Presentation of the 3d scanning device

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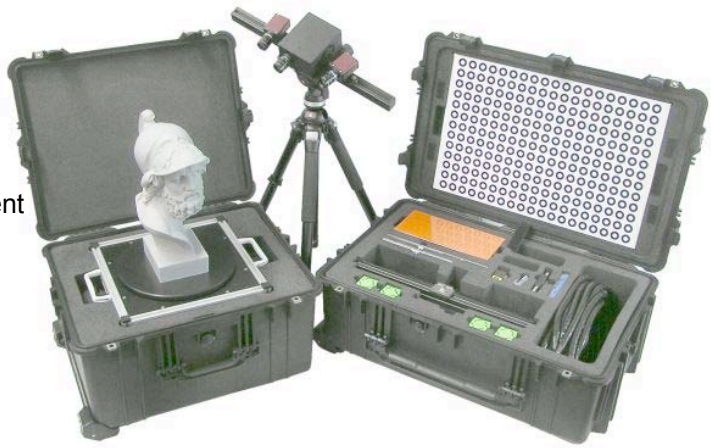
3D digitizing of real world objects

Product: 3D digitization system

- Compact, mobile solution
  - 3D-Scanner
  - Rotary device
  - Travel cases
  - Calibration equipment



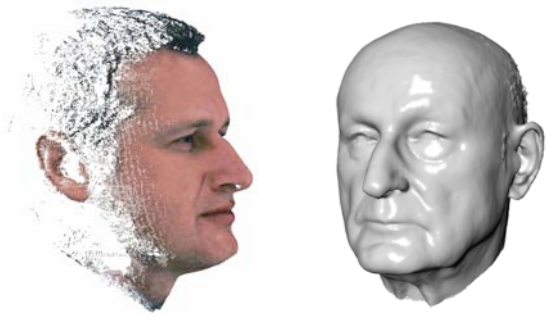
3D face acquisition device

Development of …

- 3D face acquisition prototype system with active methods

Major objectives:

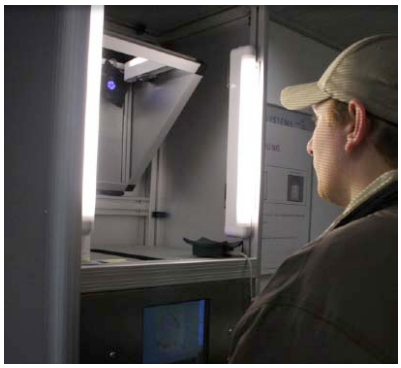
- Capturing 3D images and 2D texture
- Adaptation to different person heights
- 3D video



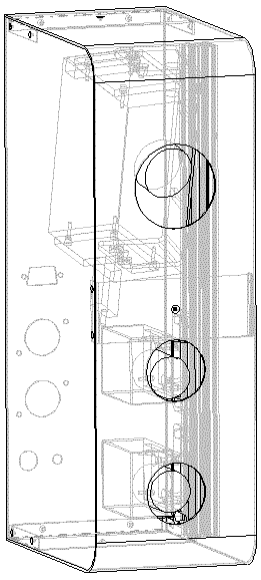
Ideal Sensor requirements

- Accuracy : depth 0.1 mm, 400 x 500 vertices
- Acqusition time: 0.06s .. 0.25s
- Overall processing time: < 5s
- Field of view : horizontally 2 - vertically 3 eye distances
- Object movements : tolerate slow person movements
- Comply with EU health authorities
- Hardware integration: Kiosk solution / single housing
- Physical constraints : IP65 (dust tight, water jet protected)
- Lighting Conditions: Robust in- and outdoor

Experimental prototype



viSense – Face scanning in 3D and color



viSense – Face scanning in 3D and color

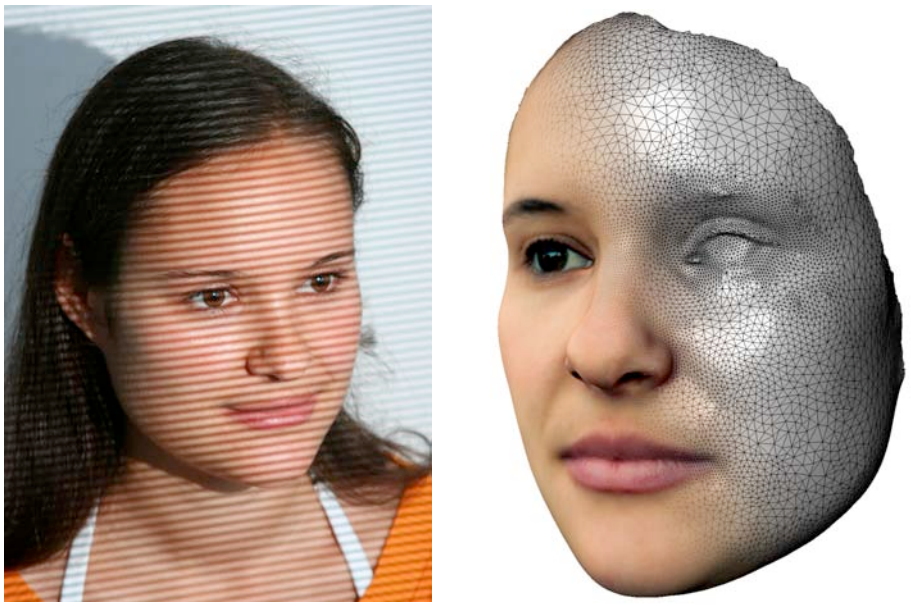
- Resolution 3D [pixel]: 640 x 480
- Resolution 2D / color [pixel]: 1280 x 960
- Field of view [mm]: 350 x 260
- Capture time [s]: 0.25
- Dimensions [mm]: 190 x 130 x 350
- Weight [g]: 2300
- Export of the point cloud: VRML 2.0

Eye Safety Norm EN 60825

- Computation and measurement according to EN 60825:
  - Describes Laser sources including LED sources
  - European norm
- Results
  - Eyesafe for 28 sec of exposure at 10 cm distance
  - Eyesafe for 230 sec of exposure at 70 cm distance
- Real exposure time 3s at 70 cm working distance

➔ Eye-safe under reasonable assumptions !

viSense – Face scanning in 3D and color



Prototype – with adjustable height

- Height: 150 cm + 60 cm
- Width : 31 cm
- Depth : 32 cm
- Height range: 70cm
- Elevator-speed: fast
- Constant viewing angle
- Embedded PC
- Integrated housing
- Assembly :
  - Wall fastening
  - Stand