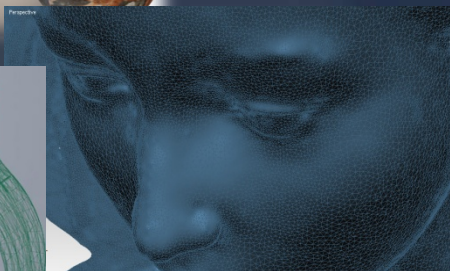
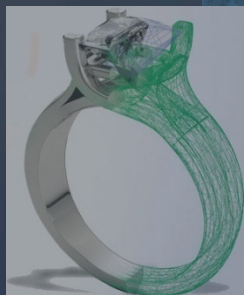




3D Processing and Anti-counterfeiting

Università degli Studi di Firenze



UNIVERSITÀ
DEGLI STUDI
FIRENZE

DINFO

Dipartimento di
Ingegneria dell'Informazione



Research activity

multimedia signal processing

- ✓ multimedia security technologies
- ✓ advanced 2D and 3D processing



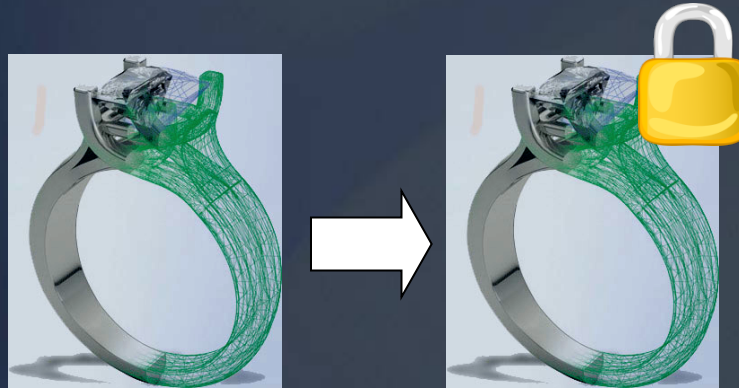
Watermarking 3D

**A safety and robust system for
exchanging 3D model with providers/
customers**

Watermarking 3D



What is it?



A sort of digital DNA code
Invisible and permanent on each copy!

Watermarking 3D



Each copy is copyright protected with
the watermark



Watermarking 3D



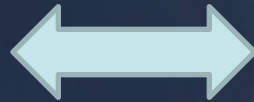
In case of illegal or unauthorized use the detection of the watermark is a proof in a trial



Watermarking 3D



When using it?



**Anti-counterfeiting
sealing wax**

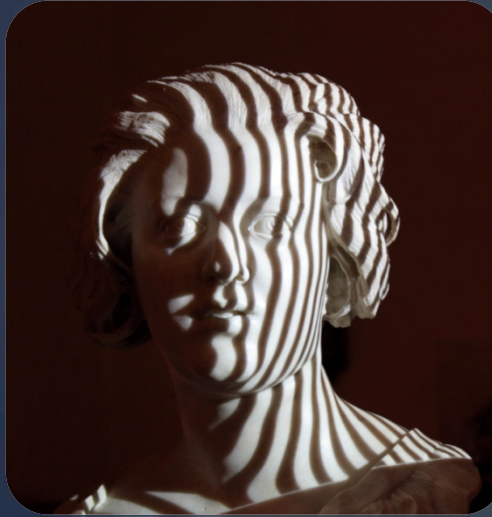


3D Acquisition campaigns





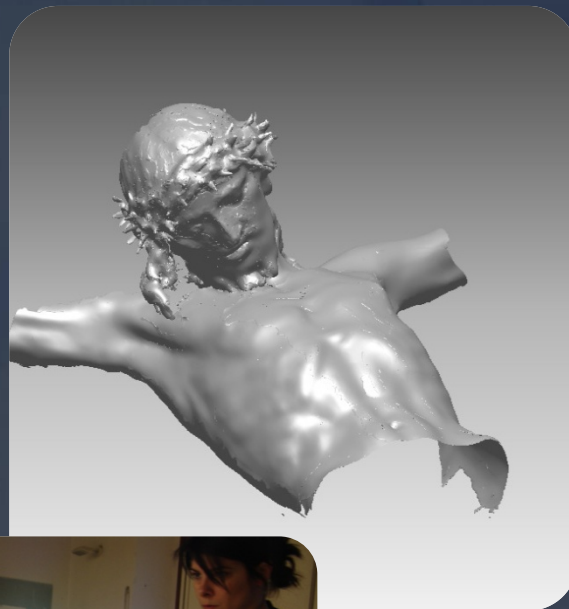
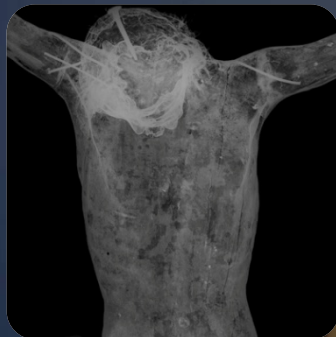
3D Acquisition campaigns





3D Acquisition campaigns

RX
Image



3D model

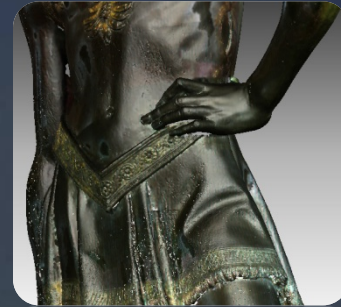
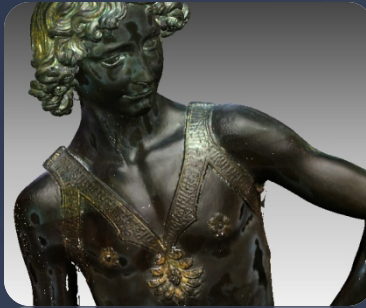


Ultraviolet
image





3D Acquisition campaigns

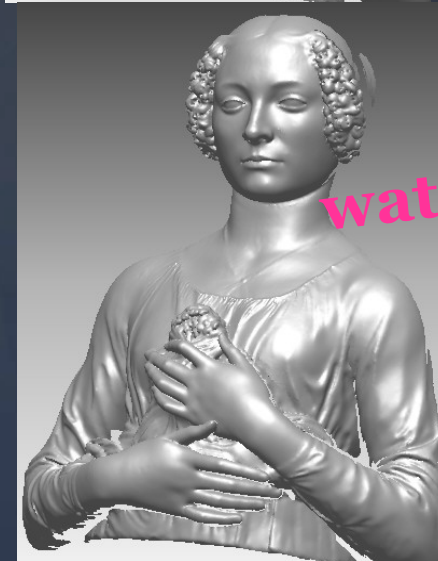




3D processing and watermarking



**3D
original**



**3D
watermarked**

**RGB Texture
mapping**





3D

watermarked





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3D Processing and anti-counterfeiting

