



Algorithm for semi-automatic registration of 2D images on 3D scan images

KEYWORDS

3D imaging
3D scanner
Medical imaging
Image registration
3D documentation of buildings

IP

US62165433
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LAB

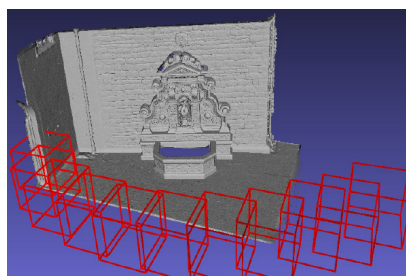
A. Habed

- ICube -
UMR 7357
Strasbourg, FR



TECHNOLOGY

- Algorithm to automatically register a scanned scene, represented by 3D Euclidean point coordinates, and two or more uncalibrated cameras
- Images acquired from unregistered devices, even moving cameras
- Establishes 2D-3D correspondences without triangulating image points



Rough positioning of cameras



Result of registration

APPLICATIONS

- Construction industry and civil engineering: 3D documentation of buildings, refineries...
- Entertainment: 3D models for virtual reality
- Cultural heritage: replaces casting and simplifies restoration
- Forensic medicine: documentation of crime scenes
- Medical imaging

ADVANTAGES

- Global optimal solution (non-context specific)
- Needs only rough knowledge of camera positions
- Works with unscaled images

DEVELOPMENT STATUS

- Comparative tests show quicker and more accurate registration than existing methods
- On-going work for a fully automatical solution

Partnership: Seeking partners to licence the patent or to enter a co-conception program

CONTACT

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