Shape-Based 3D Model Retrieval System based on Elevation Descriptor

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Abstract

Recently, with the construction of digital libraries, the management of the large multimedia databases becomes an important issue. Unfortunately, traditional keyword searching techniques are not always effective for multimedia information. Thus, computer science has make incredible progress in retrieval of multimedia data based on image content. However, most of retrieval systems are focus on the 2D image databases. As the number of 3D models available on the digital libraries, the demand for a content-based 3D model retrieval system becomes urgent. Thus, in this paper, we propose two novel features for 3D model retrieval. One is adaptive D2, another is 3D model's six elevations including front elevation, plan, left side elevation, right side elevation, rear elevation and bottom elevation. Then, based on the rank of the feature distance, a similar measure is provided to do the similar 3D model retrieval. Finally, use a relevance feedback algorithm to better adapt to the preferences of users. Experiment results show that these proposed methods are superior to others.

Keyword：