ÖZET

SANAL HEYKELTİRİŞLIK SİSTEMLERİ İÇİN YENİ DIŞ ÇEPER VE DALLANMA YAKLAŞIMLARININ GELİŞTİRİLMESİ

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Anahtar Kelimeler : Katı Hacim Modeleme, Sanal Heykeltıraşlık,

Yeniden İnşa, Dextel, Voxel, Örgüleme

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SUMMARY

DEVELOPING A NEW CONTOURING AND BRANCHING APPROACH IN COMPUTER BASED VIRTUAL SCULPTING

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In this study, A new alternative solution for the virtual sculpting systems has been proposed and developed. Branching and processing solid objects which are two important phases of the system have been successfully completed with this “virtual plane” based system. Produced platform has been integrated with the rapid and robust construction of the contours. Supporting the basic geometric properties with the suitable computer data structures has played an important role for the implementation of the system. The system has lots of advantage against voxel and dixel volume modeling cause of its solid model and virtual tool independent structure. The system is faster, needs less drive capacity and resume less memory with that structure. Ability of solving known sample problems and advantages in comparison with actual approaches with regard to performance values of study are shown. In the implementation of the system, .Net C# programming language and OpenGL graphics libraries are used.

Keywords : Solid Volume Modeling, Virtual Sculpting, Reconstruction, Dixel, Voxel, Branching

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