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Real-time 3D Artistic Rendering System

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Abstract

This paper presents an artistic rendering system for generating 3D images of Chinese paintings using graphics hardware. The user can adjust suitable parameters flexibly to generate different brush styles as his/her hobby, and see rendering results in real time. In this system, we propose a hardware-accelerated method to draw Chinese painting strokes efficiently along visible silhouettes. Three-dimensional texture and multi-texture from normal graphics hardware is used to speed up generating various brushes with Chinese painting stylized strokes. The features of the traditional Chinese painting such as ink diffusion and moisture effects are simulated. Several examples of aesthetically pleasing Chinese-paintings rendered from 3D models are demonstrated using the proposed method.