3D MESH PARTITIONING FOR RETRIEVAL BY PARTS APPLICATIONS (ThuAmOR1)

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**Abstract:**
A solution for part segmentation of 3D objects is proposed in this paper. The approach is targeted to identify salient visual parts of a mesh by determining its main protrusions and discarding, at the same time, parts originated by un-relevant local properties. This is obtained by first breaking the 3D mesh into seed regions according to the sum of geodesic distances between vertices, then by using topological and curvature information to refine the number of regions and their boundaries. In so doing, effective segmentation is regarded as a prerequisite to enable retrieval of 3D objects based on similarity of parts. Experimental results show the applicability of the proposed solution to complex shapes and its effectiveness in the identification of object parts.