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Version 2

S2: Step-by-step-guide using MeshLab in the work flow. V.2

DOI

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Protocol status: Working

We use this protocol and it's working

Created: November 02, 2022



Last Modified: November 02, 2022

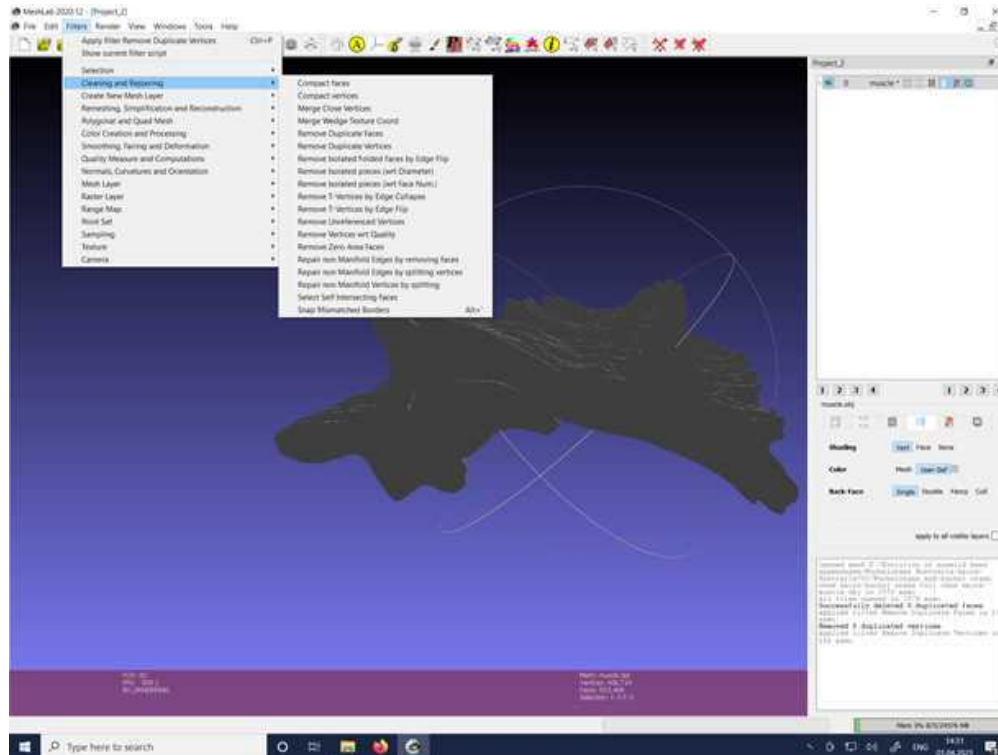
Protocol Integer ID: 72200

Keywords: meshlab in the work flow, using meshlab, meshlab, simplification in meshlab, data refinements like repair, data refinement, s2

Abstract

How to do data refinements like repair, smooth and simplification in MeshLab and export as -ply-file.

1



- Open MeshLab
- First step is *Cleaning and Repairing* your mesh-irrelevant if it is generated by Image J, Amira or any other software, the steps are the same
- Often used procedures/steps:
 - Remove Duplicate Faces
 - Remove Duplicate Vertices
 - Merge Close Vertices
 - Repair non Manifold edges by...
- Just try out, the results are written in the downright white window

→ Also see: more specific

<https://www.youtube.com/watch?v=aoDLrXp1sfY>

<https://www.youtube.com/watch?v=j9EKk3Bs1TQ>

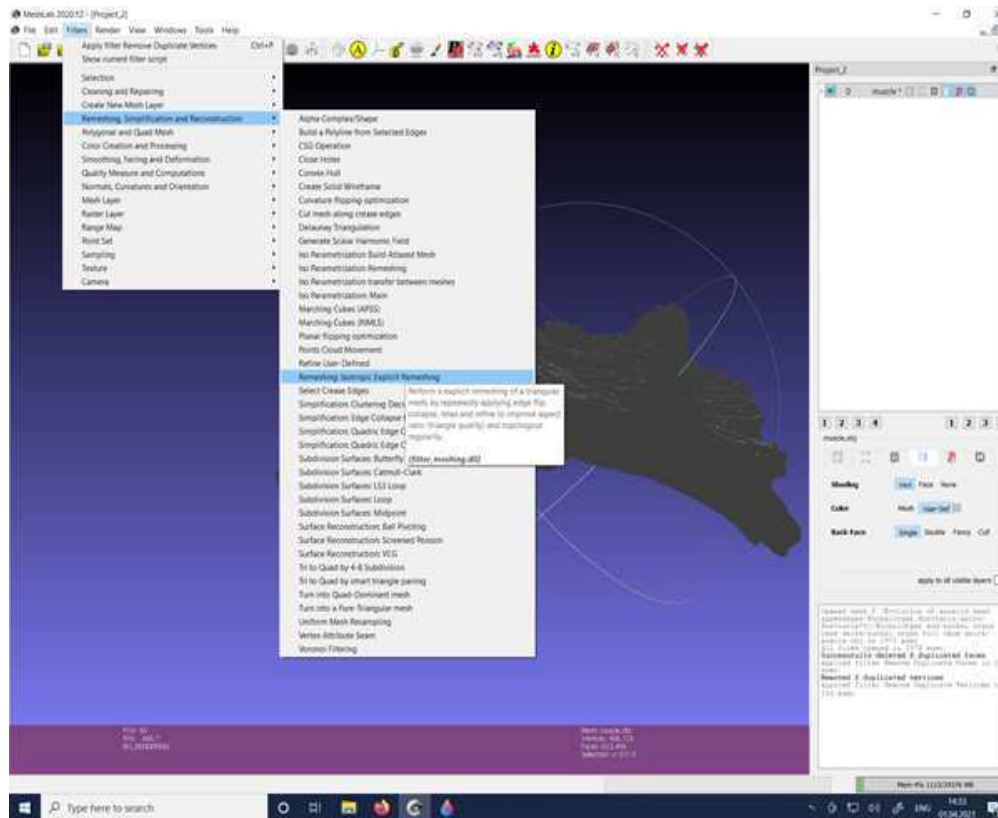
<https://www.youtube.com/watch?v=gWBm5XGRJOk>

→ more general

Mister P. MeshLab Tutorials

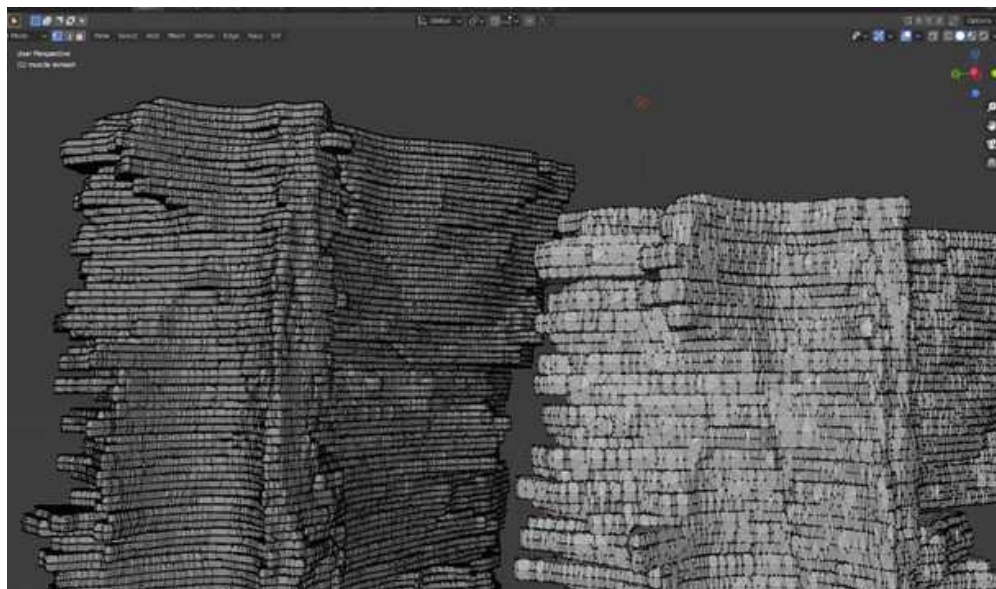
<https://www.youtube.com/playlist?list=PL8B1E816EAE236B4D>

2



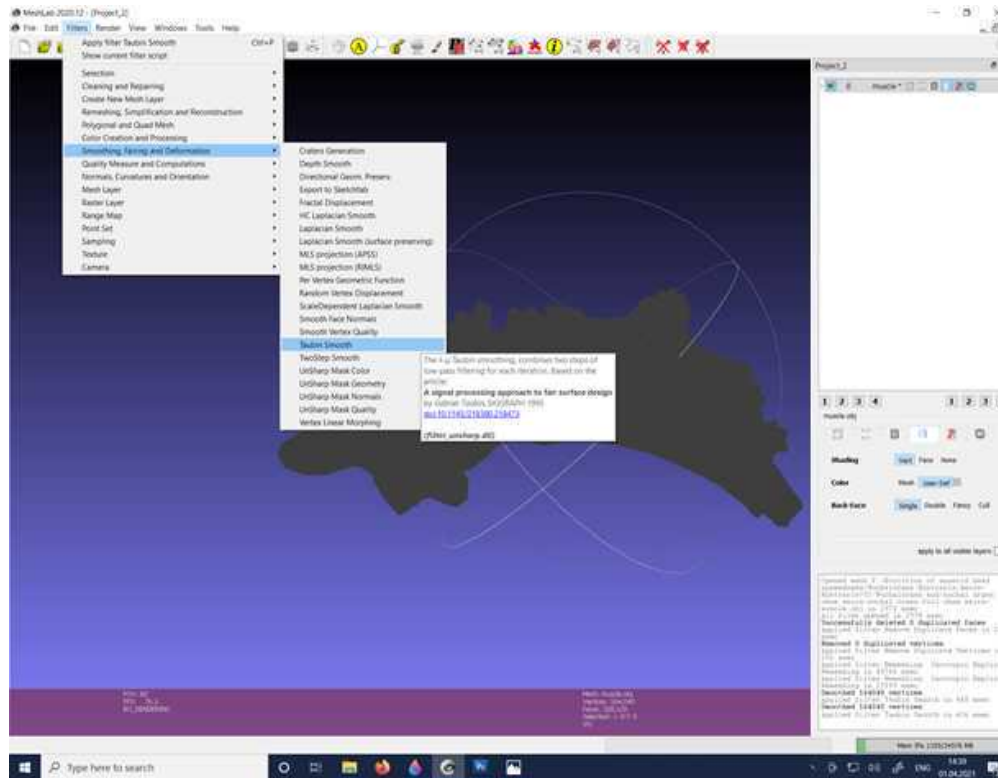
- Now re-mesh your label by *Remeshing: Isotropic Remeshing*
- You can do that multiple times but 1 or 2 is enough to change the topology of your vertices in a more regular distribution

3



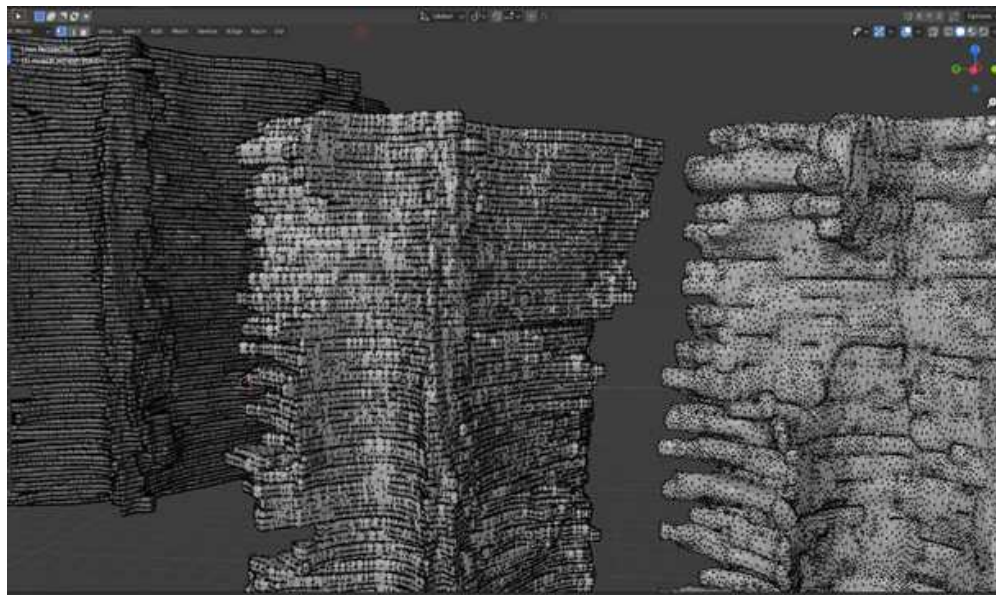
- Result of re-meshing shown in Blender

4



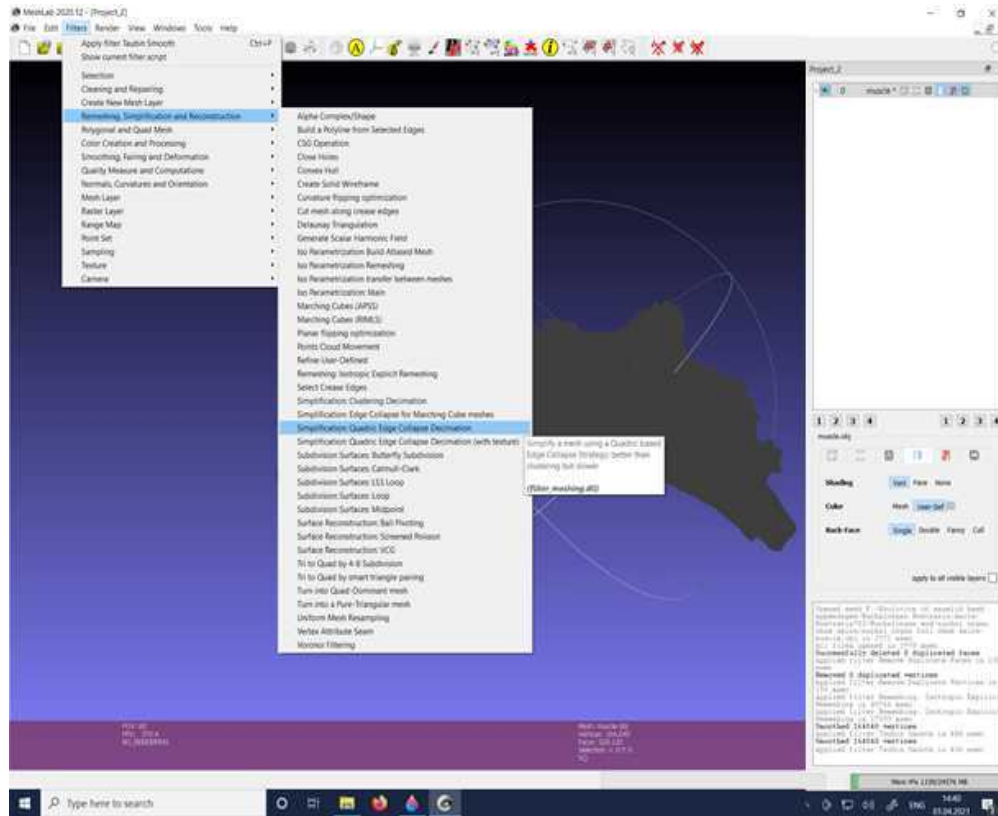
- A smoothing step is possible here but not obligatory
- Taubin smooth* or *Laplacian Smooth* are suitable and can be used also multiple times

5



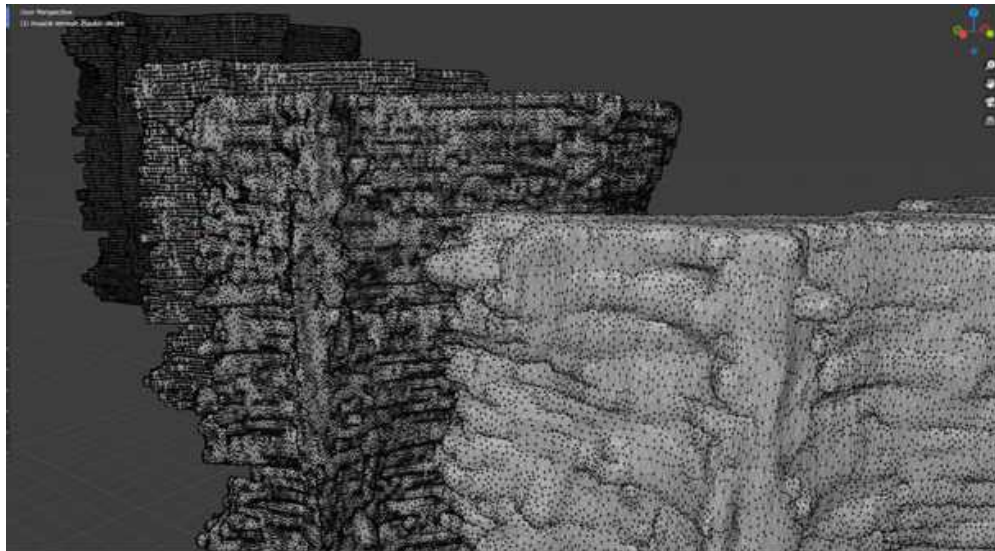
- Result of 2 times *Taubin Smooth* shown in Blender

6



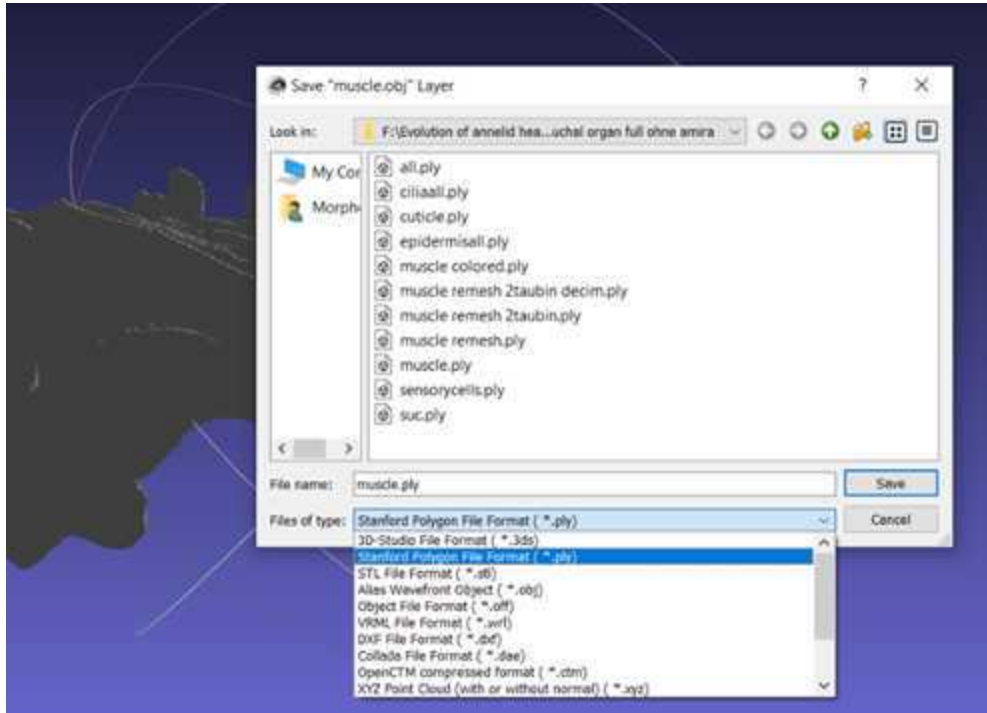
- Now you reduce the size by decreasing the vertices of your label/surface by *Simplification: Quadric Edge Collapse Decimation*

7



- Result of 2 times simplification shown in Blender

8



- Save label as .ply-file
- Repeat all described steps for each label or batch of labels by opening a new file