed, VC++ API is
developed and created a MLL (Maya link library) to load as a plug-in in Maya.

Reference

- Jihad El-Sana and Amitabh Varshney. Feneralized View- Dependent Simplification ,Volume 18,1999, EUROGRAPHICS
- Klein, Reinhard, Gunther Liebich, and Wolfgang Straßer, “Mesh Reduction with Error Control”, Proceedings of IEEE Visualization ’96
- Maya 2008 manuals.
- Yacine Amara, Mario Gutiérrez, Frédéric Vexo and Daniel Thalmann, “A MAYA Exporting Plug-in for MPEG-4 FBA Human Characters”, infoscience.epfl.ch/record/100258/files/Amara_and_al_Richmedia_03.pdf

**Index Terms**

Computer Science  
Computer Graphics

**Key words**

Error metric  
MAYA API  
Plug-in