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Texture generation for archaeological reconstructions

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The paper describes a solution that reconstructs the texture in 3D models of archeological monuments and performs their visualization. The software we have developed allows to model the outward surface of objects in various states of preservation. Drawings and photographs of preserved wall fragments and stonework elements are used in the modelling process. Our work resulted in development of a texturing system that reconstructs textures of a given object based on photographs and fragments of drawings.

The major distinguishing feature of the system is that it can reconstruct textures using limited and low-quality input data. For instance, the input data fed to the system may consist of photographs of an object taken with an ordinary camera (e.g., with a smartphone).

In developing the system, we used OpenCV, CGAL and AwesomeBump open source computer vision packages.

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