A review on level of detail

Abstract:

Recent advances in modern 3D scanning technology and the increasingly size of computer simulations have led to a rapid increase in the availability and size of geometry data sets. Gigantic polygonal data sets, consisting of hundreds of millions of faces, are becoming quite common. While the performance of graphics hardware also seen a drastic rise in these years, however, ability to produce enormous data sets overload the capabilities of the state-of-the-art graphics chip. Therefore, automatic model simplification and run-time level of detail (LOD) management techniques are introduced. In this paper, we present a review on level of detail techniques in an organized structure. Level of detail framework, level of detail management, level of detail simplification models and metrics for simplification and error evaluation are discussed in sequence. Finally, some current issues and conclusion will be given.