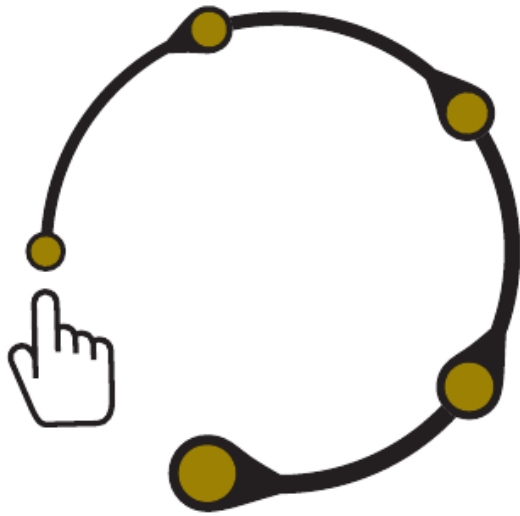




*V-MUST is funded by the European Commission under the Community's Seventh Framework Programme, contract no. GA 270404.*



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**EXPERIENCE  
THE FUTURE  
OF THE PAST**

## MeshLab: a swiss army knife for 3d models

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Digital Cultural Heritage LinkSCEEM/V-MusT  
Thematic Workshop  
Bibliotheca Alexandrina, september 24-26, 2012

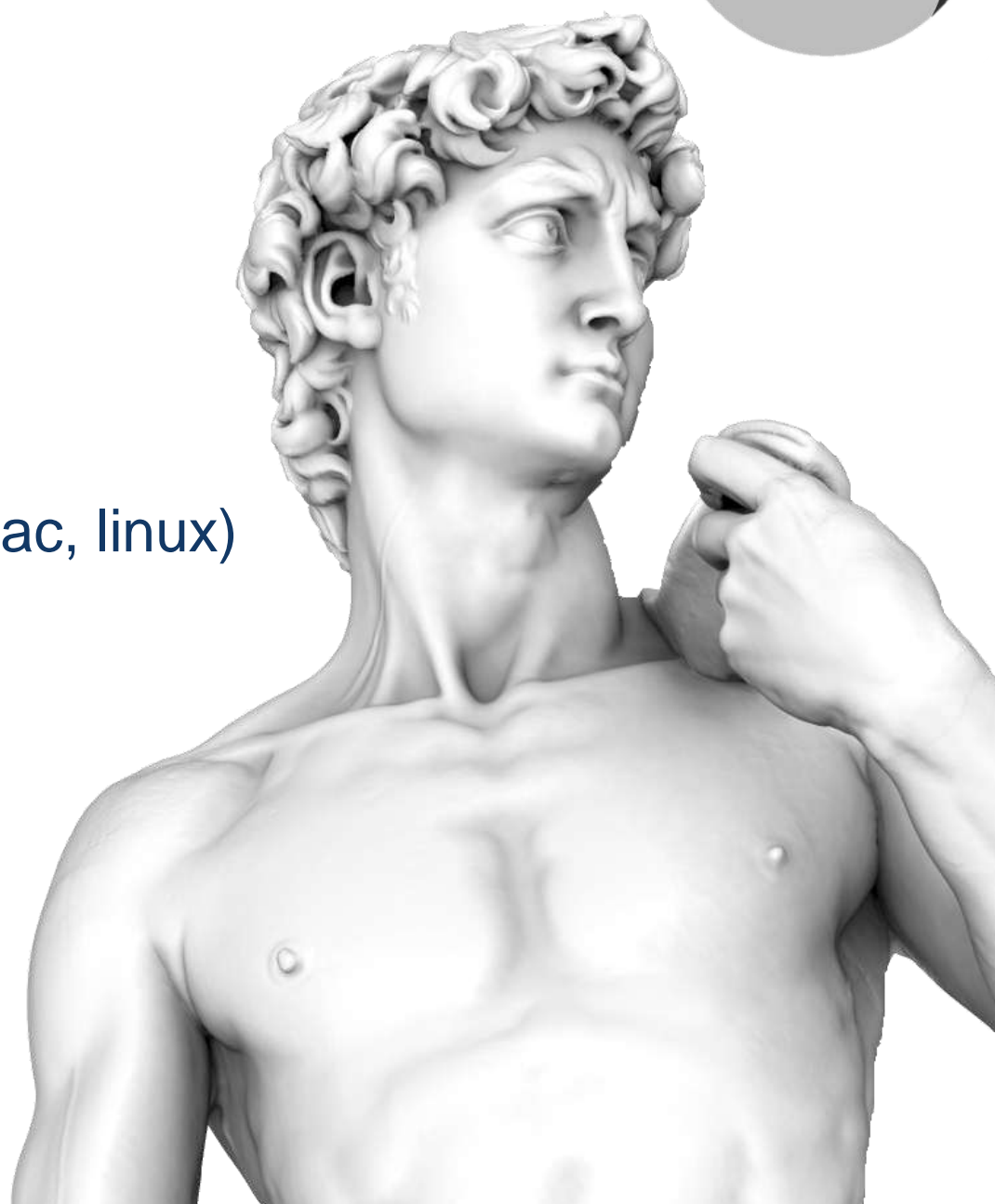


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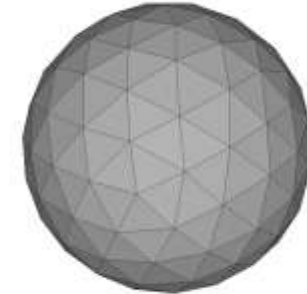
- **What is MeshLab?**

- *A mesh processing system*
  - free
  - open source
  - multiplatform (windows, mac, linux)
  - plugins based





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- **What is a mesh?**

- a triangles set approximating a surface

- **What is mesh processing?**

- MeshLab is focused on (semi-)automatic processing of 'existing' meshes
  - geometric and topological cleaning
  - mesh simplification/smoothing/reconstruction
  - mesh analysis
  - color creation, color tuning
  - mesh parameterization



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- **What is NOT MeshLab**

- if you feel yourself the new Michelangelo download blender

- **nevertheless...**

- z-painter



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- **MeshLab has been developed for:**
  - people involved in 3d Computer Graphics
    - researchers
    - game programmers
    - 3d artists
  - cultural heritage operators
    - archaeologists
    - restoration operators



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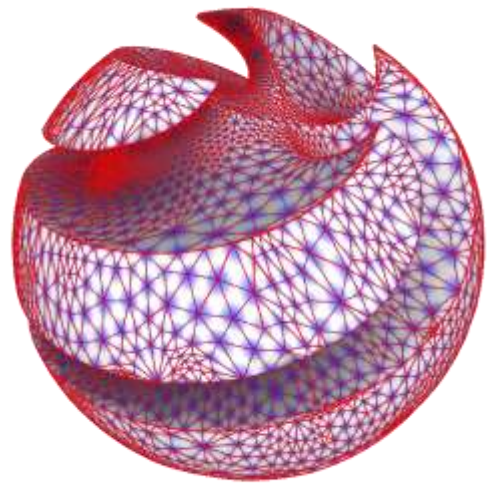
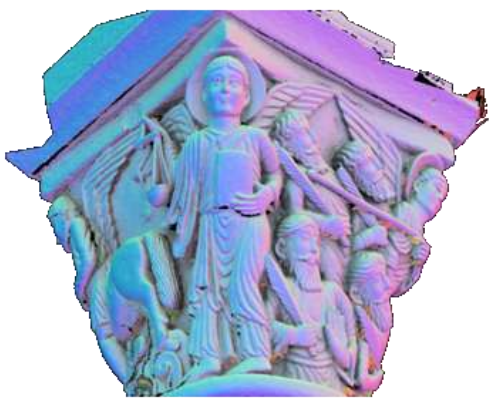
- **MeshLab orthodoxy**

- **MeshLab is also a useful tool:**

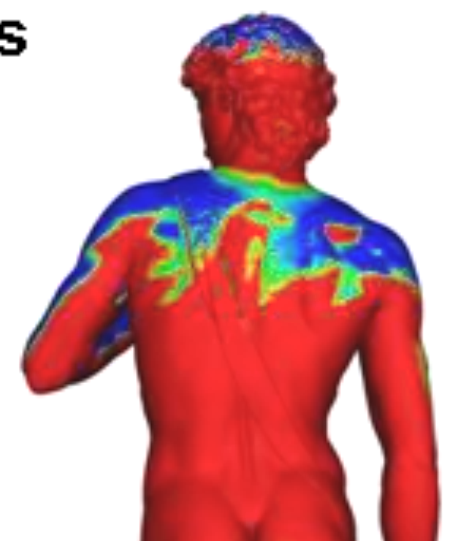
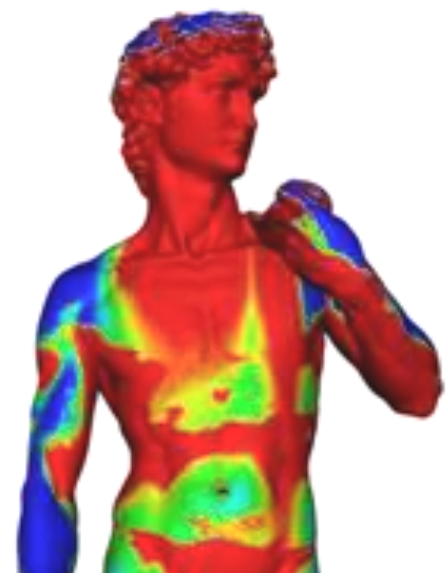
- to convert a 3D file format in a different one
  - *ply, obj, stl, dae, off, wrl, dxf, u3d, bre, etc...*
- to visualize really huge meshes
  - using a lot of different shading techniques
- to analyze 3D models
- to support the scanning pipeline
- to create your own 3D models from a photo set (via Arc3D webserver)



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5 degrees







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- **MeshLab heretics**

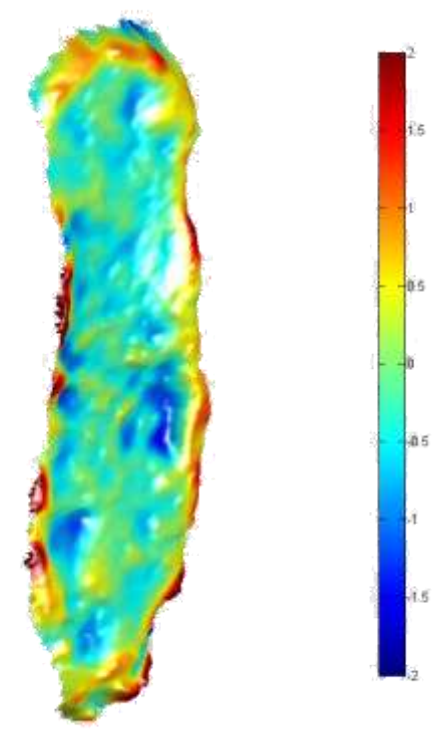
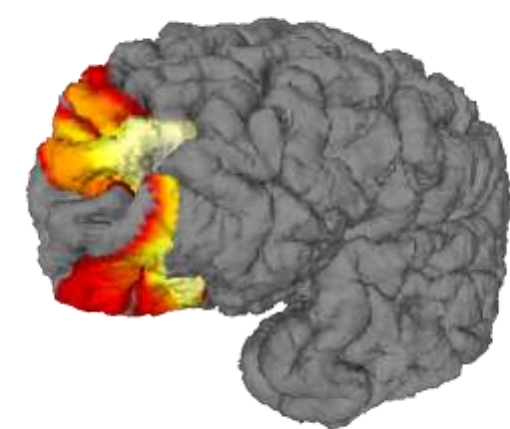
- **MeshLab is used also by:**

- engineers
- physicists
- medical researchers & biologists
- dentists
- rapid prototyping (service providers&users)
- lawyers
- sculptors
- designers
- military industry





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- **Who developed MeshLab?**

- **Visual Computing Lab - ISTI – CNR**

- <http://vcg.isti.cnr.it>

- several Siggraph & Eurographics papers

- two winner of '*young european researcher of the year*' award

- Many other researchers and computer programmers around the world





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- **Where can I download MeshLab?**

- <http://meshlab.sourceforge.net>

- **Where can I get info about MeshLab?**

- [http://meshlab.sourceforge.net/wiki/index.php/MeshLab\\_Documentation](http://meshlab.sourceforge.net/wiki/index.php/MeshLab_Documentation)
- <http://meshlab.sourceforge.net>
- <http://meshlabstuff.blogspot.com>
- <http://www.facebook.com/MeshLab>



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- **MeshLab Facts**

- **Officially supported by Ubuntu, Debian and other linux's distributions**
- Hundreds of universities and research centers around the world are using MeshLab
  - computer graphics labs, CH operators, biological/medical/physics research centers, government offices, forensic analysis, military industry and not only...
- Many independent 3d-scanner hw producers suggest ML
- **Last but not least:** we are using it for real things!

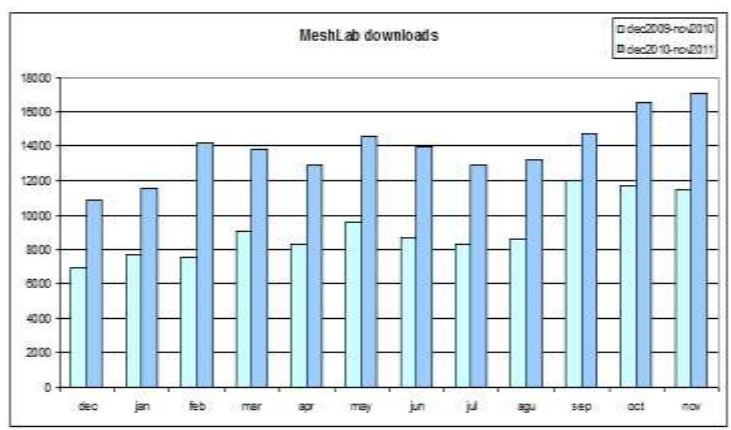


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## • MeshLab Numbers

- more than 500.000 downloads from 2005
- downloads trend is strongly increasing
- used all around the world





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- **How can you help MeshLab development?**
  - You can write your own plugins and submit them to ML team
  - You can ask ML team to develop for you some missing features
    - typically you have to pay...
    - it's not so uncommon for us to do it.
  - You can contact us for an intense ML tutorial session
    - unfortunately also in this case you have to pay...





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