

A Fast and Robust Protocol for Reconstruction and Re-Enactment of Historical Sites

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Abstract : This research proposes a novel reconstruction protocol for restoring missing surfaces and low-quality edges and shapes in photos of artifacts at historical sites. The protocol starts with the extraction of a cloud of points. This extraction process is based on four subordinate algorithms, which differ in the robustness and amount of resultant. Moreover, they use different -but complementary- accuracy to some related features and to the way they build a quality mesh. The performance of our proposed protocol is compared with other state-of-the-art algorithms and toolkits. The statistical analysis shows that our algorithm significantly outperforms its rivals in the resultant quality of its object files used to reconstruct the desired model.

Keywords : meshes, point clouds, surface reconstruction protocols, 3D reconstruction

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