

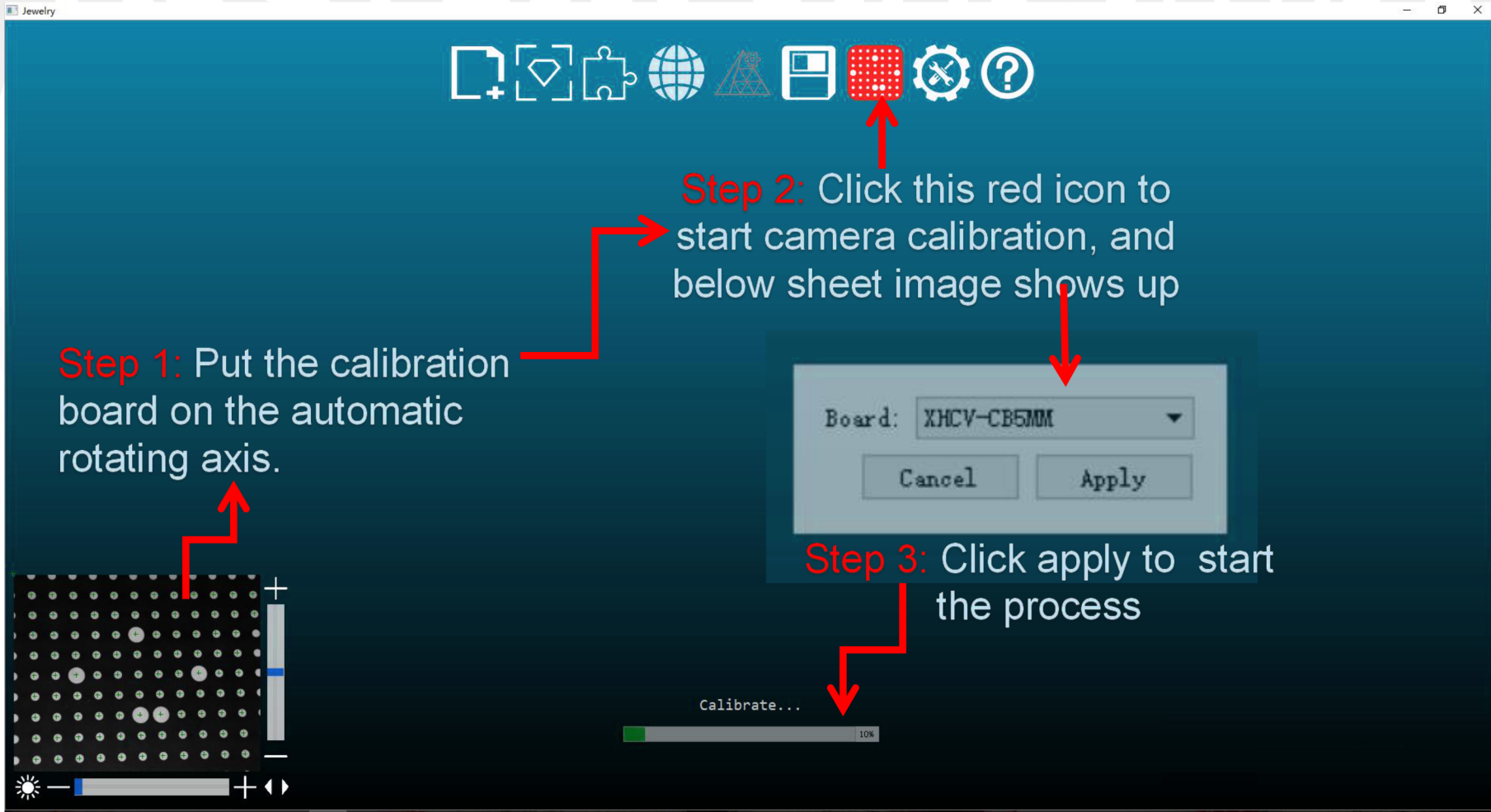
SEP. 2021



SCANNER

SOFTWARE MANUAL

Section 1.1: Start Camera Calibration



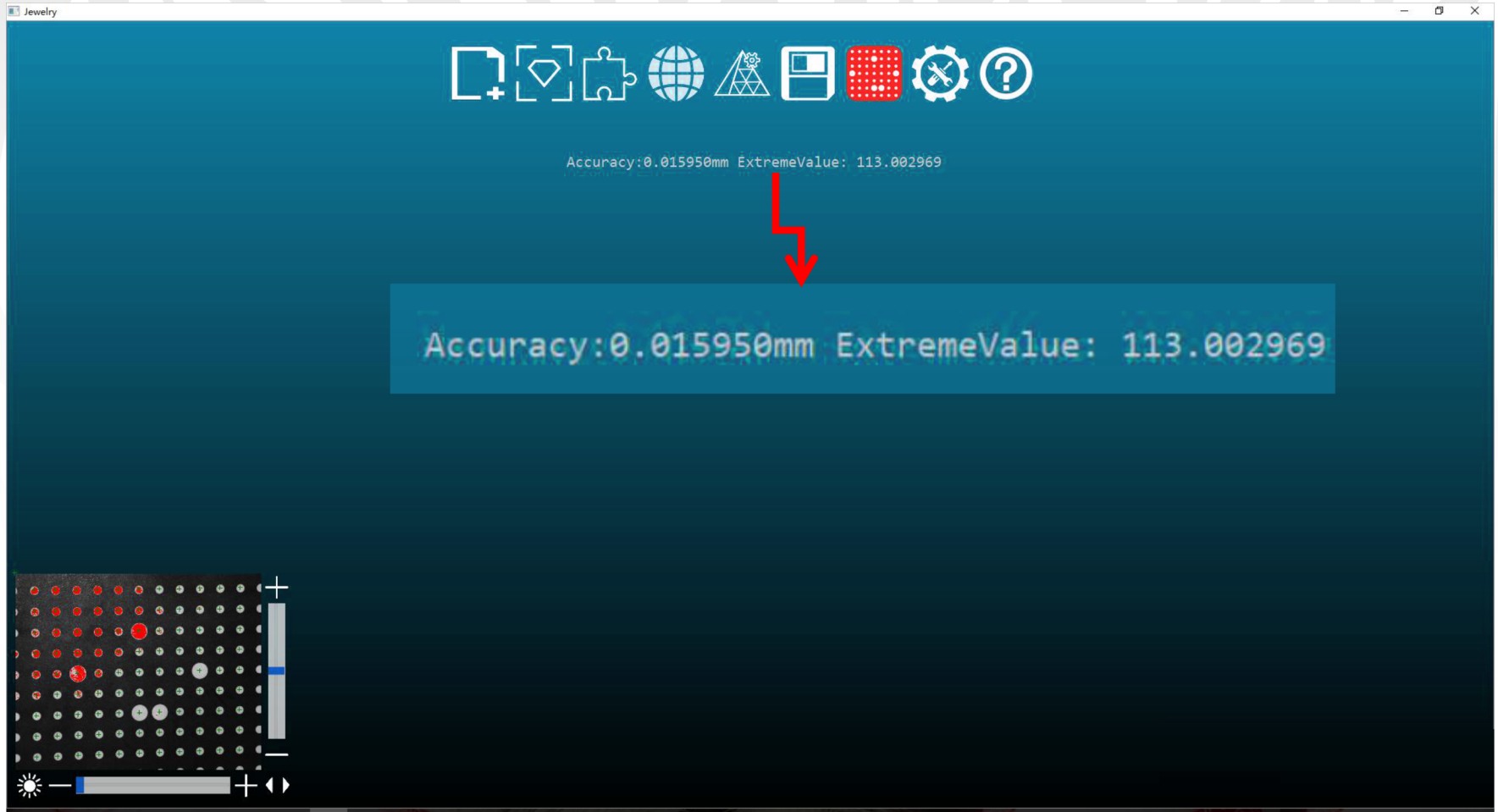
The screenshot shows the Tiger APEX software interface. At the top, there is a toolbar with several icons. A red arrow points to a red icon with a grid pattern, which is used to start camera calibration. Below this, a dialog box is shown with the text "Board: XHCV-CB5MM" and two buttons: "Cancel" and "Apply". A red arrow points to the "Apply" button. In the bottom left corner, there is a preview window showing a calibration board with a grid of dots. A red arrow points to this window. At the bottom center, there is a progress bar labeled "Calibrate..." with a green bar indicating 10% completion.

Step 1: Put the calibration board on the automatic rotating axis.

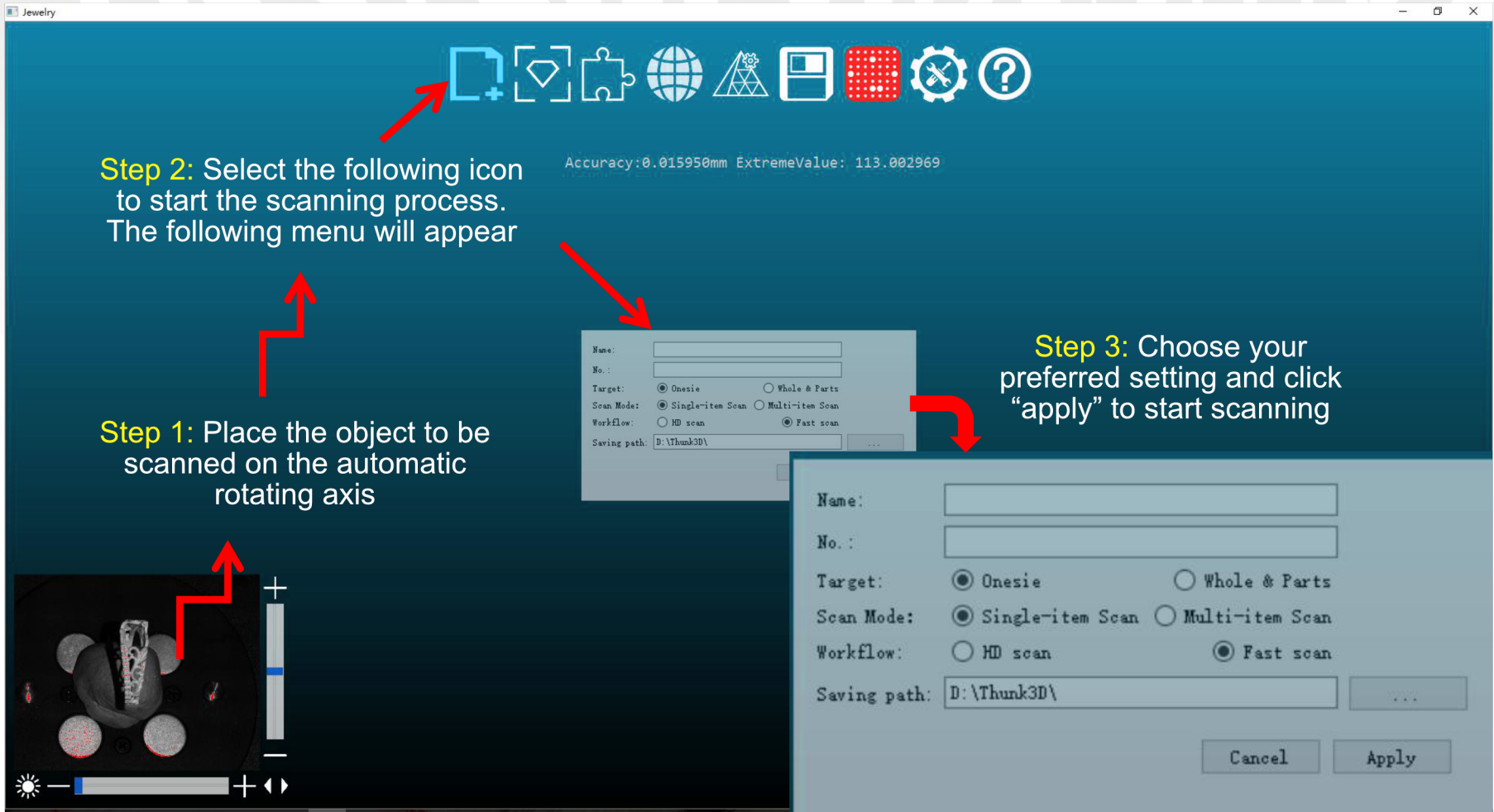
Step 2: Click this red icon to start camera calibration, and below sheet image shows up

Step 3: Click apply to start the process

Section 1.2: Finishing Camera Calibration



Section 2.1 : Scanning



The screenshot shows the Tiger APEX software interface. At the top, there is a toolbar with several icons. A red arrow points to the first icon, which is a blue square with a white plus sign. Below the toolbar, there is a text box that reads: "Step 2: Select the following icon to start the scanning process. The following menu will appear". To the left of this text box, there is another red arrow pointing to a small inset image showing a 3D model of a scanned object on a rotating axis. Below this inset image, there is a text box that reads: "Step 1: Place the object to be scanned on the automatic rotating axis". To the right of the main text box, there is a dialog box with the following fields: Name, No., Target (One-piece, Whole & Parts), Scan Mode (Single-item Scan, Multi-item Scan), Workflow (HD scan, Fast scan), and Saving path. A red arrow points from the dialog box to a text box that reads: "Step 3: Choose your preferred setting and click 'apply' to start scanning". Below the dialog box, there is a larger dialog box with the same fields as the one above, but with the "Fast scan" option selected in the Workflow field. A red arrow points from the "Apply" button in this dialog box to the "Step 3" text box.

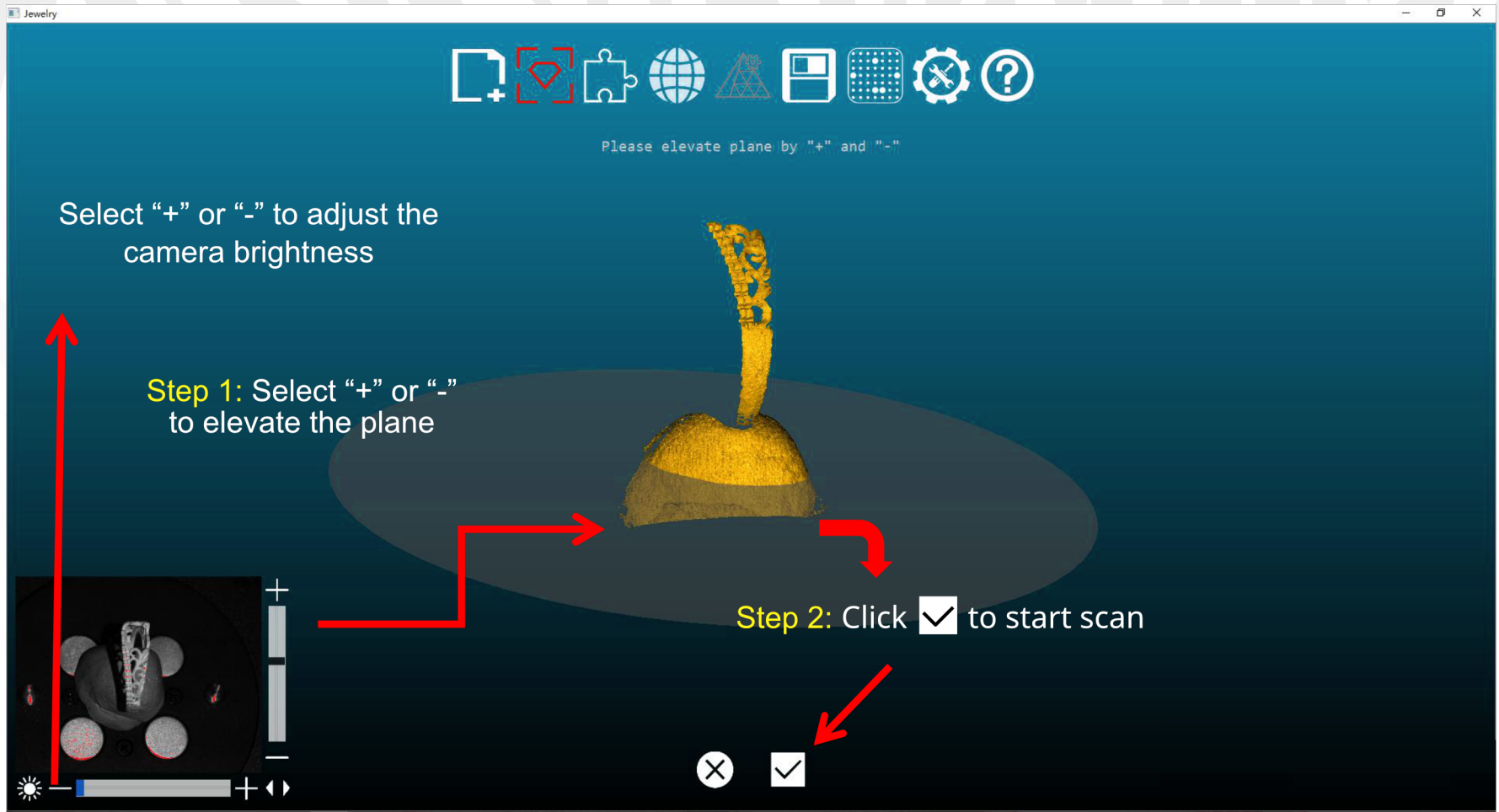
Step 2: Select the following icon to start the scanning process. The following menu will appear

Accuracy: 0.015950mm ExtremeValue: 113.002969

Step 1: Place the object to be scanned on the automatic rotating axis

Step 3: Choose your preferred setting and click "apply" to start scanning

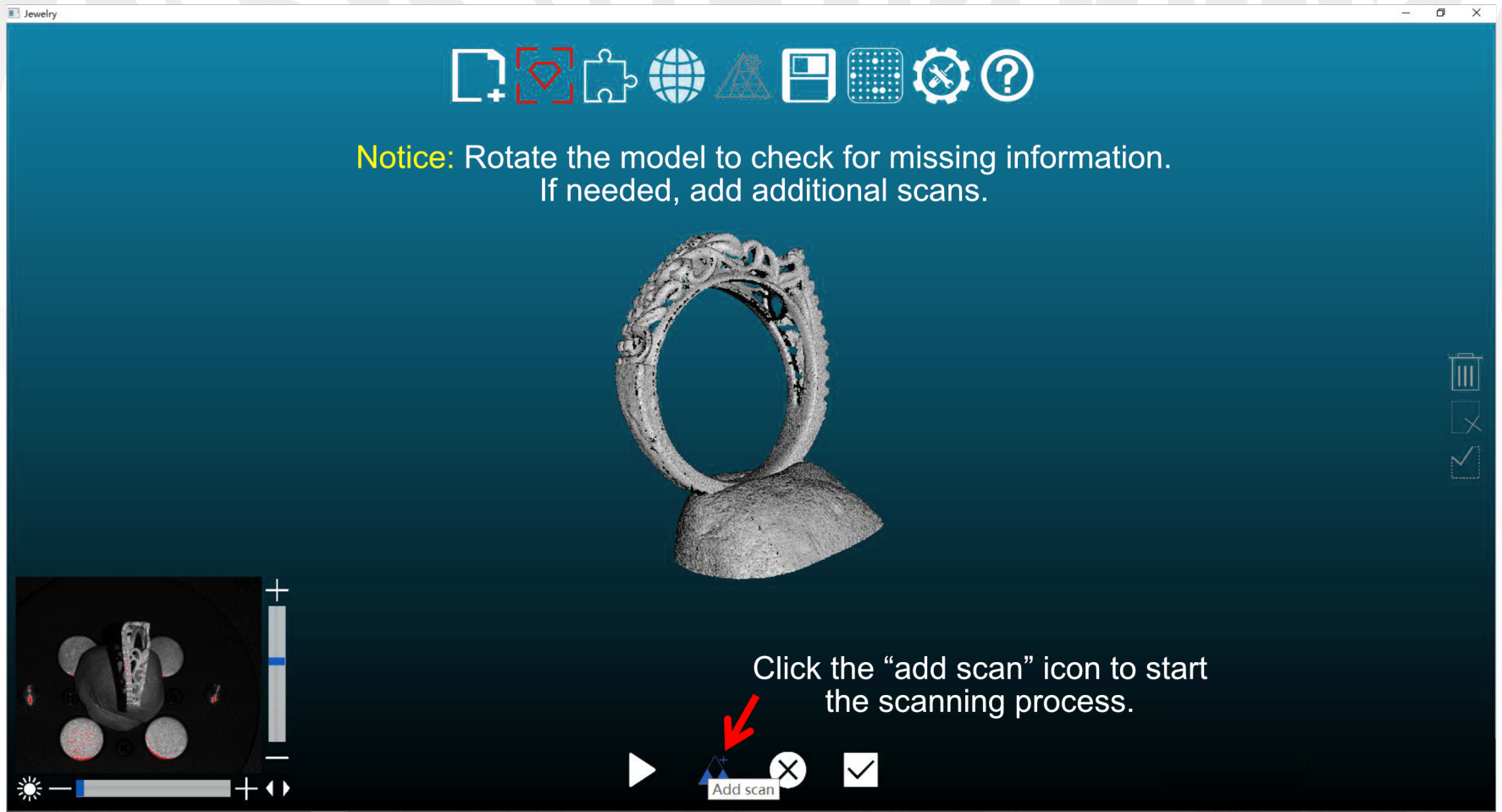
Section 2.2: Plane Adjustment



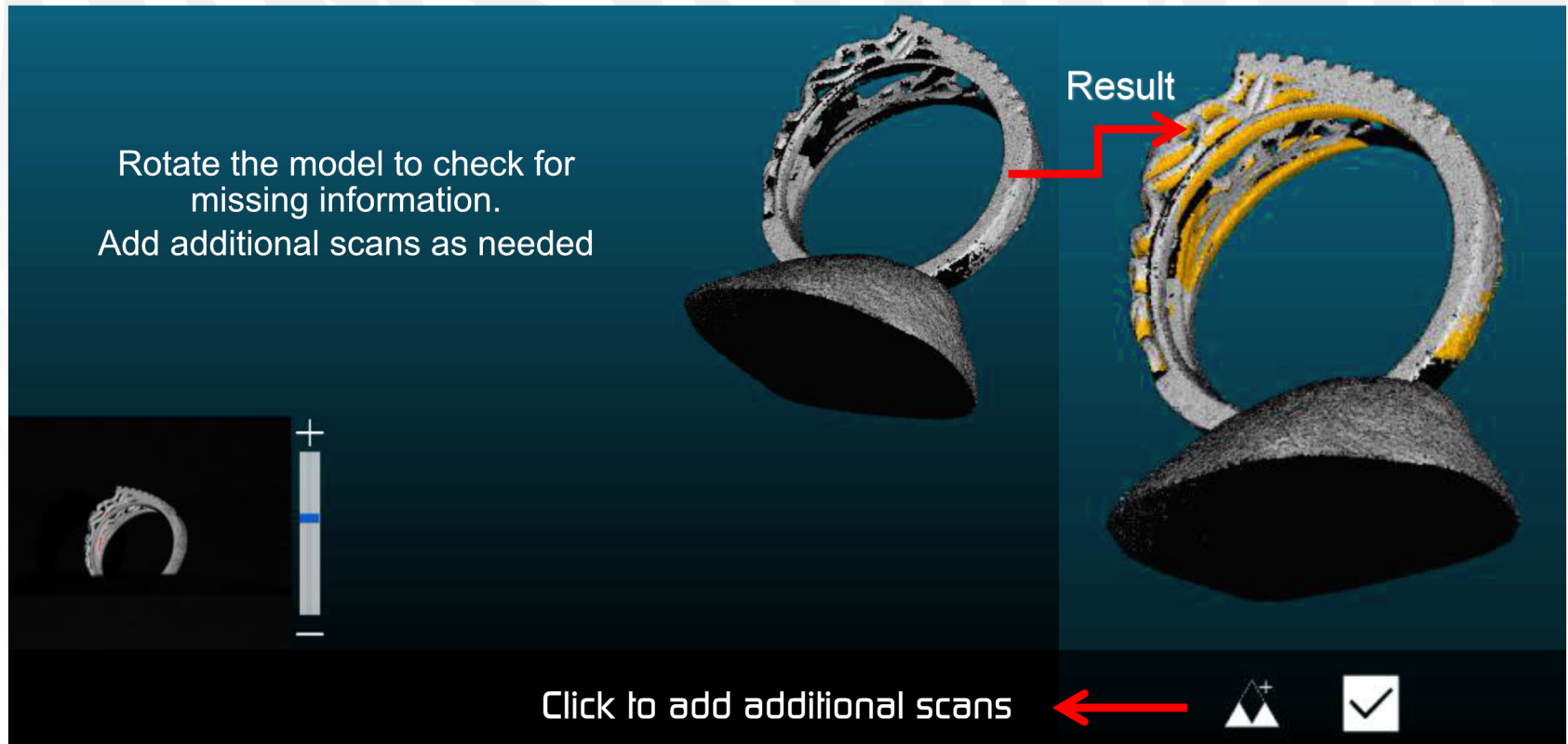
Section 2.2: Plane Adjustment



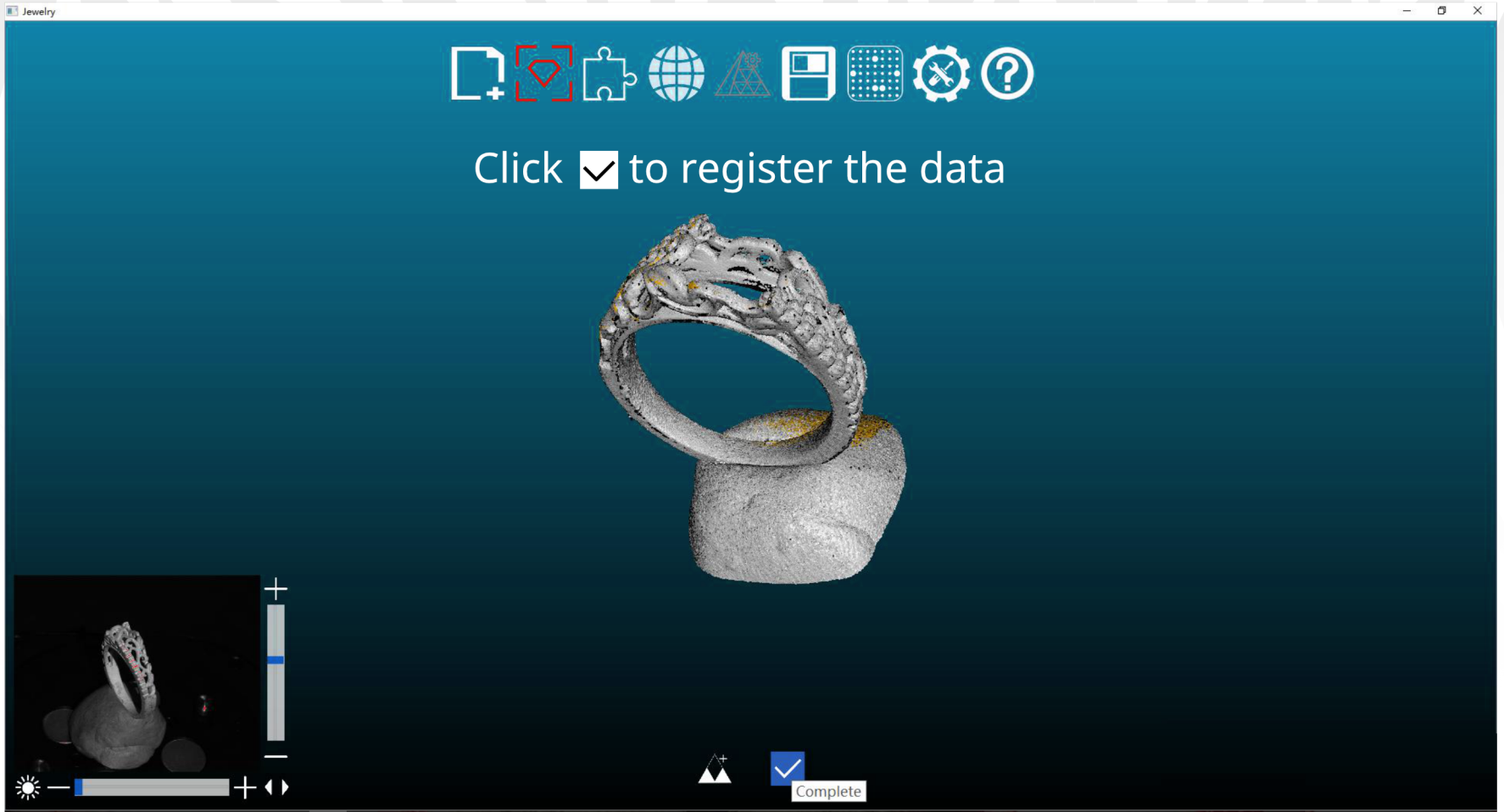
Section 2.2: Adding Additional Scans



Section 2.2: Adding Additional Scans

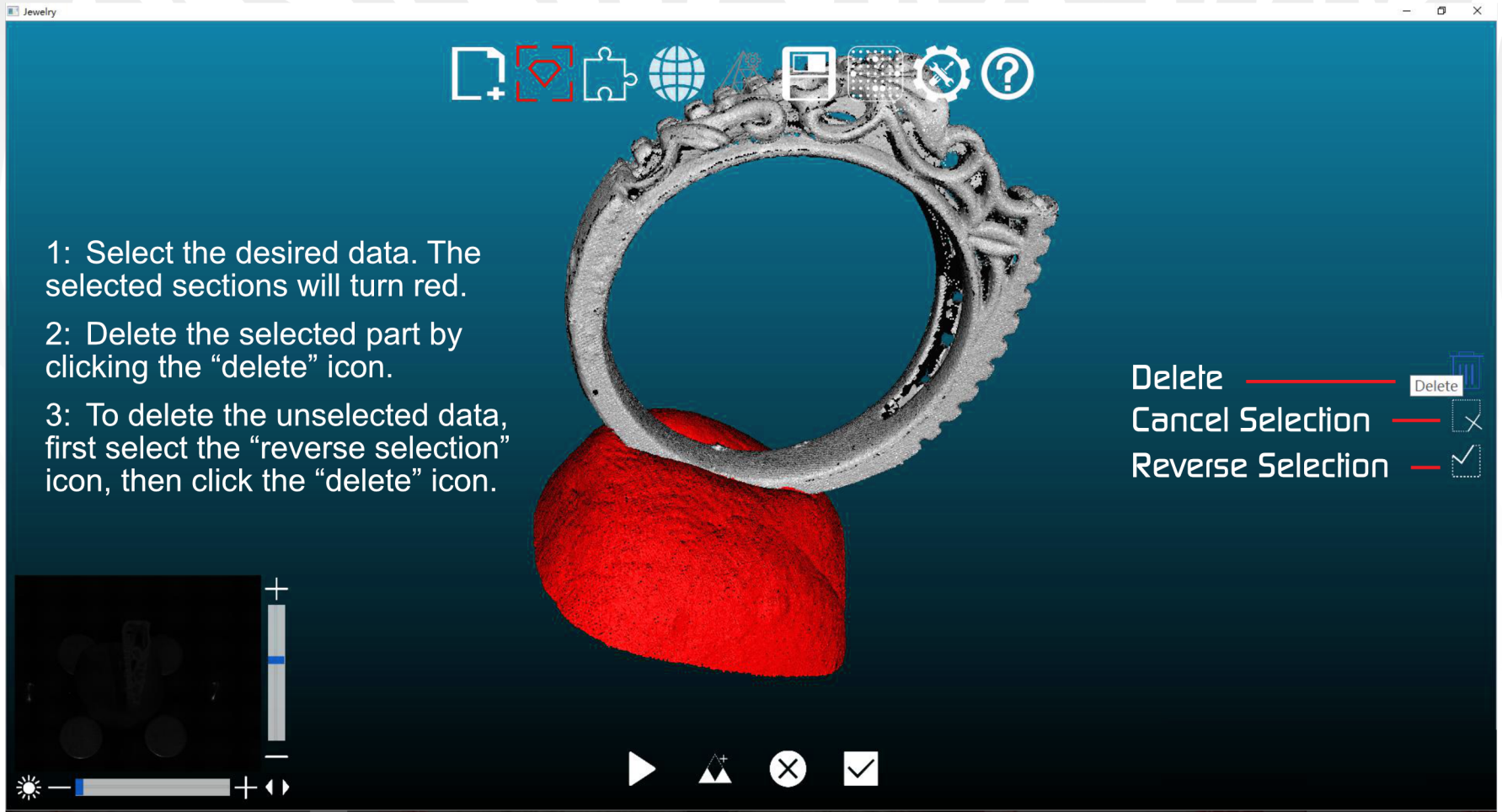


Section 2.3: Scan Registration



Section 2.4: Removing Unneeded Data

Jewelry



1: Select the desired data. The selected sections will turn red.

2: Delete the selected part by clicking the “delete” icon.

3: To delete the unselected data, first select the “reverse selection” icon, then click the “delete” icon.

Delete 

Cancel Selection 

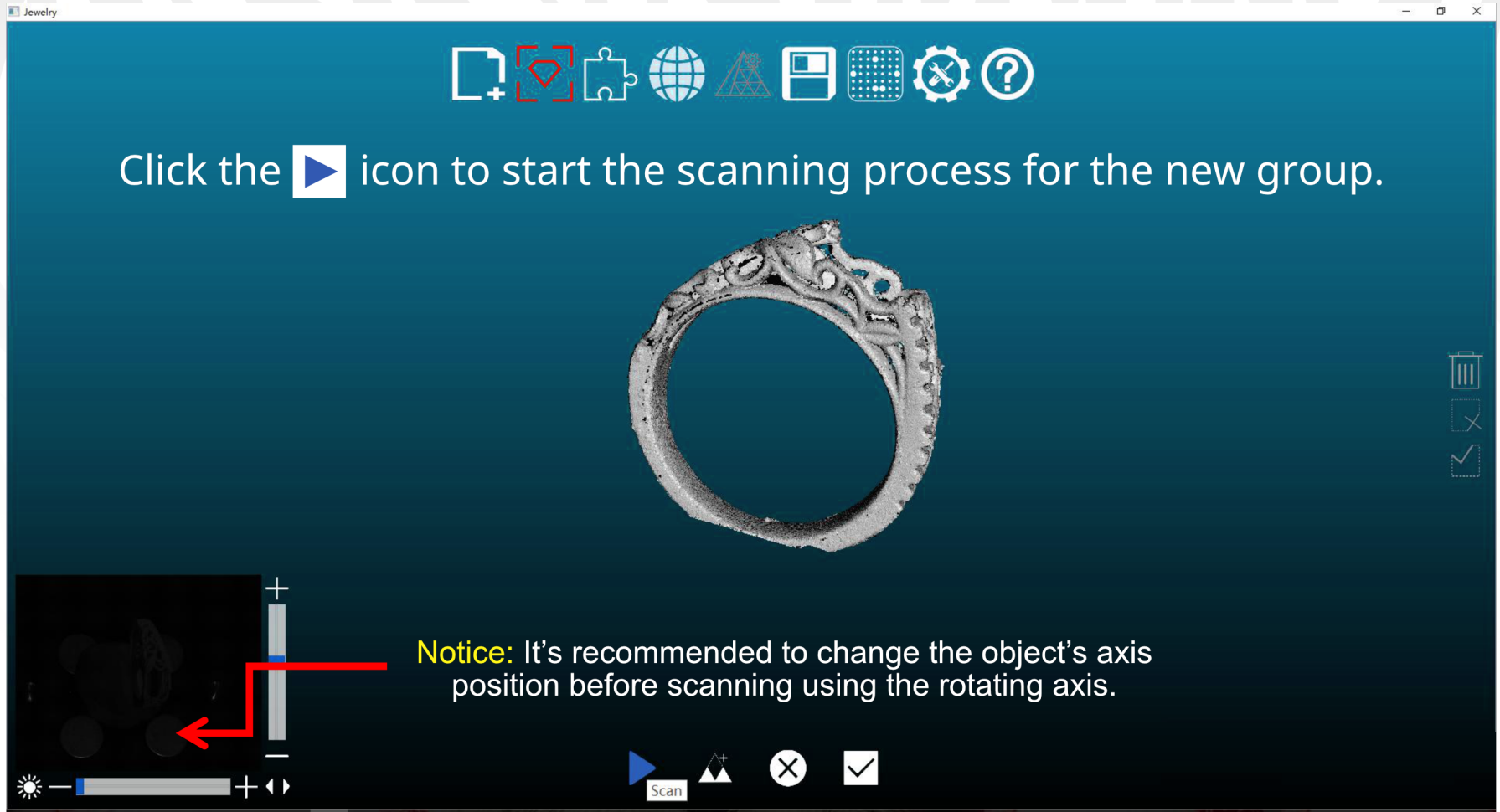
Reverse Selection 

Section 2.5: Creating New Groups

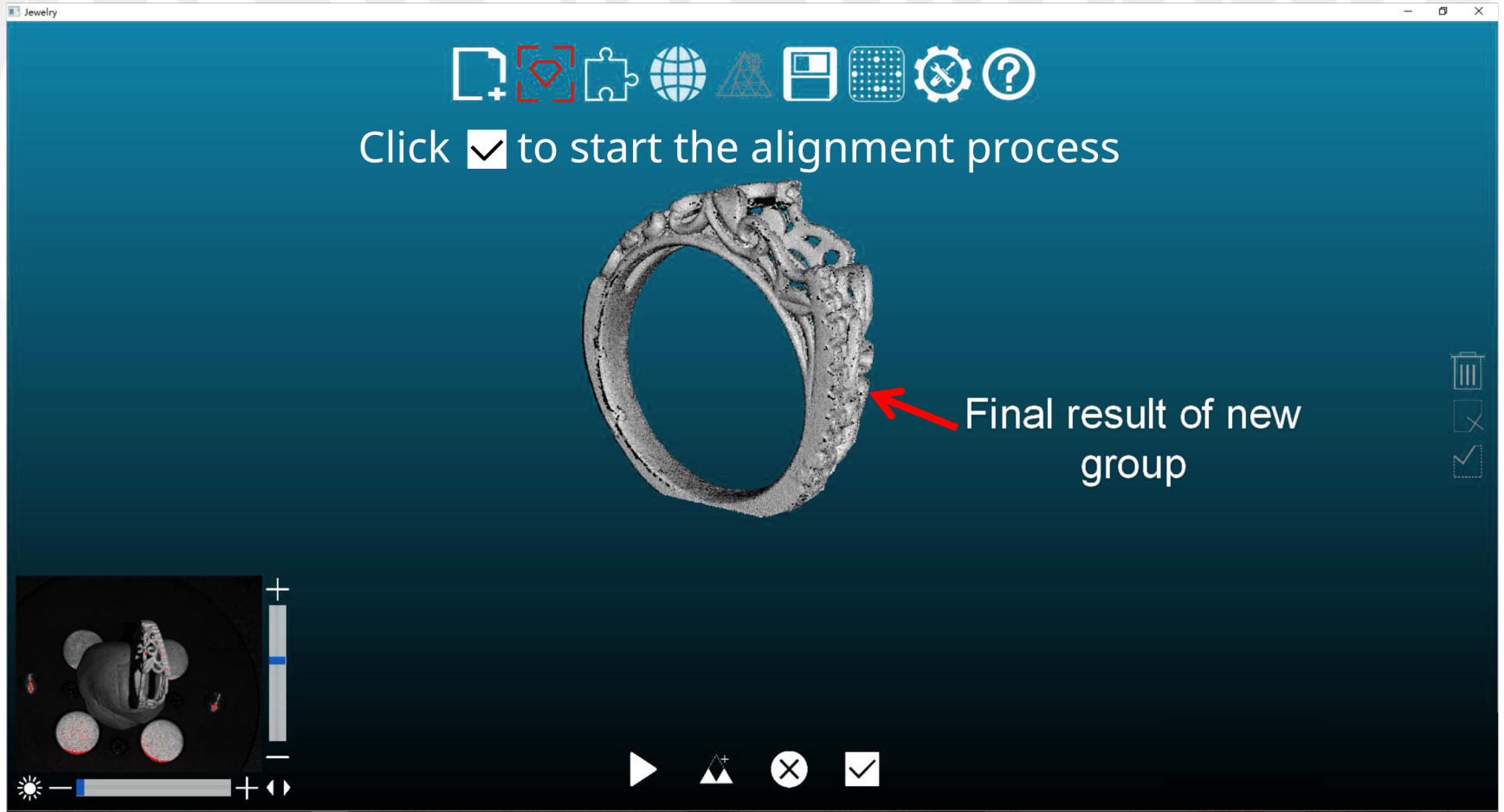
Click the  icon to start the scanning process for the new group.



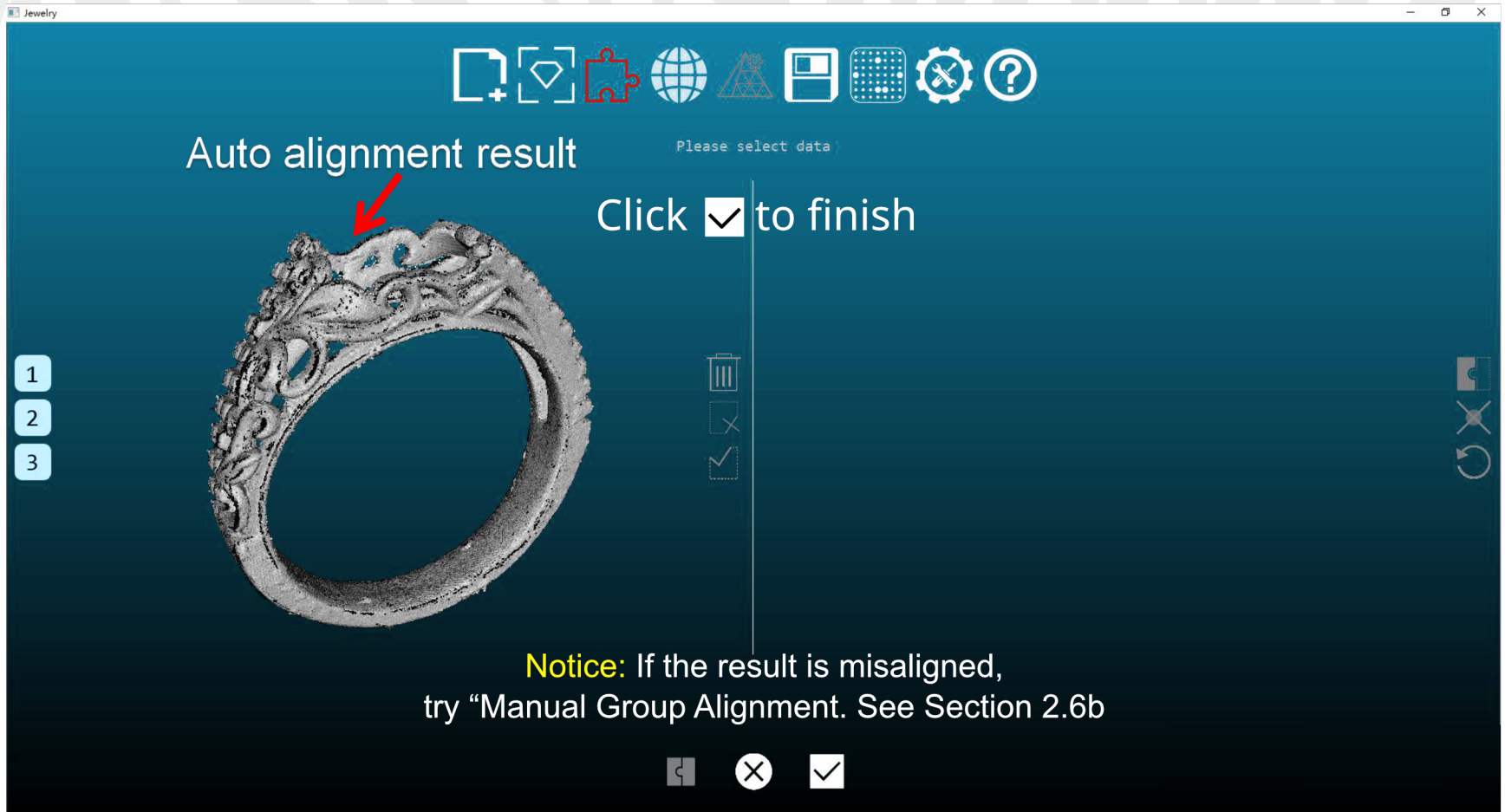
Notice: It's recommended to change the object's axis position before scanning using the rotating axis.



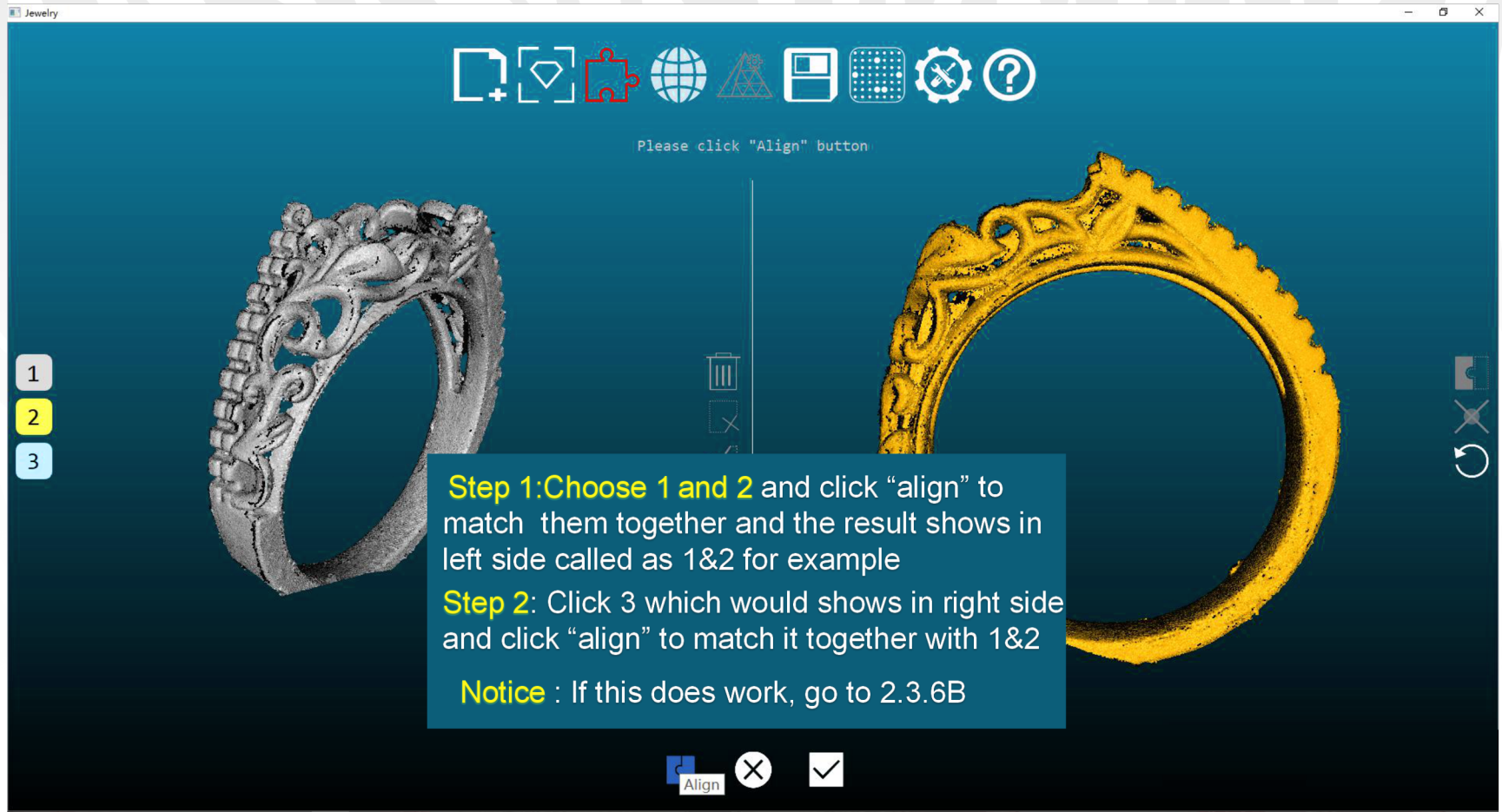
Section 2.6a: Auto Group Alignment



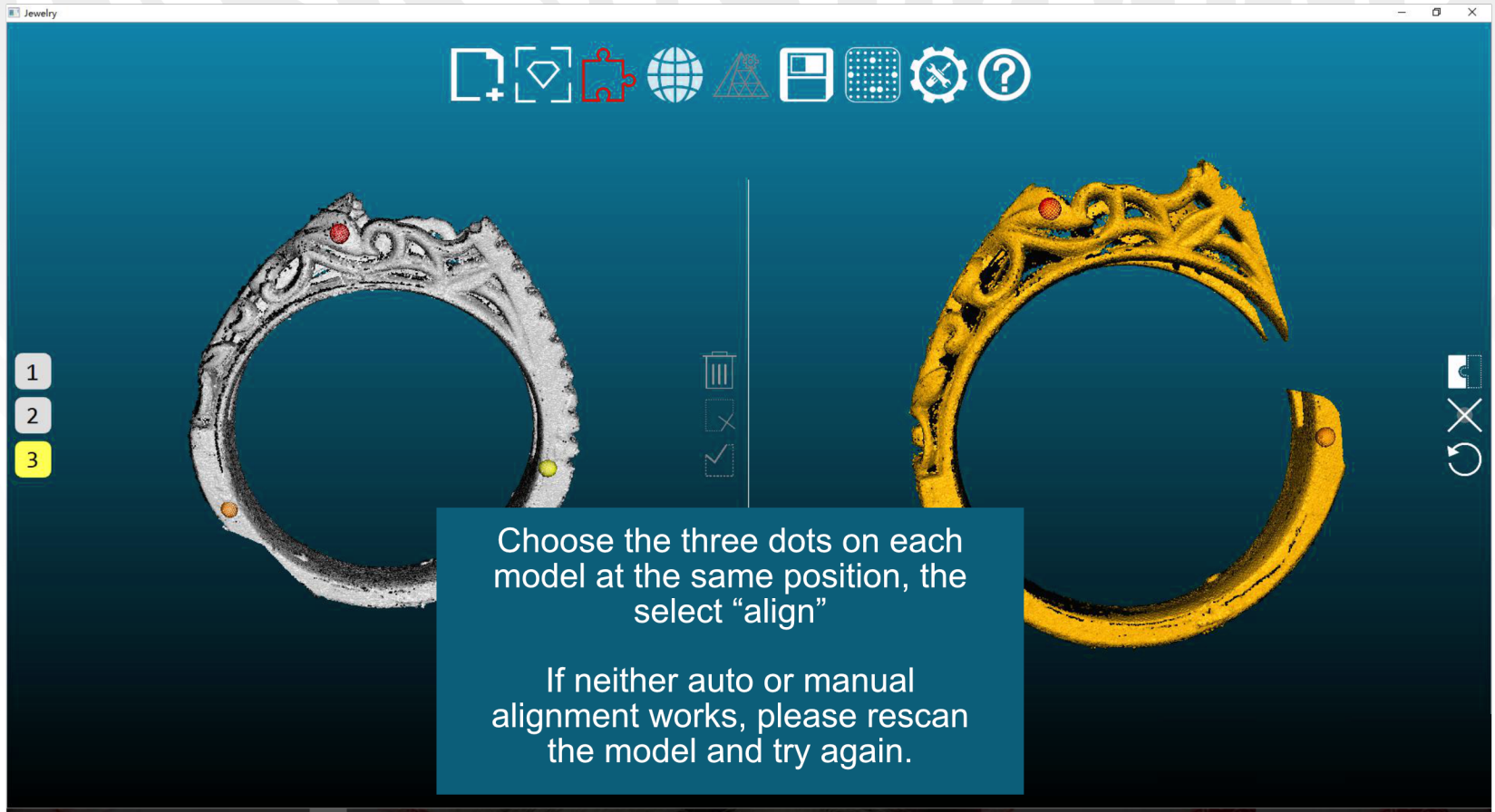
Section 2.6a: Auto Group Alignment



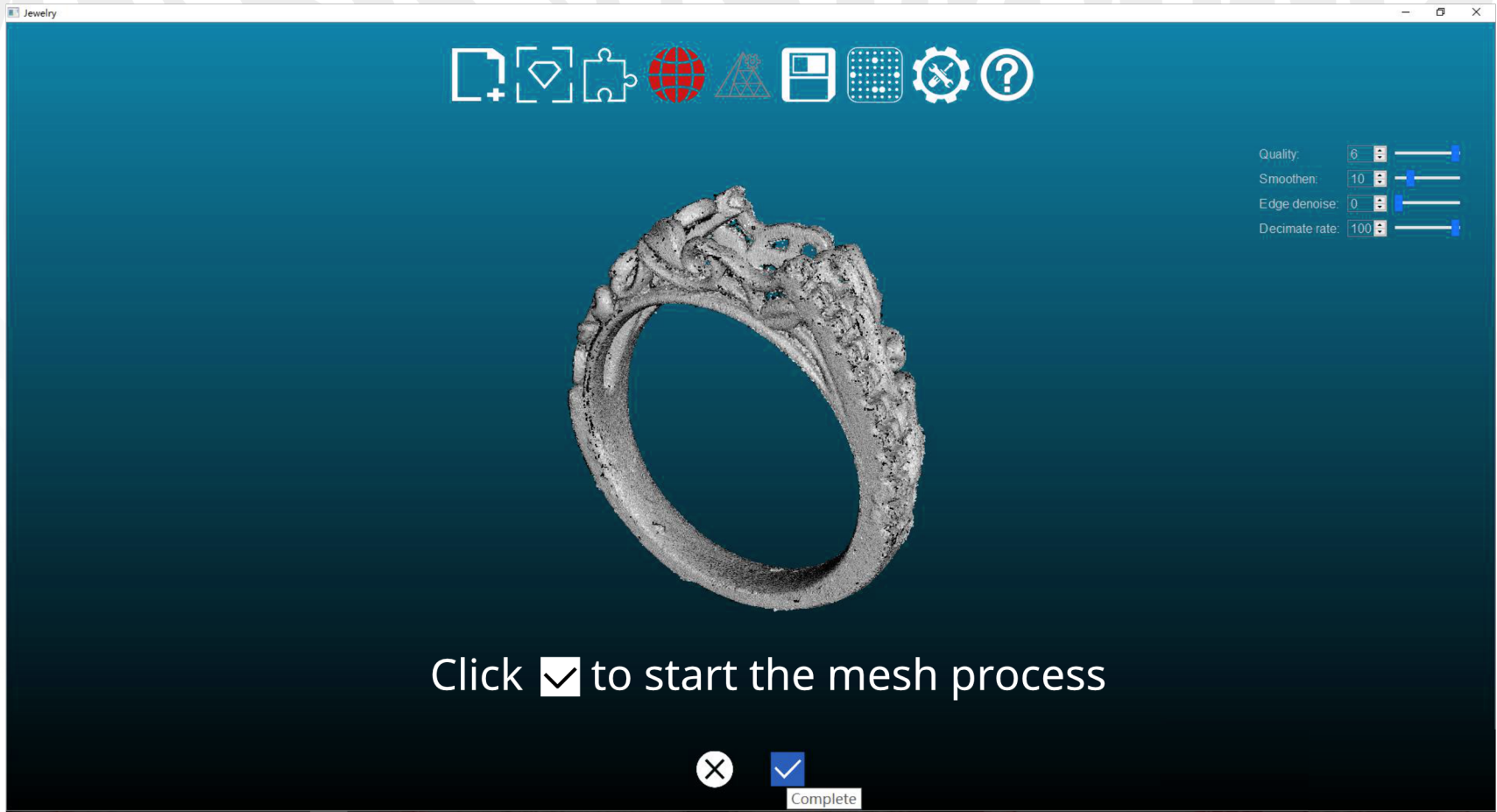
Section 2.6b: Manual Group Alignment



Section 2.6b: Manual Group Alignment



Section 2.7: Creating a Mesh



Section 2.7: Creating a Mesh



Section 2.8: Mesh Refinement

Click ☒ to apply refinement settings



Quality: 6
Smoothen: 0
Edge denoise: 0
Decimate rate: 100

Quality: 6
Smoothen: 0
Edge denoise: 0
Decimate rate: 100

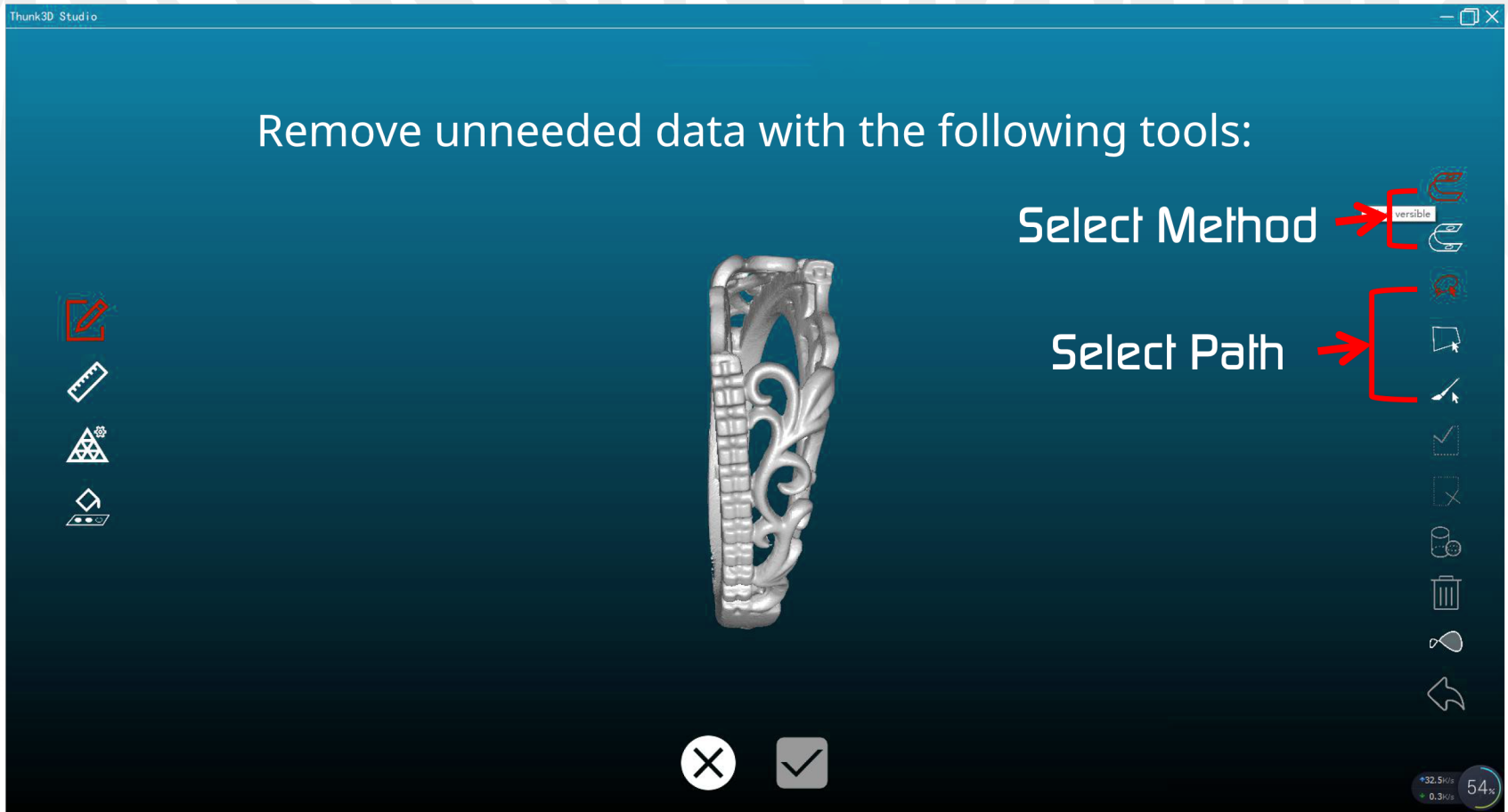
Note: You can adjust settings such as "smoothing" or "quality" to your liking

☒ Complete

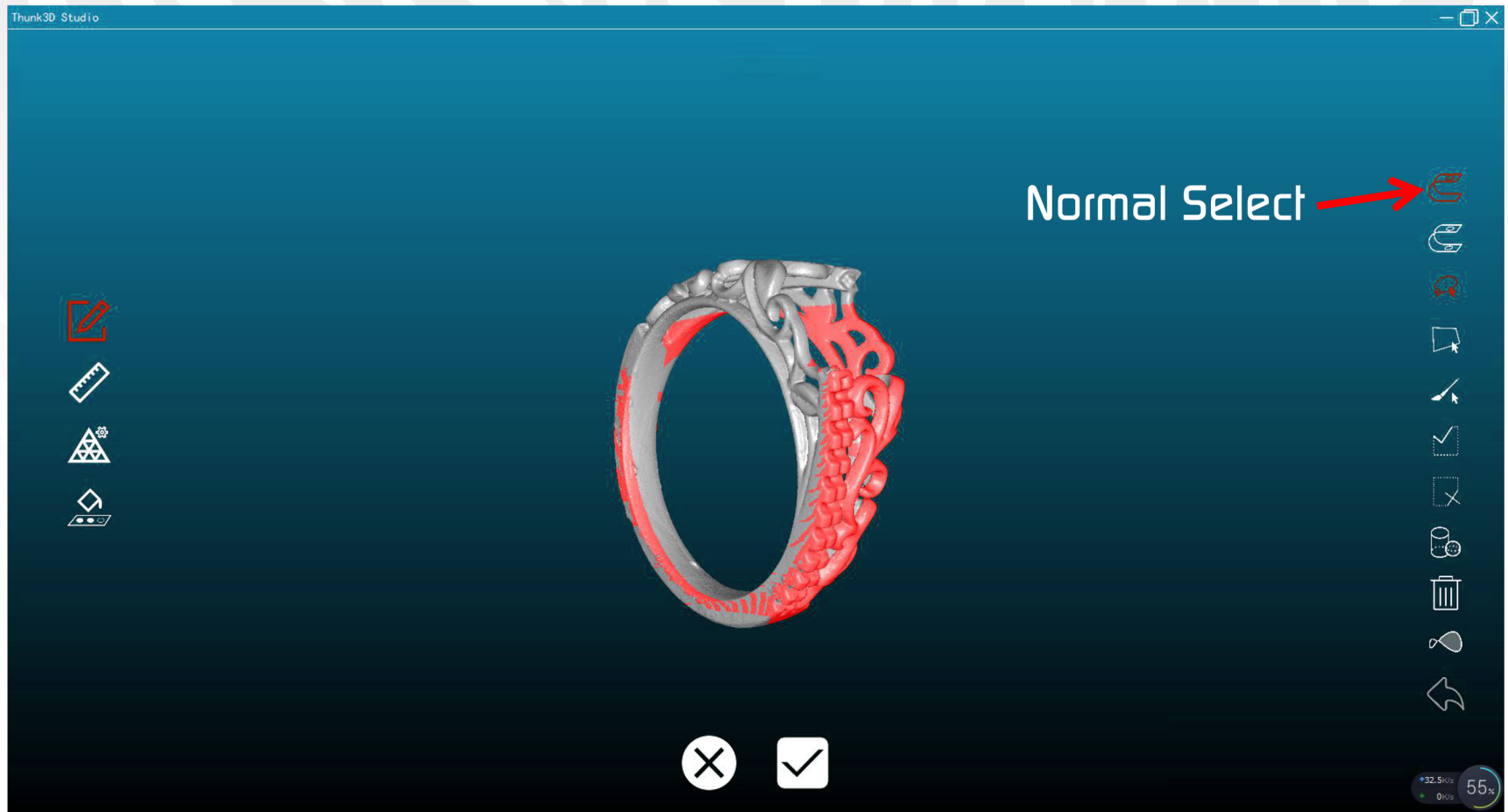
Section 2.9: Edit Mesh



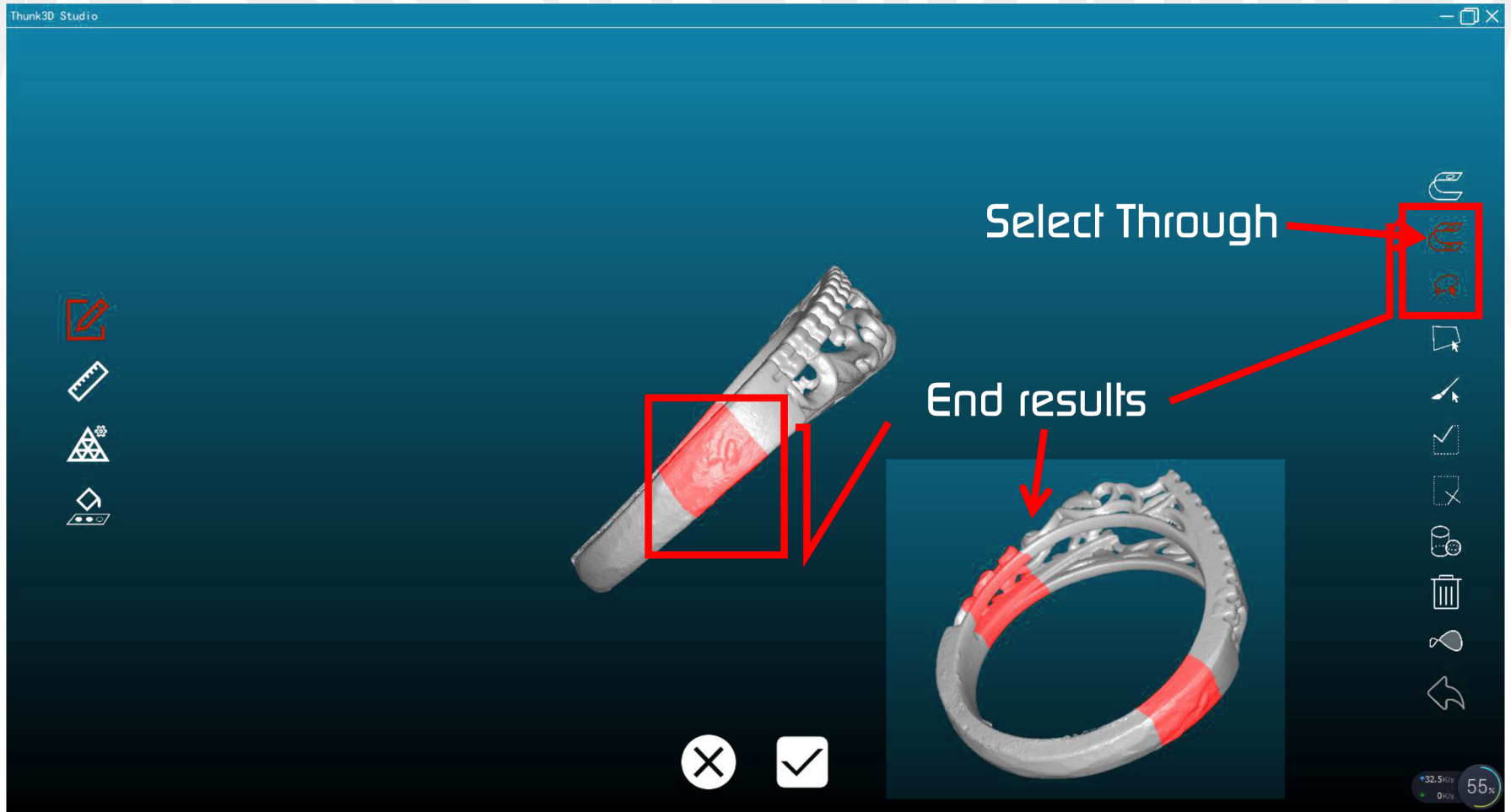
Section 3.1 a: Data Clean-up



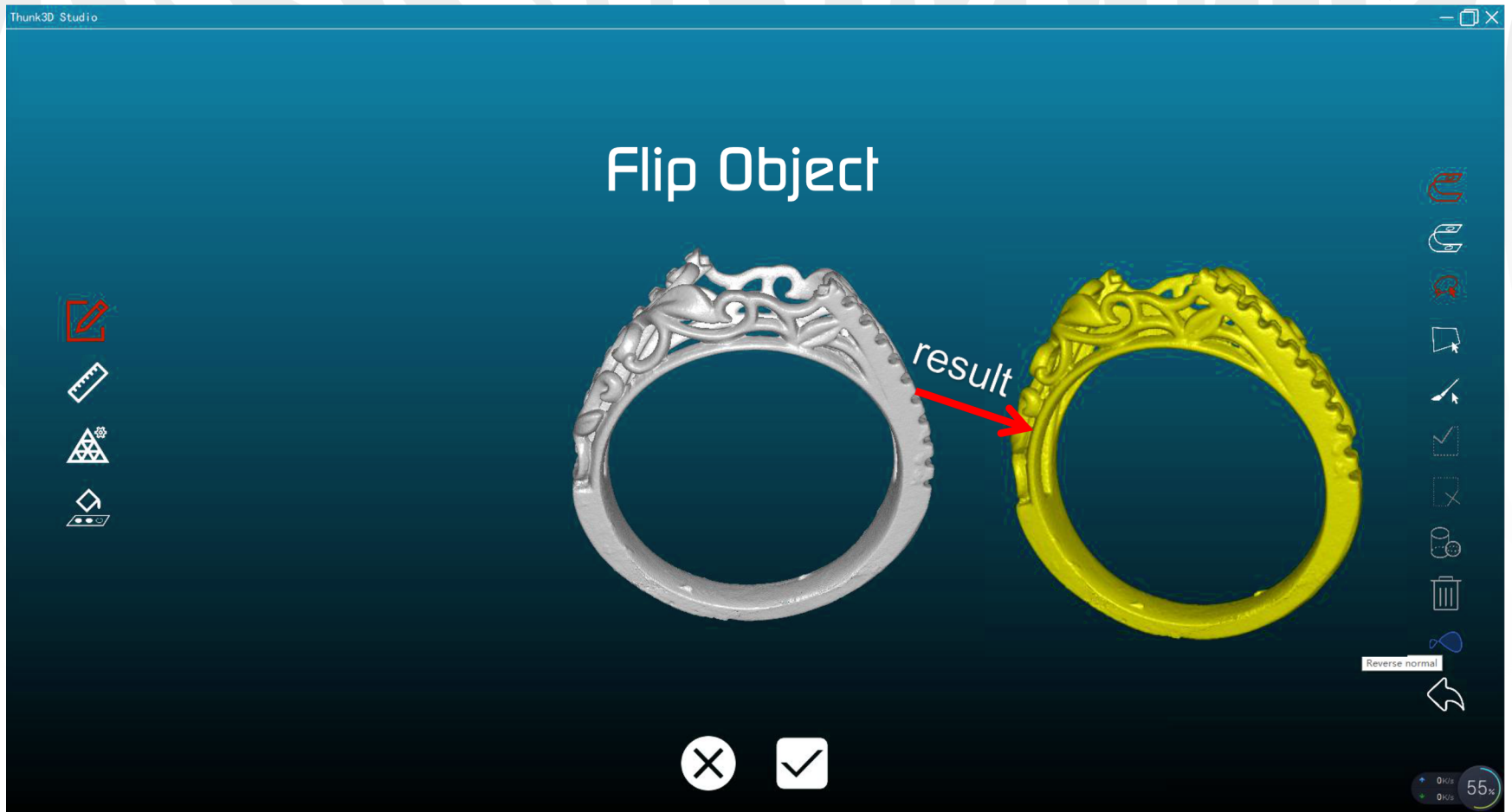
Section 3.1 b: Data Clean-up - Normal Select



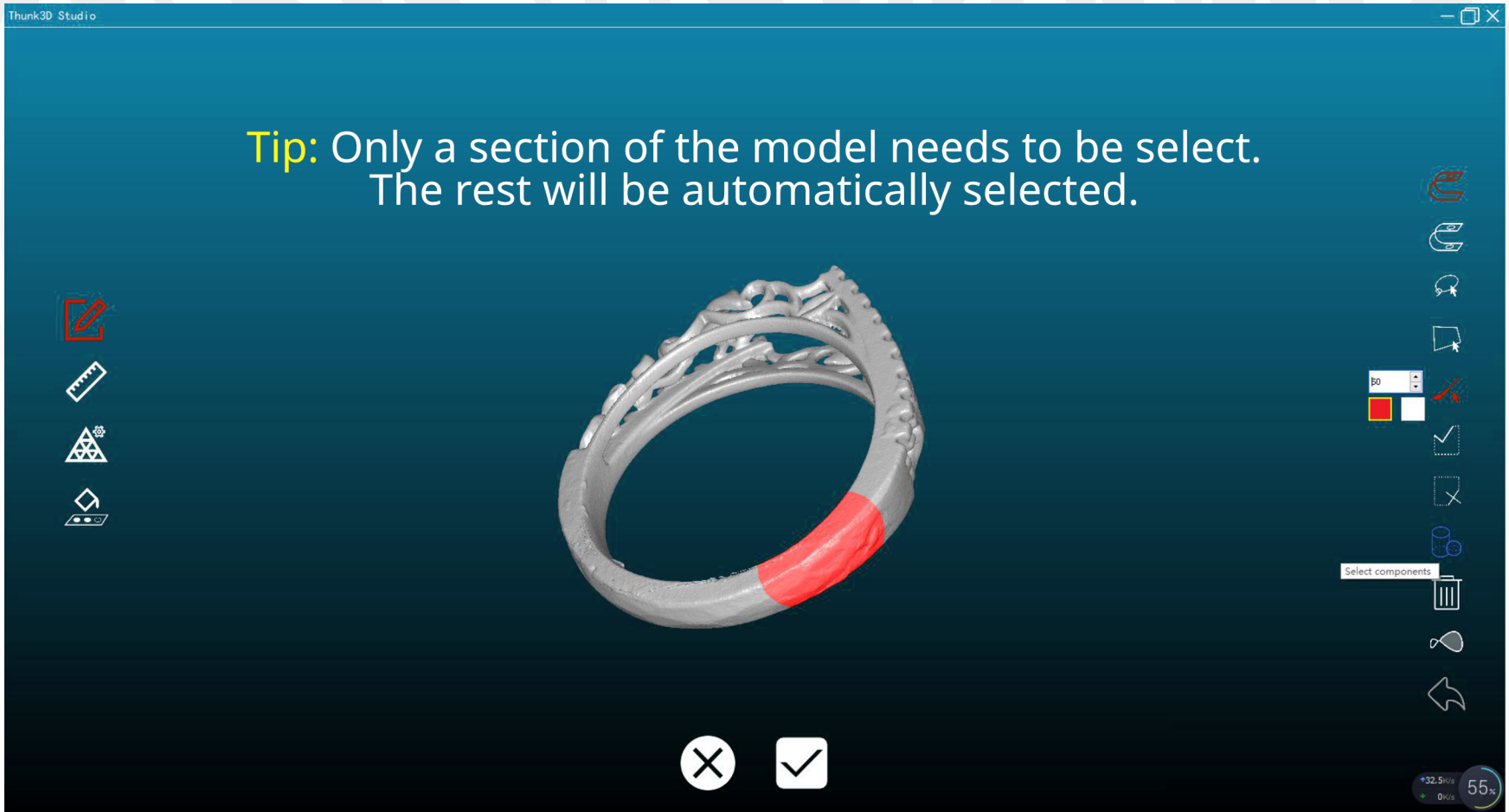
Section 3.1 c: Data Clean-up - Select Through



Section 3.1 d: Data Clean-up - Flip Object



Section 3.1 e: Data Clean-up - Component Selection



Section 3.1 f: Data Clean-up - Measurement

Thunk3D Studio

Tip: Measure points, coordinates and distance



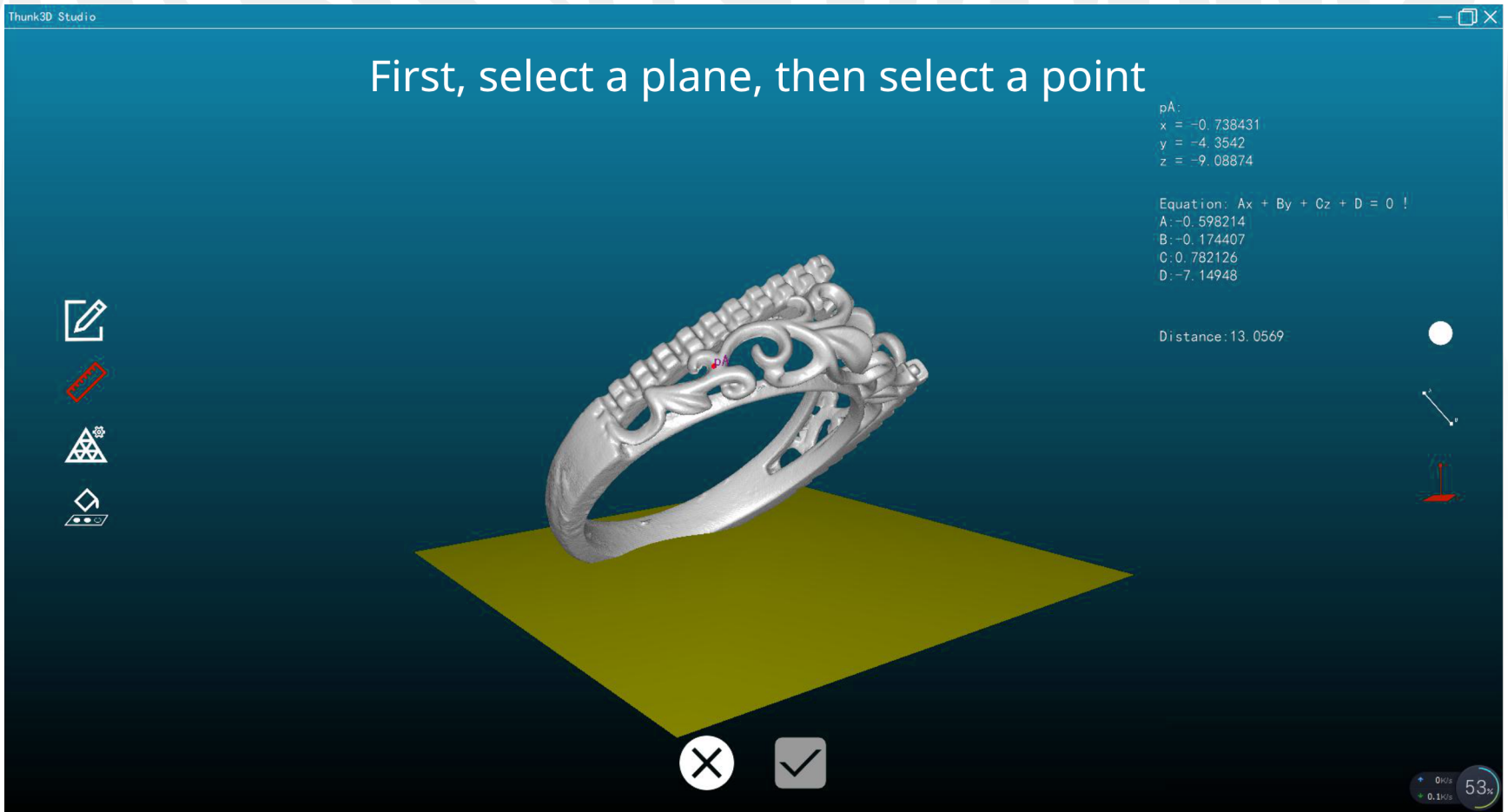
point coordinates

Distance between point to point

Distance between point to plane

53%

Section 3.1 g: Data Clean-up - Point to Plane



Section 3.1 h: Data Clean-up - Optimize Mesh

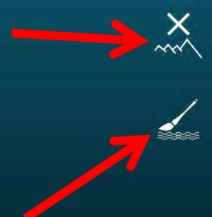
Thunk3D Studio

To fill imperfections in the model,
use the following tools:



Delete spikes
— Removes high points in model
*Can remove individual points

Smooth tool
Smooths out uneven surfaces

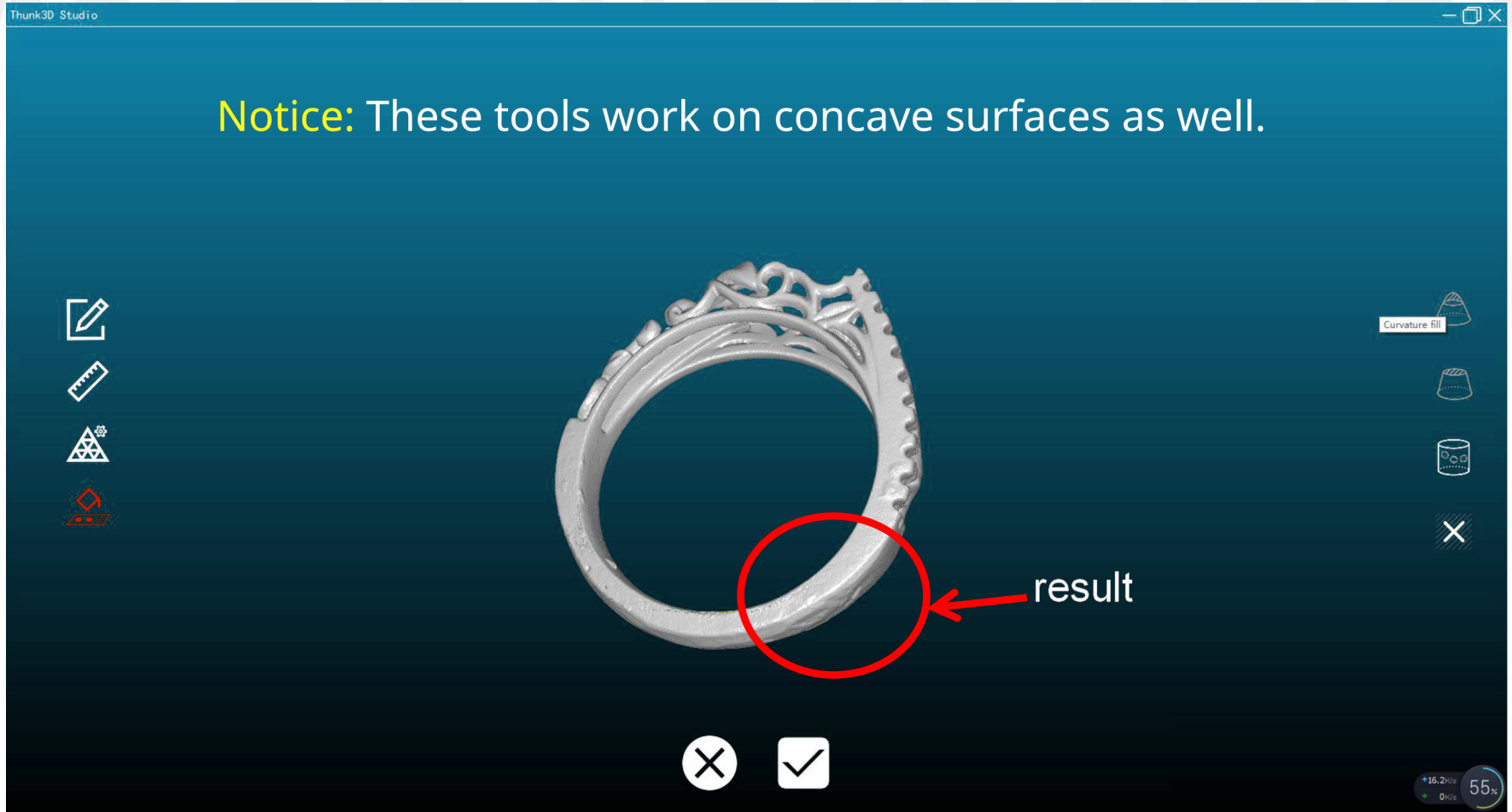


53%

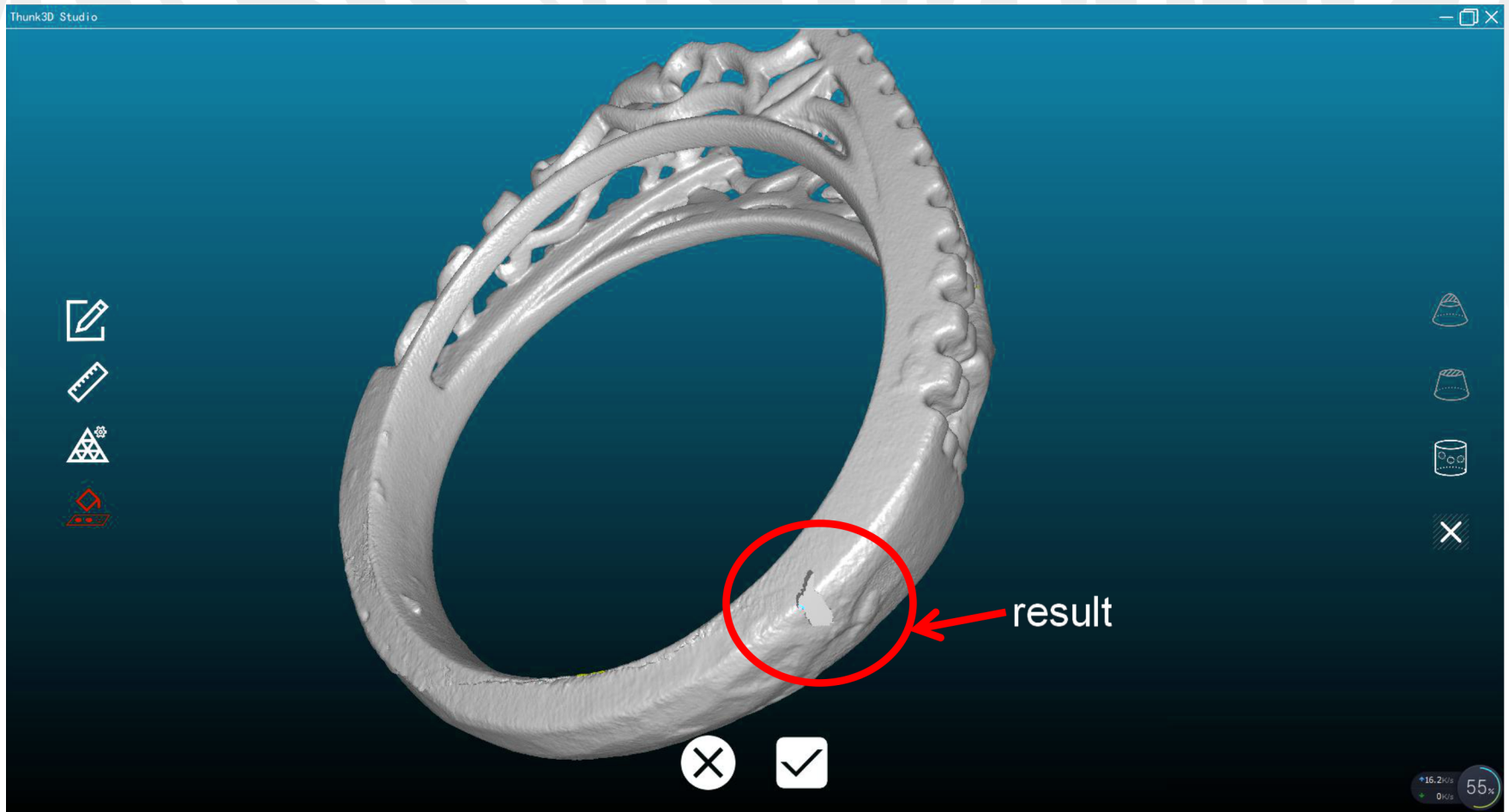
Section 3.1 i: Data Clean-up - Filling Holes



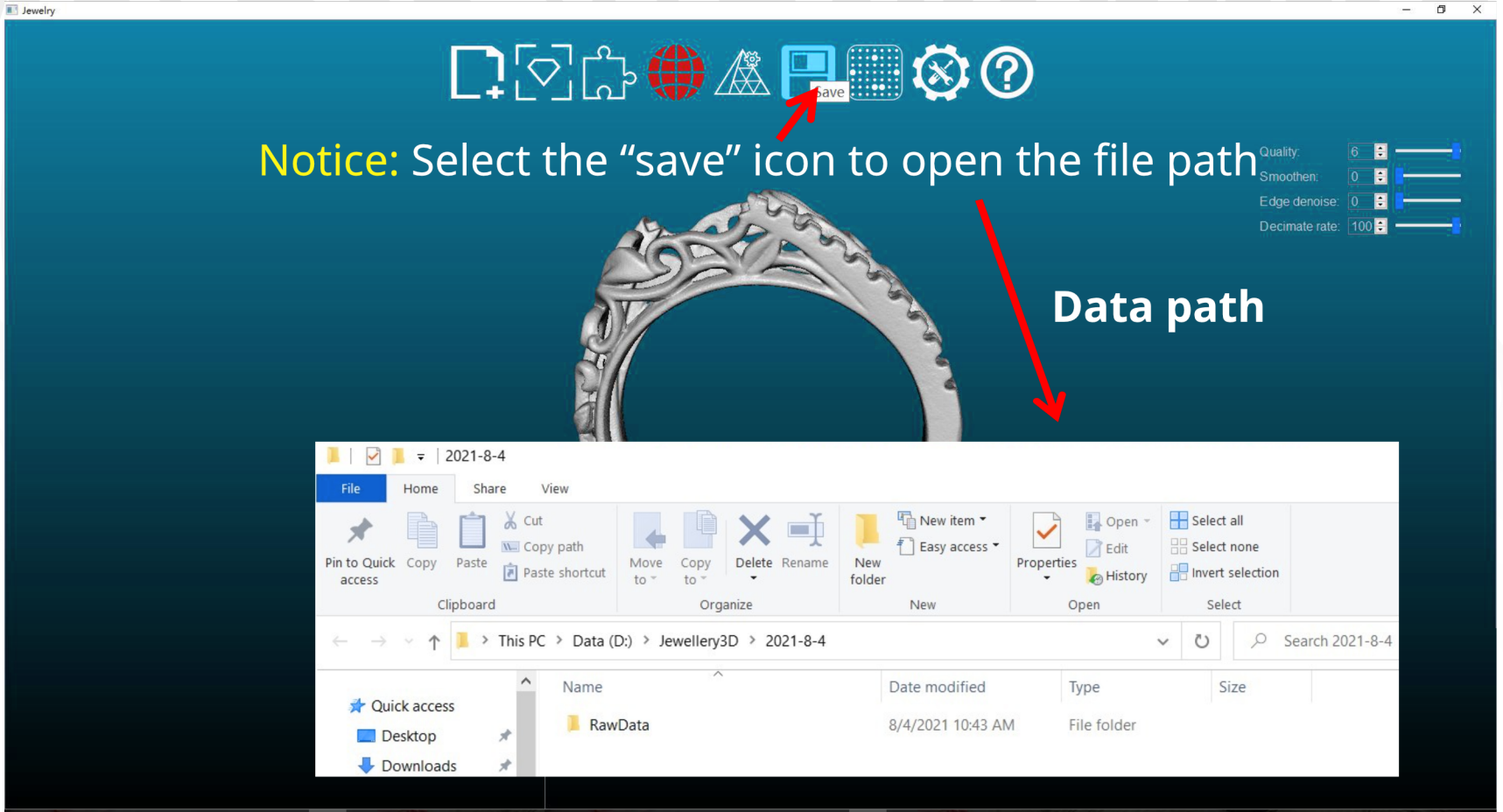
Section 3.1j: Data Clean-up - Filling Curves



Section 3.1 k: Data Clean-up - Filling Flat Surfaces



Section 4: Saving Data



The screenshot shows the Tiger APEX software interface. At the top, a toolbar contains several icons. A red arrow points to the 'save' icon, which is a blue square with a white floppy disk symbol. Below the toolbar, a 3D model of a ring is displayed. To the right of the ring, a red arrow points to the text 'Data path'. Below the 3D model, a Windows File Explorer window is open, showing the path 'This PC > Data (D:) > Jewellery3D > 2021-8-4'. The file list shows a folder named 'RawData' with a date modified of '8/4/2021 10:43 AM' and a type of 'File folder'.

Notice: Select the “save” icon to open the file path

Data path

2021-8-4

File Home Share View

Pin to Quick access Copy Paste Cut Copy path Paste shortcut Move to Copy to Delete Rename New folder New item Easy access Properties Open Select all Select none Invert selection

Clipboard Organize New Open Select

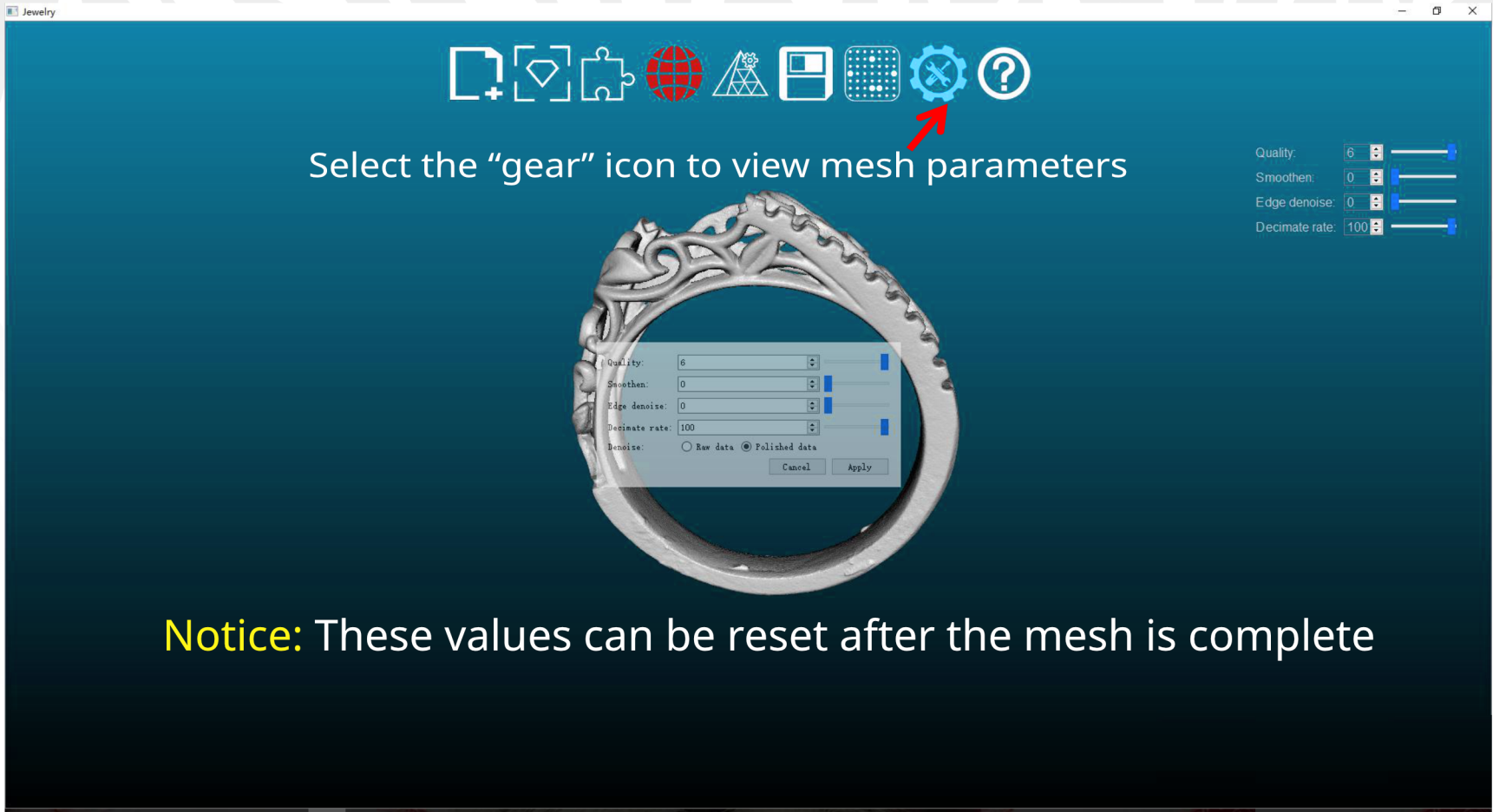
← → ↕ ↑ > This PC > Data (D:) > Jewellery3D > 2021-8-4 Search 2021-8-4

Name	Date modified	Type	Size
RawData	8/4/2021 10:43 AM	File folder	

Section 5: Parameter Settings

Jewelry

Select the “gear” icon to view mesh parameters



Quality: 6
Smoothen: 0
Edge denoise: 0
Decimate rate: 100
Denoise: ☐ Raw data ☒ Polished data
Cancel Apply

Quality: 6
Smoothen: 0
Edge denoise: 0
Decimate rate: 100

Notice: These values can be reset after the mesh is complete

Section 5: Dongle Model Number & Uptime

