

研发、测试

CAD模型转换到VR模型的实时可视性研究

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摘要 实时3D可视化是机械产品设计中的一个主要问题, 针对CAD几何学和装配以及机械产品的高可视化提出了MEMPHIS中间件框架, 目的是连接实时虚拟现实应用, 特别是CAD模型的管理操作设计。同时还保证了当进行模型转换时, 在CAD模型上必须作相应的几何改变, 系统会同步变化, 这样避免了传统的从CAD模型转换到VR模型转换时人工加入虚拟现实特殊信息, 如光照设置、材质、纹理、行为这些刻画VR模型可视化特性的信息属性后才能实现这种转换。从而大大提高了机械产品协同设计的效率和可视性性能。

关键词 [CAD](#) [可视化](#) [虚拟现实](#) [几何转换](#)

分类号

Real-time visualization research of transform from CAD model to VR model

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Abstract

The real time 3D visualization is the key issue in the mechanical products design. In this paper the MEMPHIS middleware framework is presented for the integration of CAD geometries and assemblies with derived Virtual Reality (VR) models and its high visualization. The goal of this work is to connect real time VR applications, especially for the managing CAD models. At the same time, while materials can be switched directly on the VR model, the modification of part geometries must be made on the CAD model. The system will make a synchronized change. So that avoiding artificially joining the virtual reality special information that portrays the VR model visible characteristic information attribute such as illumination establishment, the material quality, the texture, behavior and so on just as the traditional transformation from the CAD model to the VR model when. Thus greatly enhances the mechanical product coordination design efficiency and visualization performance.

Key words [CAD](#) [visualization](#) [Virtual Reality \(VR\)](#) [geometry conversion](#)

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