



# ENDER ALUMNI *WORKFLOW*

## *MeshMixer*

March 2024

**Bruce and Ted Unmeshed**



# Resource 1-All3dp: Step-by-step guide

all3dp.com/2/meshmixer-tutorial-easy-steps-beginners/



subscriptions, and shopping links. If you purchase using a shopping link, we may earn a commission. [Learn more](#)

Let's Make a Mesh  
**Meshmixer Tutorial for Beginners**

by Lucas Carolo  
Updated Oct 18, 2023

# ENDER ALUMNI WORKFLOW *MeshMixer*



# Resource 2 - Meshmixer Documentation

## Camera Hotkeys

Tumble	Alt	or		Previous View	(
Pan	Alt	or	Shift	Next View	)
			or	Alt Shift	
Zoom	Alt	or	Ctrl	Wireframe	W
	(Maya)		(Sketchup)	Boundaries	Ctrl B
			(pen-friendly)		

## Tool Hotkeys

Select Faces	S	SurfaceBrush	1	Discard	X	Cancel	Esc
Transform	T	SmoothBrush	2	Erase & Fill	F	Accept	Enter
<i>(object or selection)</i>		VolumeBrush	3	Smooth Loop	B		

## Selection Tool

Select All	Ctrl A
Connected	E
Invert	I
Expand	
Deselect	Shift
Brush Size	or [ ]

## Brushing

Primary	
Secondary	Shift
Invert	Ctrl
Strength	
Brush Size	or [ ]

## Hotbox

Hotbox **Space**

SnapToAxis      Background Color

Camera *(click-and-drag)*

FreeView    Tumble    Pan    Zoom    Focus

**meshmixer**  
CheatSheet v1.0

**From Manual  
Uploaded to  
the E3club file  
share**

[Mesh Mixer 3rd party manual](#) 3.46 MB [PREVIEW](#)

March 14, 2024

Uploaded by [TPM](#)

To augment our meeting and workflow on Meshmixer

[Delete](#)

[← All Posts](#)

## GUIDES

# Meshmixer Tutorial: 15 Top Tips to Edit STL Files for 3D Printing

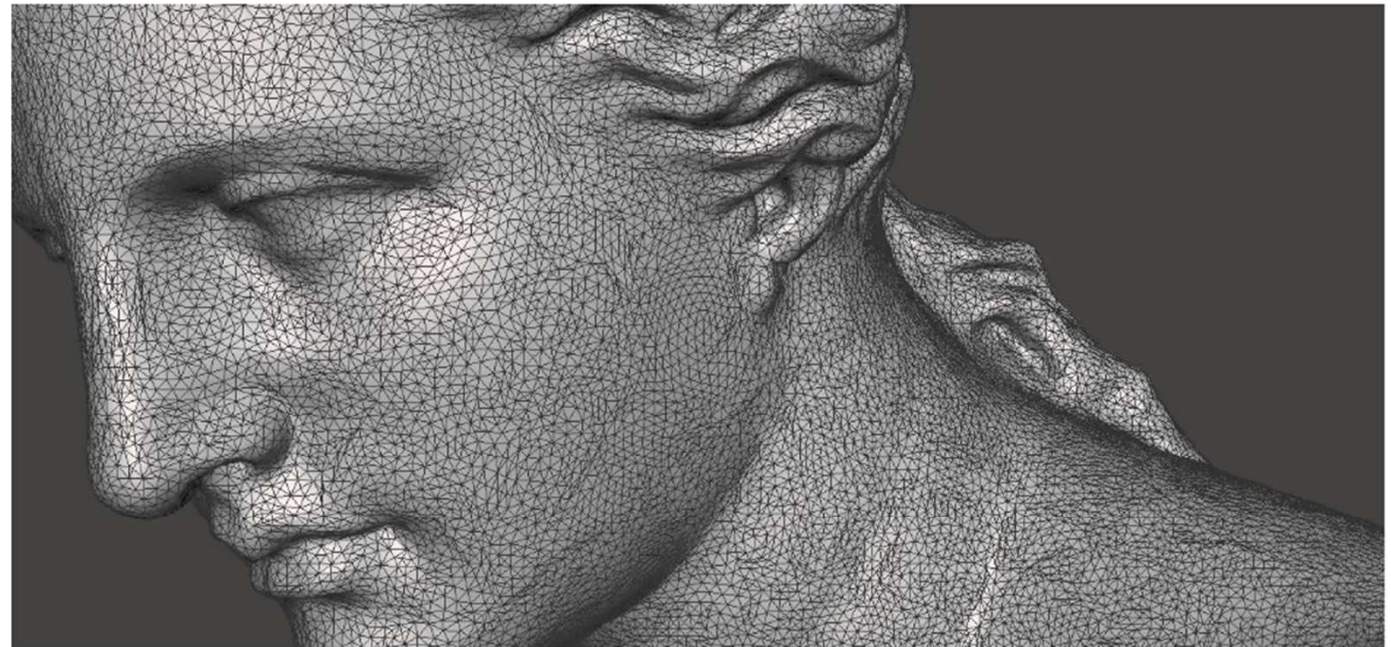


[3D Printing](#) [Guides](#) [17 minutes read](#)

### Table of Contents

- Tip #1: Importing and Exporting
- Tip #2: Remeshing
- Tip #3: Separating Sections
- Tip #4: Creating a Custom Library
- Tip #5: Sculpting Basics
- Tip #6: Combining Meshes
- Tip #7: Mesh Repair (STL Repair)
- Tip #8: Adding Thickness
- Tip #9: Hollowing Out Parts
- Tip #10: Thickness Analysis
- Tip #11: Generating Supports
- Tip #12: Creating Wires, Tubes, and Channels
- Tip #13: Packing Multiple Objects
- Tip #14: Stylistic Variations
- Tip #15: Sending Models to a 3D Printing Software

[Get Started With Professional 3D Printing](#)



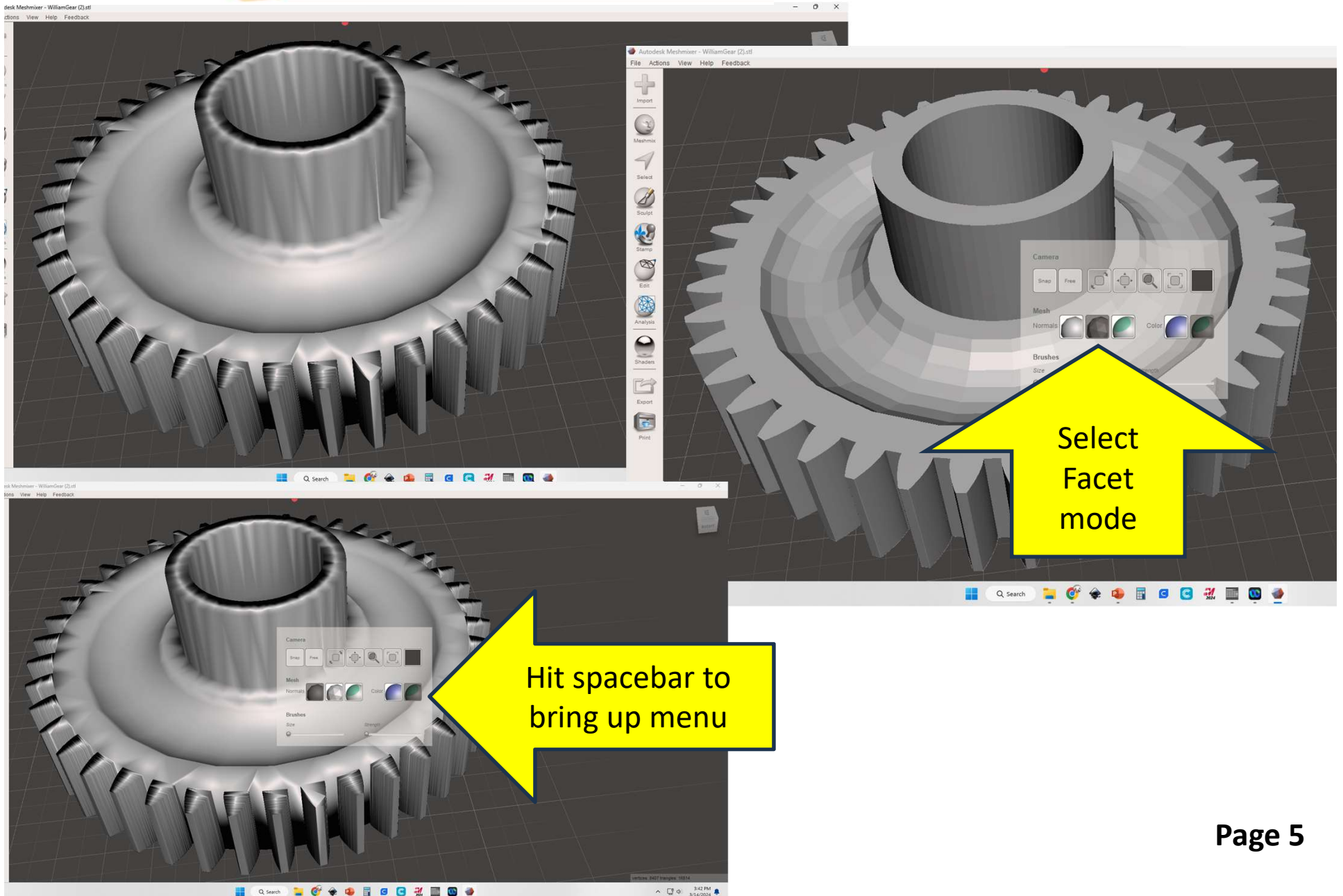
Before [3D printing](#) a part, designers and engineers often need to adapt, optimize, finalize, and edit 3D models. Autodesk's Meshmixer is a state-of-the-art software for working with triangle meshes or, as its developers like to call it, the "Swiss Army Knife" for editing STL files and 3D meshes.

With Meshmixer, it's not only possible to optimize a triangle mesh but also to resculpt entire sections, stylize the model, or add useful features to it.

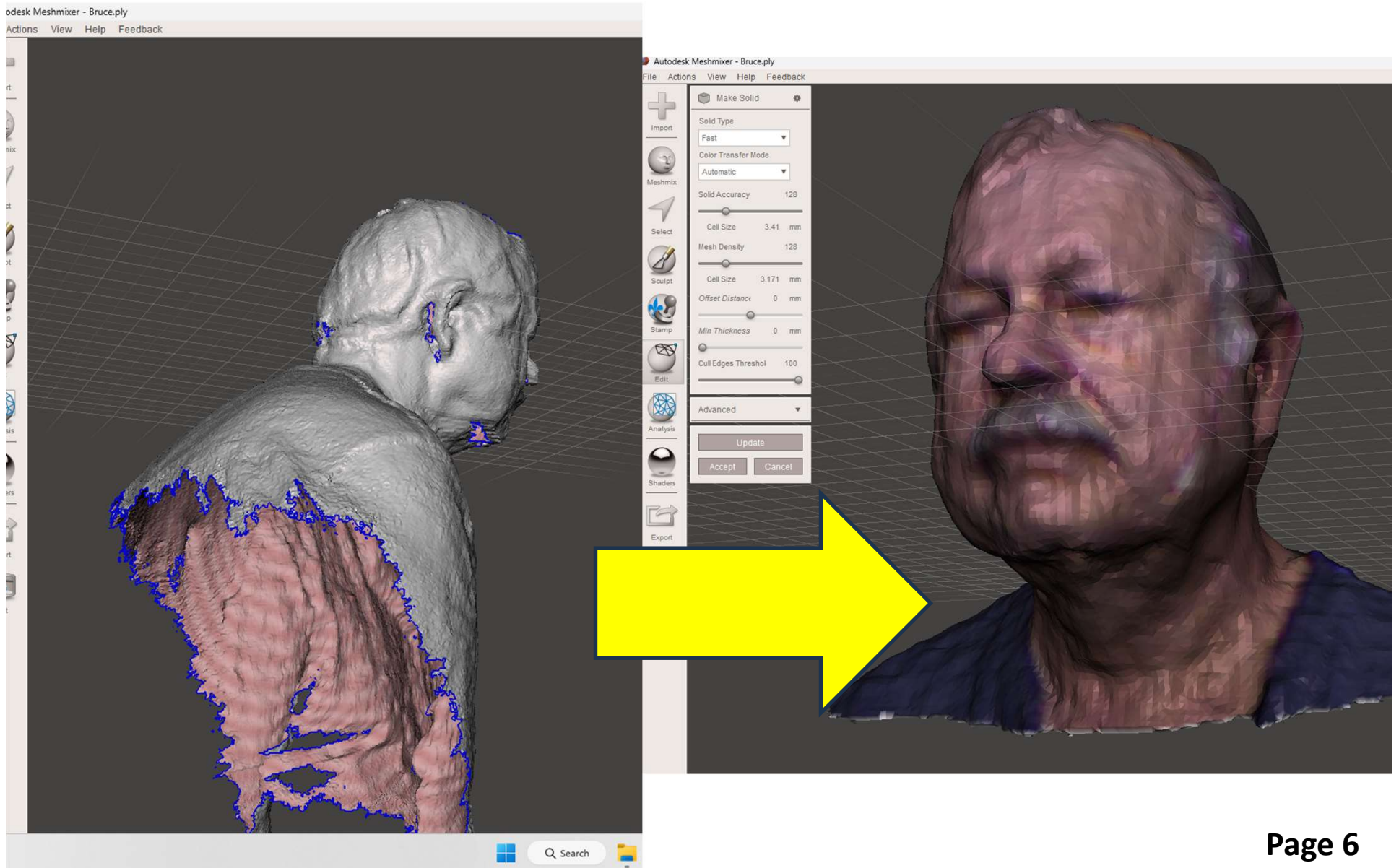
And the best news? [Downloading MeshMixer is completely free.](#)



# Rendering mode

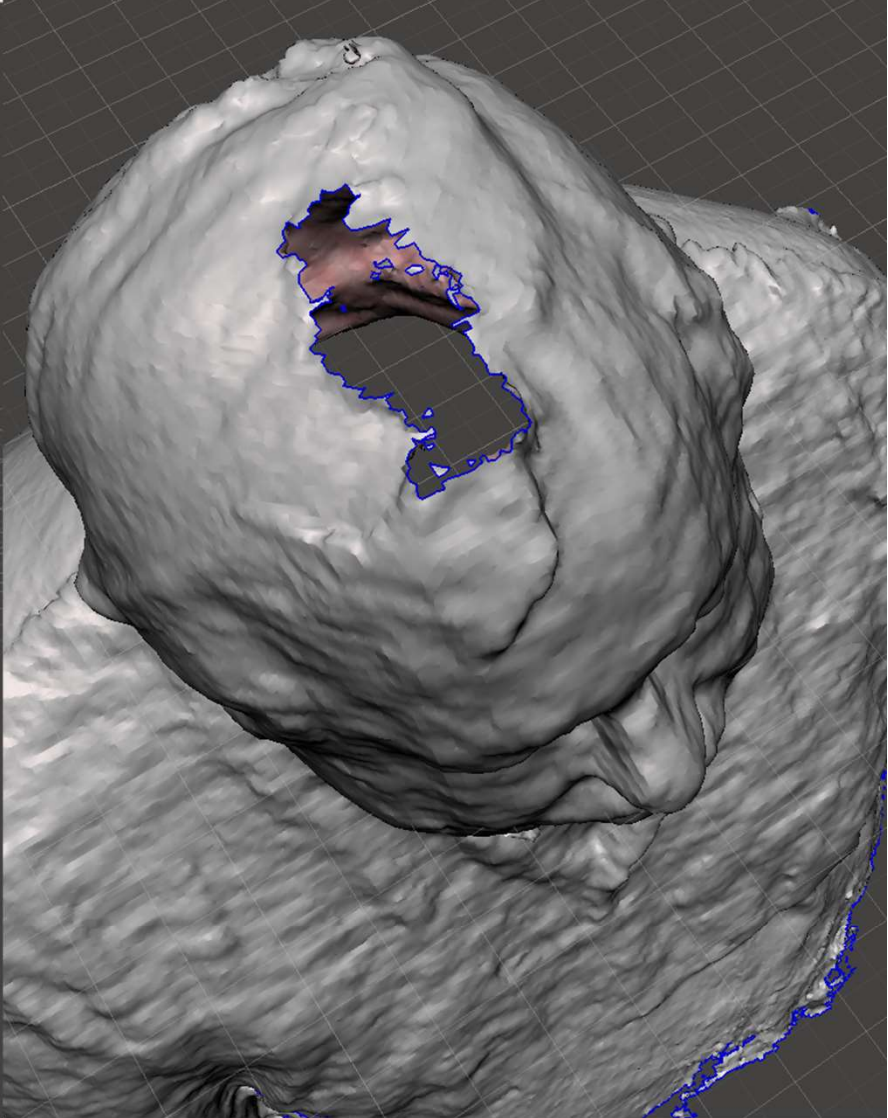
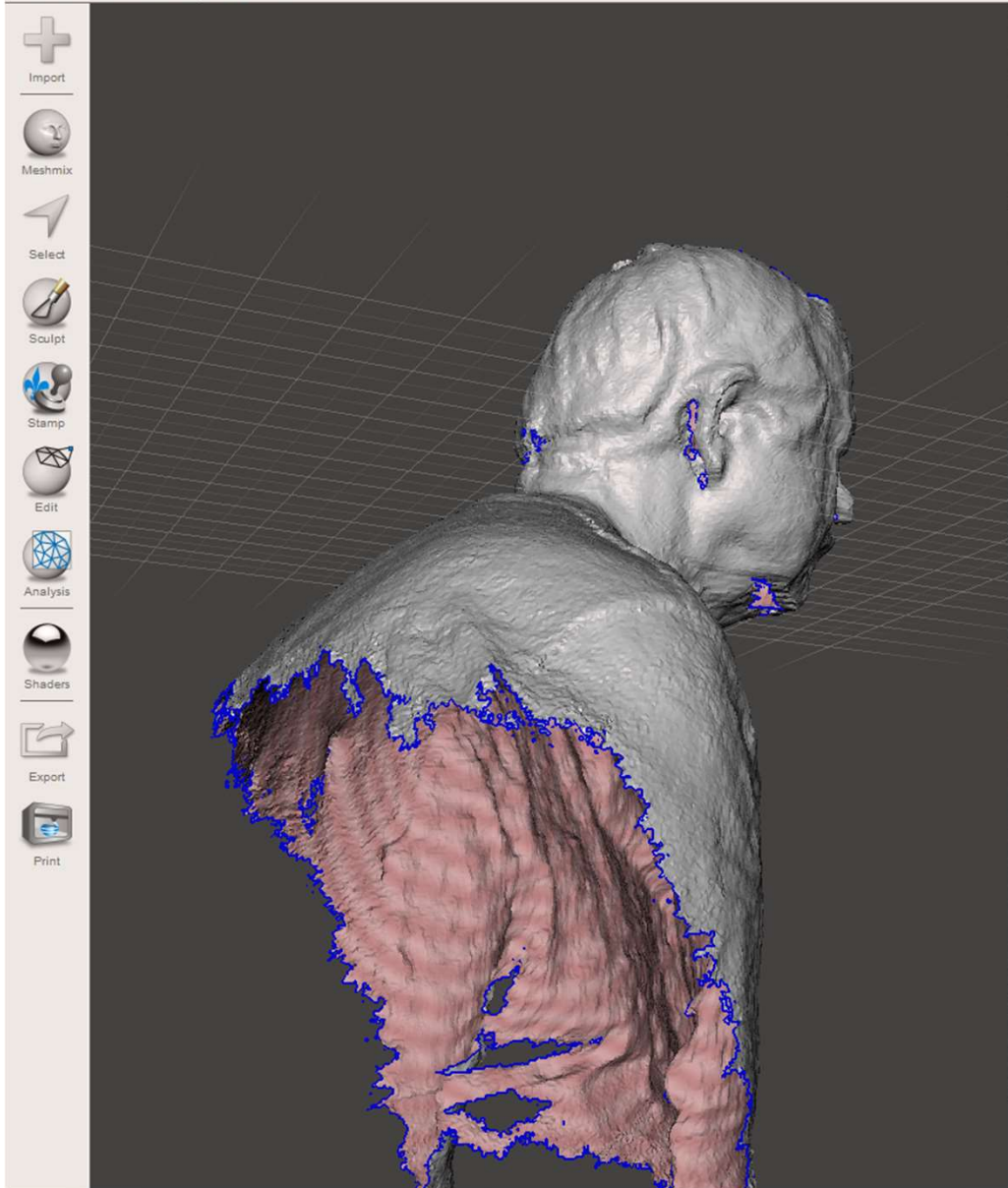


# Scan fixing Demo





# Import, Note uncomplete and holes





# Edit/Plane Cut

Autodesk Meshmixer - Bruce.ply

File Actions View Help Feedback

Plane Cut

Cut Type  
Cut (Discard Half)

Fill Type  
Remeshed Fill

Accept Cancel

Plane Cut

Shows direction to eliminate

Page 8



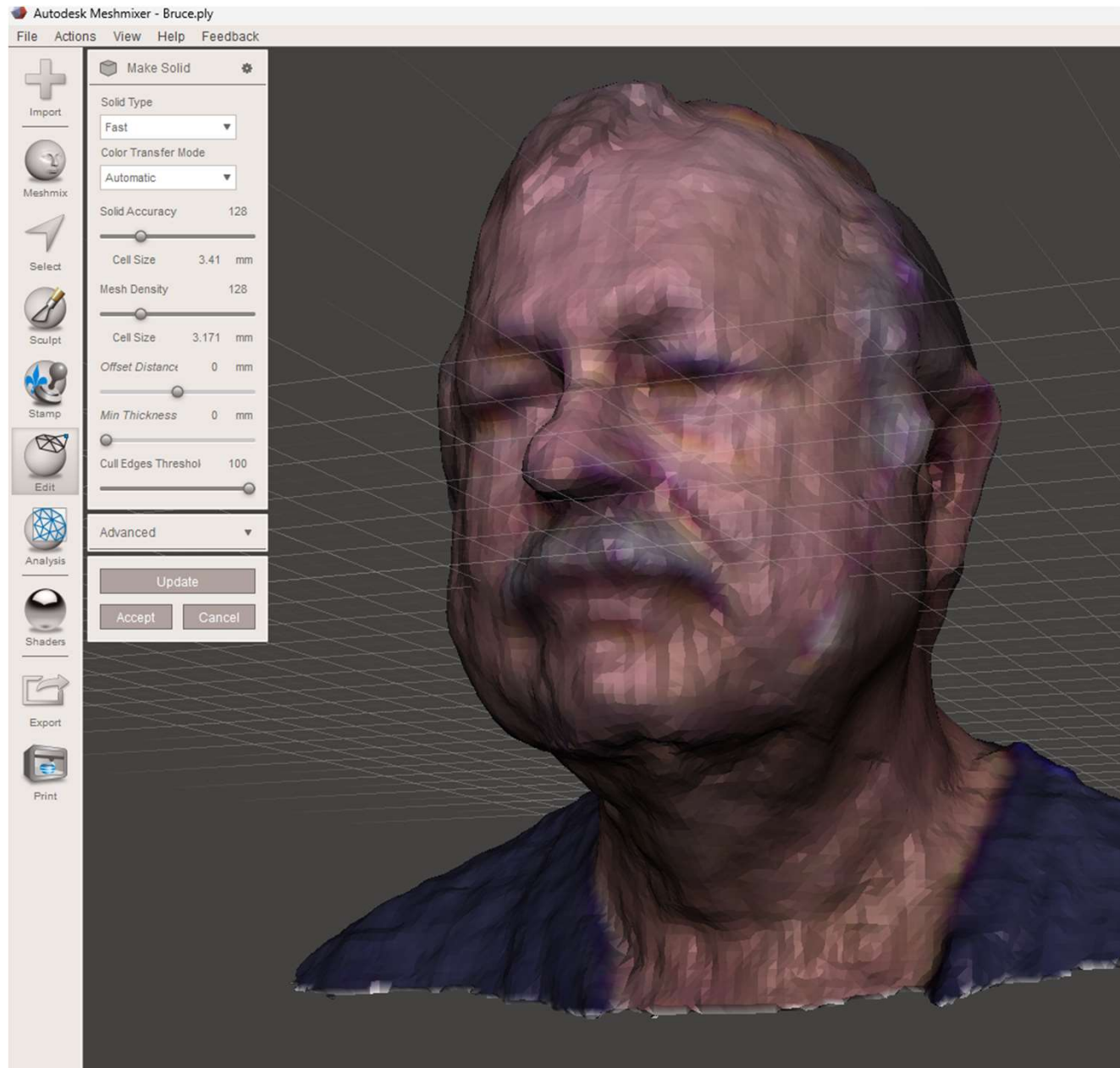


# Edit/Make Solid

The screenshot shows the Maker Space software interface. The top menu bar includes 'File', 'Actions', 'View', 'Help', and 'Feedback'. On the left, there is a vertical toolbar with icons for 'Import', 'Meshmix', 'Select', 'Sculpt', 'Stamp', 'Edit', 'Analysis', 'Shaders', 'Export', and 'Print'. A context menu is open over the 3D model, listing various actions: 'Mirror', 'Duplicate', 'Transform', 'Align', 'Create Pivot', 'Plane Cut', 'Close Cracks', 'Generate Face Groups', 'Make Solid', 'Hollow', 'Make Pattern', 'Separate Shells', 'Add Tube', 'Unwrap', and 'Generate Complex'. The 'Make Solid' option is highlighted. A yellow arrow points from the 'Make Solid' option to the 3D model. Another yellow arrow points to a blue-outlined hole in the model with the text 'Still some holes'. A third yellow arrow points to a green-shaded area on the model with the text 'NOTE: filled in plane'. The 3D model is a grey, textured head with some blue and red highlights on its surface.



# Set parameters/Accept





# Export

The screenshot shows the Autodesk Meshmixer interface with the 'Export Mesh' dialog box open. The file explorer shows a list of files in the 'Documents' folder. The 'File name' field is set to 'Bruce' and the 'Save as type' is 'STL Binary Format (\*.stl)'. A yellow arrow points to this field with the text 'NOTE: stl'. The 'Export' button in the bottom left is highlighted with a yellow arrow and the text 'Export'. The 'Transform' panel on the right shows the 'Local Frame' coordinate system with translation and rotation values. The 'Object Browser' on the right lists the objects in the scene, including 'Bruce.ply (solid)', 'Bruce.ply', 'MeshSO14', 'MeshSO15', and 'MeshSO15 (copy)'. A yellow arrow points to the 'Object Browser' and the 'eyeball' icon with the text 'NOTE: Object Browser and eyeball'.

Name	Date modified	Type	Size
CE3_Ducati	1/5/2024 6:44 PM	Meshmixer Docu...	24,698 KB
CE3_70OLDScutlassBWcura	12/31/2023 6:15 PM	Meshmixer Docu...	12,174 KB
MomBox	2/16/2023 8:05 PM	Meshmixer Docu...	2,212 KB
CE3_Lion2TPMcura	1/7/2023 8:40 PM	Meshmixer Docu...	97,651 KB
Design2test	3/5/2022 3:03 PM	Meshmixer Docu...	11 KB
Outlook Files	3/14/2024 4:17 PM	File folder	
Scans	3/9/2024 12:43 PM	File folder	
Taxes	3/7/2024 10:17 PM	File folder	
PatCliff	2/26/2024 10:27 AM	File folder	

File name: Bruce

Save as type: STL Binary Format (\*.stl)

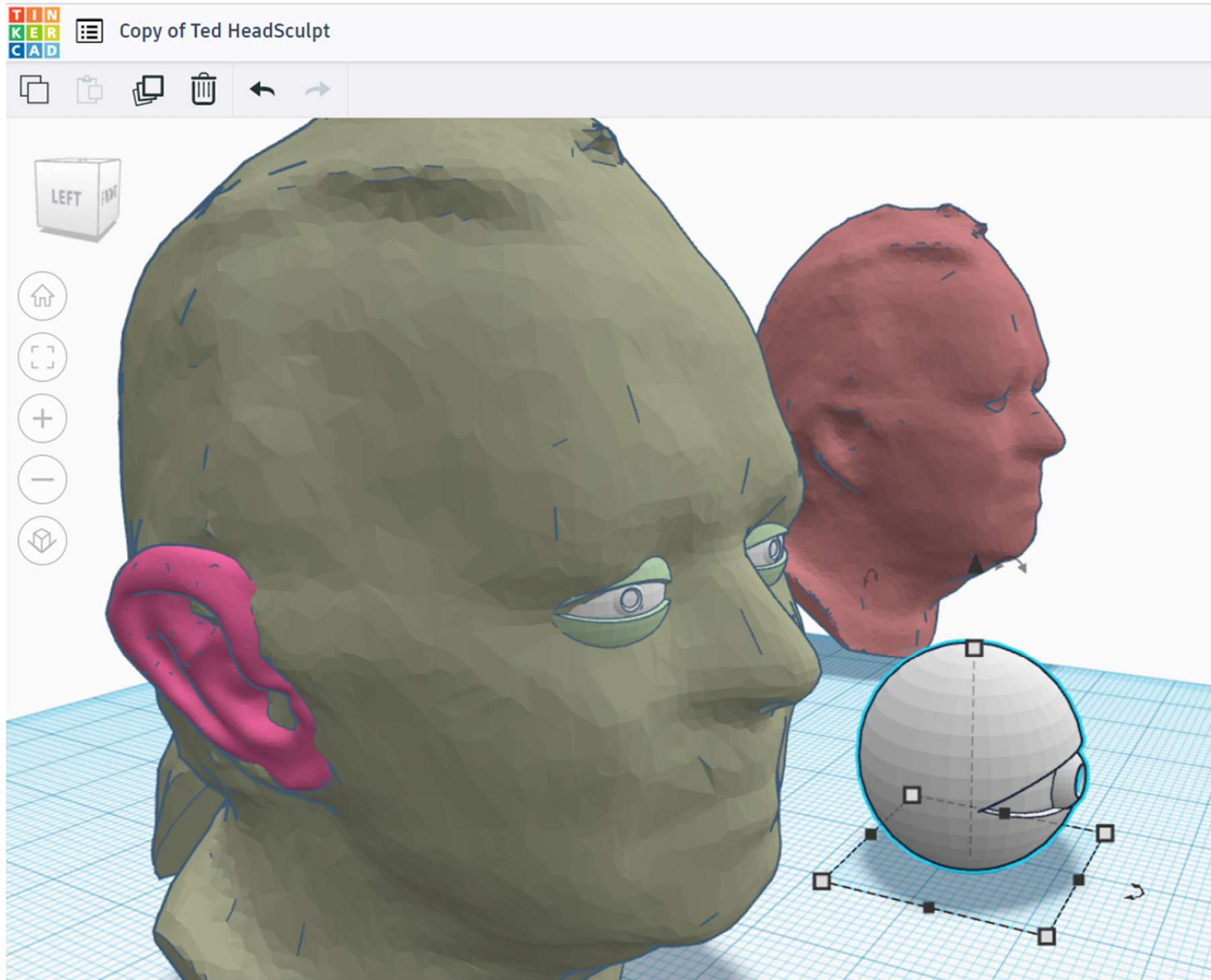
NOTE: stl

Export

NOTE: Object Browser and eyeball



# Head Sculpting details





youtube.com/watch?v=J--QVhGheP4

# FREE CAD PROGRAMS 2024

- Onshape
- Windows 3D Builder
- DesignSpark Mechanical
- Ondsel ES (based on FreeCAD)
- Blender with CAD Sketcher
- Fusion 360
- TinkerCAD
- Shapr3D
- selfCAD

According to  
Maker's Muse

BEST FREE CAD / 3D Modelling software 2024 - I tested them all!