

ABSTRACT

METHOD AND APPARATUS FOR GENERATING ATOMIC PARTS OF GRAPHIC REPRESENTATION THROUGH SKELETONIZATION FOR INTERACTIVE VISUALIZATION APPLICATIONS

5 This invention presents a method to extract atomic parts of a graphics
model using its skeleton. A skeleton is a fully collapsed body of the model, and is
obtained through a novel way to contract edges of the model. For each connected
part of the skeleton, an atomic part or feature which is a part of the model that is
distinctively autonomous from its connected or neighboring body is formed. Next,
10 atomic parts can be connected into a hierarchy depending on the eventual
interactive visualization applications. The operation of the method includes the
steps of interactively computing, displaying and recording skeleton, atomic parts,
and object hierarchies in response to user commands to, for example, modifying
skeleton, atomic parts or object hierarchies. Object hierarchies are useful to
15 various applications such as object scene management, view-dependent
simplification, mesh-mapping, morphing, and building bounding volume
hierarchies.

FIG. 3 is to be published.