

3D Scanning Technology: Capabilities and Issues

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Abstract

The recent evolution of graphics technology makes it possible to manage very complex models on inexpensive platforms. These impressive rendering capabilities should be paired with detailed and accurate digital models. The construction of high quality 3D models is made easier by the increasing diffusion of automatic 3D measuring devices (often called 3D scanners). These allow to build highly accurate models of real 3D objects in a cost- and time-effective manner. The talk will present the capabilities of this technology focusing mainly on a particular application context: the acquisition of Cultural Heritage artifacts. The peculiar requirements of this domain (high accuracy in the acquisition of both shape and surface appearance, expected low cost and easiness of use of the tools) make it a perfect application example. This talk aims also at presenting and discussing the main issues in the acquisition of accurate 3D models, together with some limitations of current hardware and software tools. Some examples of the results of current projects will be shown.
