

SILKKNOW

VIRTUAL LOOM

Graphical Manual for the evaluations

What is Virtual Loom

Developed in the scope of the SILKNOW project, the Virtual Loom is an application that deals with the 3D virtual representation of historical silk fabrics at the yarn level.

Virtual Loom Desktop Version

The desktop versions for Windows and MacOS are available at:

<https://github.com/silknow/virtual-loom/releases>



Releases Tags

Latest release

1.00
cdd6097

Compare

Virtual Loom Standalone

mapeai released this 6 days ago · 1 commit to master since this release

- Include Unity Analytics
- More help for users
- New splash screen
- New weave viewer

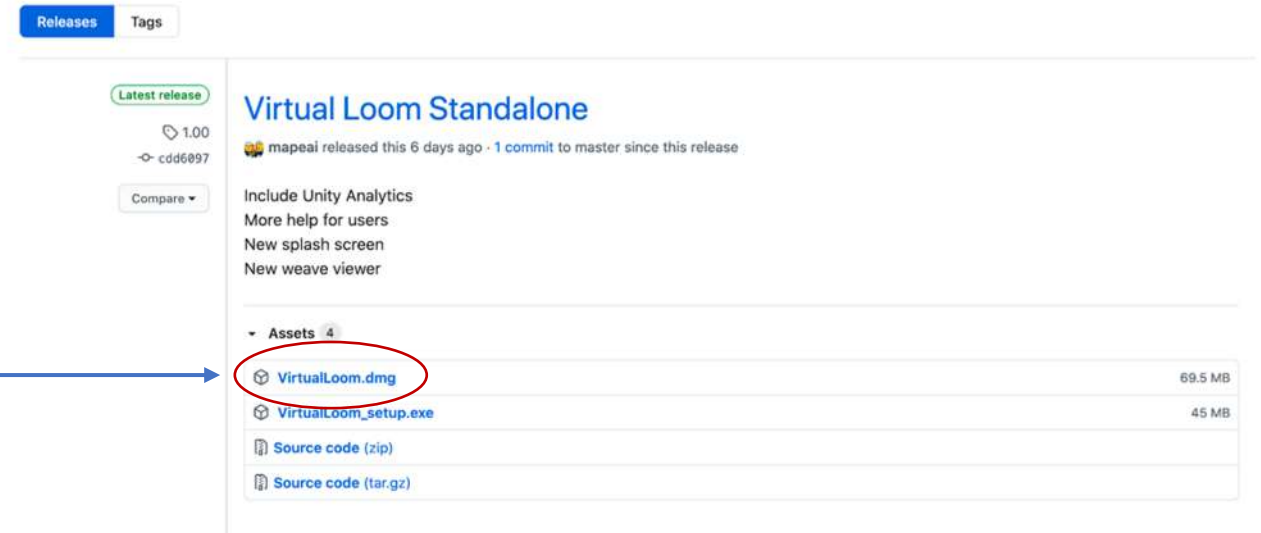
Assets 4

VirtualLoom.dmg	69.5 MB
VirtualLoom_setup.exe	45 MB
Source code (zip)	
Source code (tar.gz)	

Installing the Mac version

Download the .dmg file

Click on VirtualLoom.dmg in your download folder



Drag and drop into the “Applications” folder and then click the app icon while holding down the Ctrl key, then choose Open from the shortcut menu.

Installing the Windows version:

1. Download the VirtualLoom.exe file
2. Click on VirtualLoom.exe in the Downloads folder
3. Follow the required procedure

Releases Tags

Latest release

1.00

cdd6897

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Installazione di Virtual Loom versione 1.00

Selezione cartella di installazione

Dove vuoi installare Virtual Loom?

Virtual Loom sarà installato nella seguente cartella.

Per continuare seleziona "Avanti".
Per scegliere un'altra cartella seleziona "Sfoglia".

C:\Program Files\Virtual Loom

Sfoglia...

Sono richiesti almeno 171,4 MB di spazio libero nel disco.

Avanti > Annulla

Installazione di Virtual Loom versione 1.00

Selezione processi aggiuntivi

Quali processi aggiuntivi vuoi eseguire?

Seleziona i processi aggiuntivi che verranno eseguiti durante l'installazione di Virtual Loom, quindi seleziona "Avanti".

Icone aggiuntive:

Crea un'icona sul desktop

< Indietro Avanti > Annulla

Installazione di Virtual Loom versione 1.00

Pronto per l'installazione

Il programma è pronto per iniziare l'installazione di Virtual Loom nel computer.

Seleziona "Installa" per continuare con l'installazione, o "Indietro" per rivedere o modificare le impostazioni.

Cartella di installazione:
C:\Program Files\Virtual Loom

Processi aggiuntivi:
Icone aggiuntive:
Crea un'icona sul desktop

< Indietro Installa Annulla

Installazione di Virtual Loom versione 1.00

Installazione di Virtual Loom completata

Installazione di Virtual Loom completata.

L'applicazione può essere eseguita selezionando le relative icone.

Seleziona "Fine" per uscire dall'installazione.

Avvia Virtual Loom

Fine

Virtual Loom desktop version main window

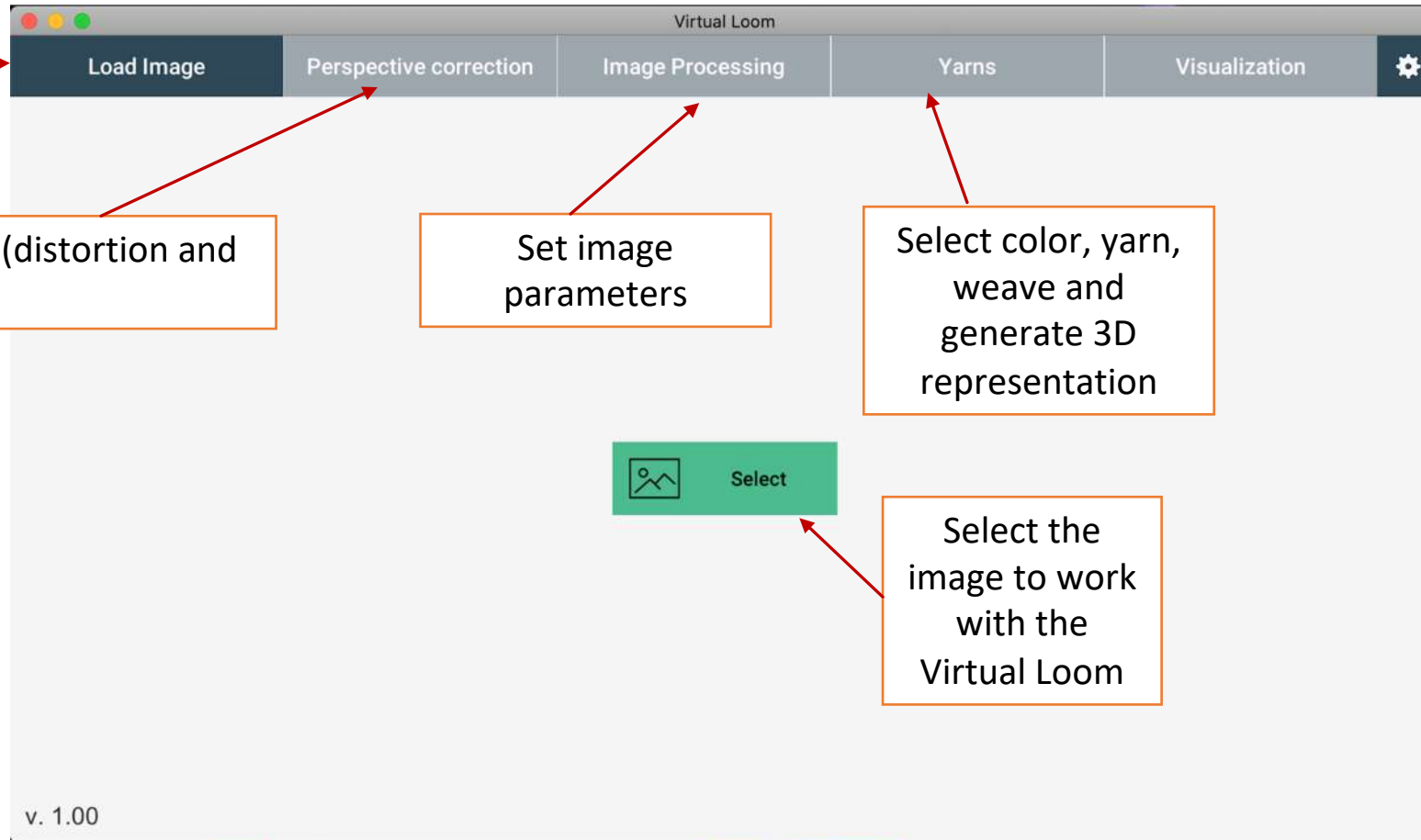
You are in the Load Image section

Correct image (distortion and image ratio)

Set image parameters

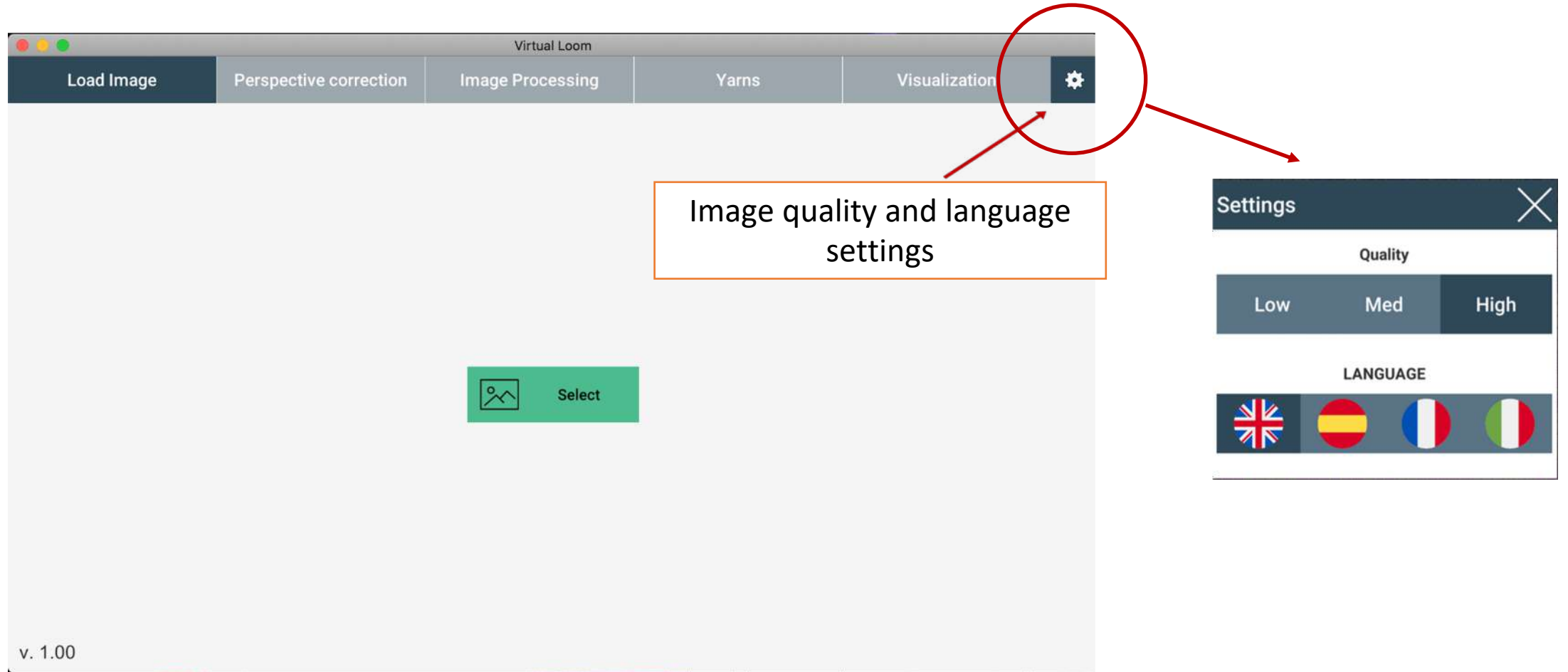
Select color, yarn, weave and generate 3D representation

Select the image to work with the Virtual Loom



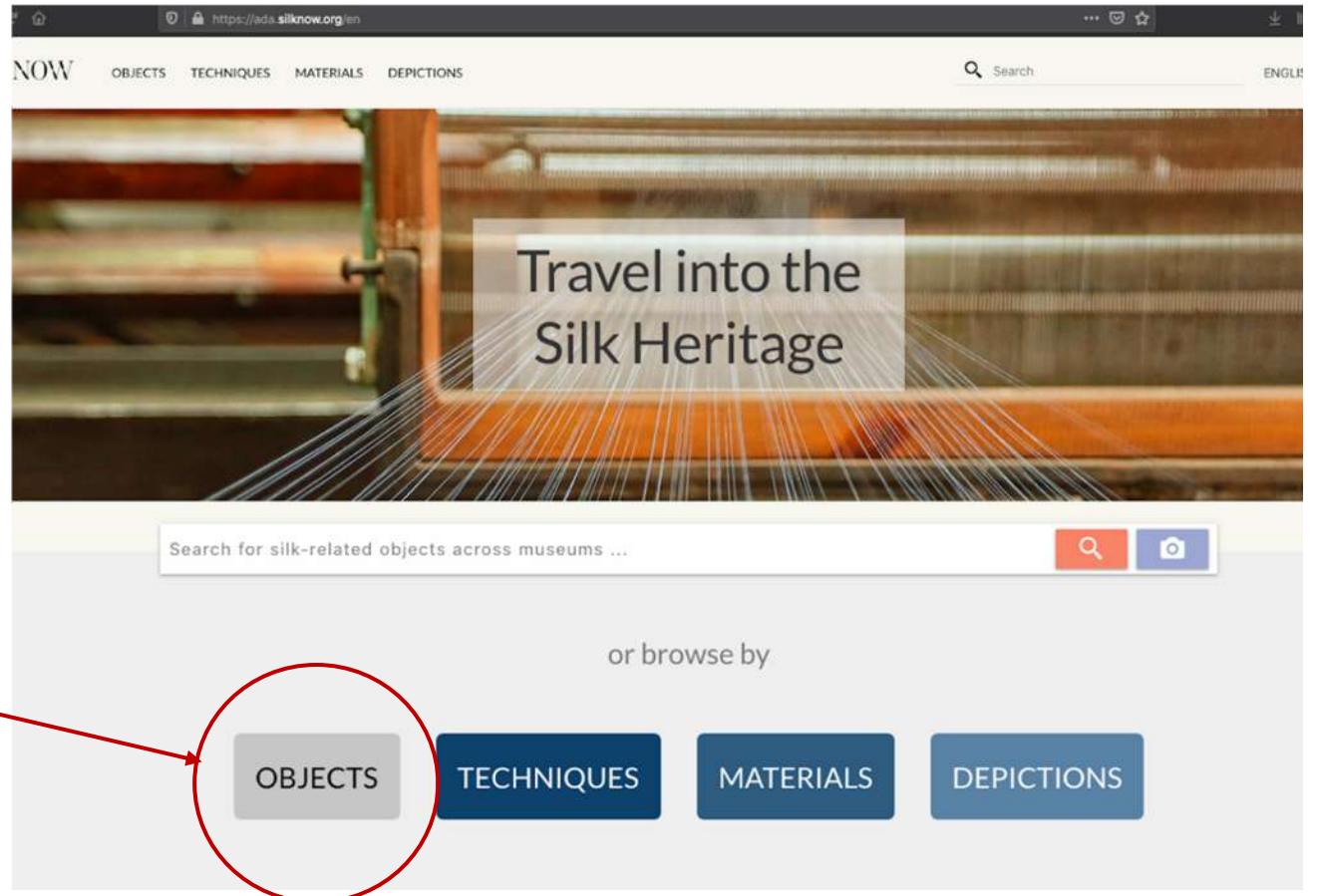
v. 1.00

Virtual Loom desktop version main window



Accessing Virtual Loom online

1. Click on <https://ada.silkknow.org/en> for accessing ADASilk web application



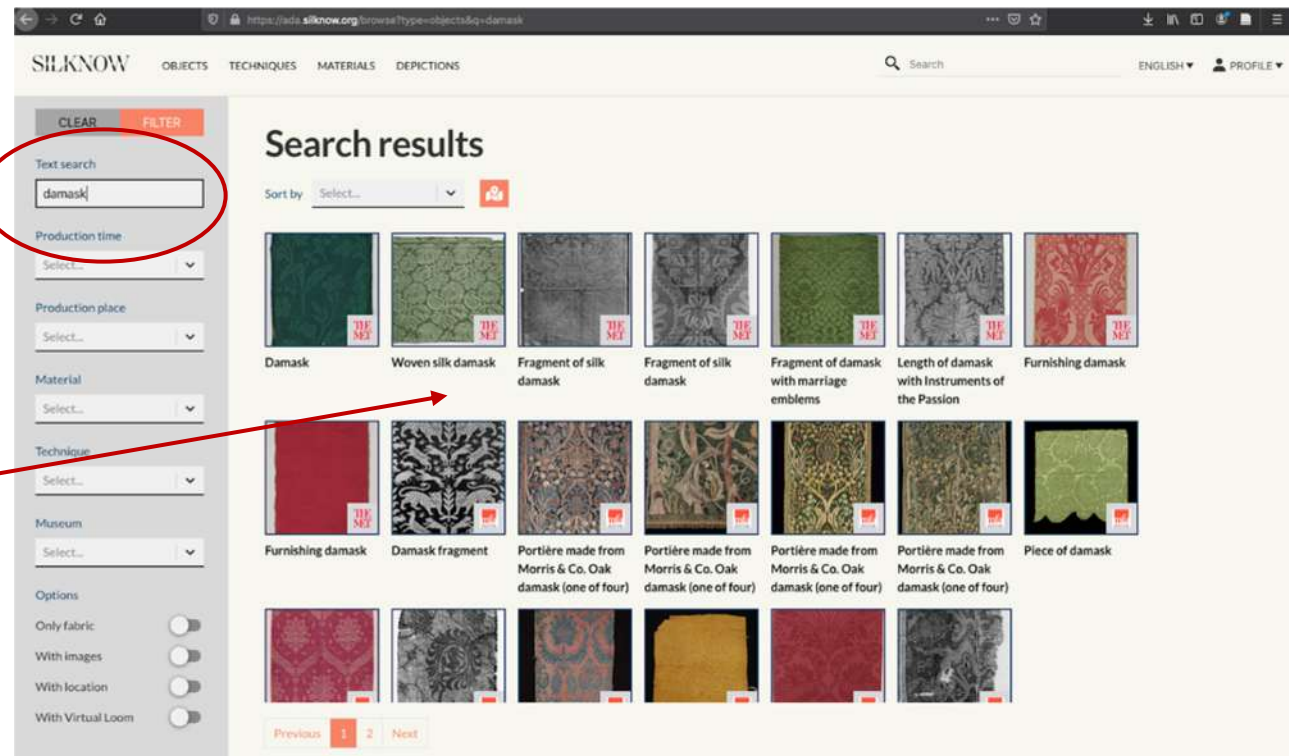
2. Click on OBJECTS



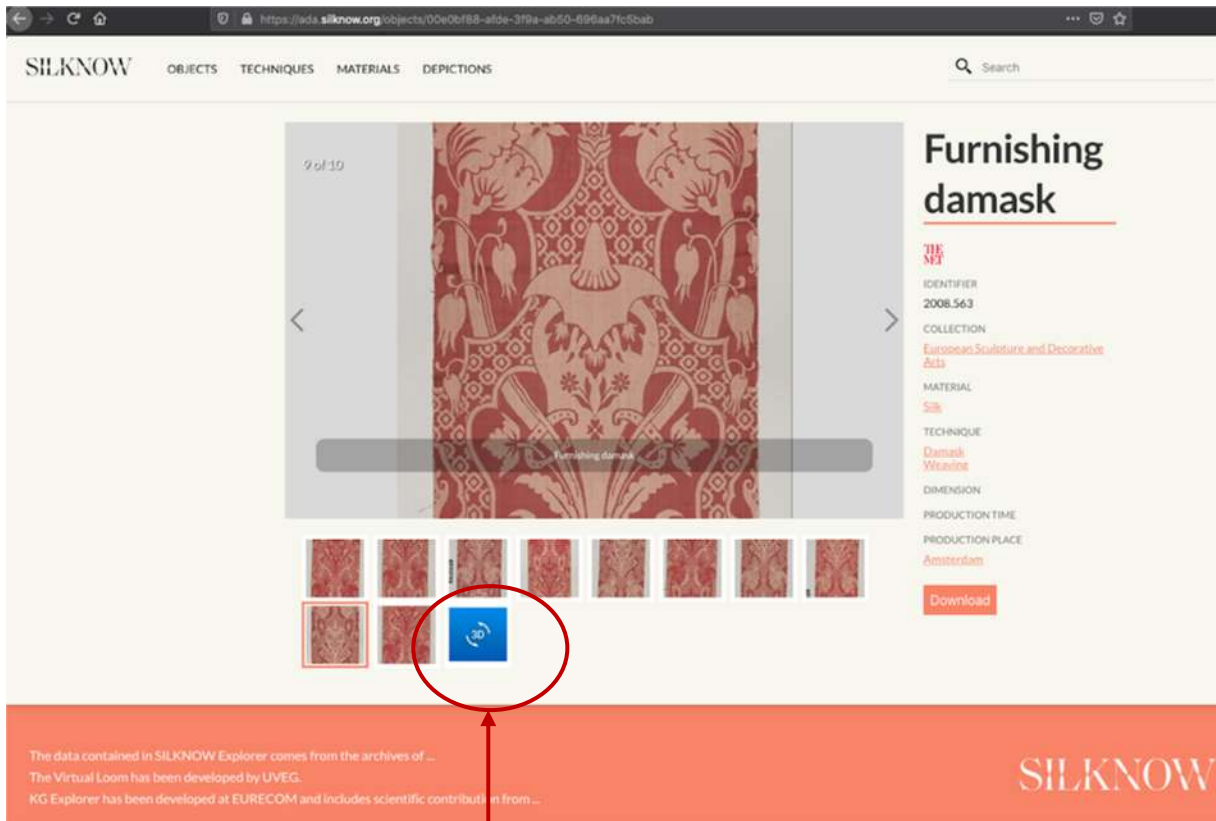
Accessing Virtual Loom online

1. Search the object you are interested in

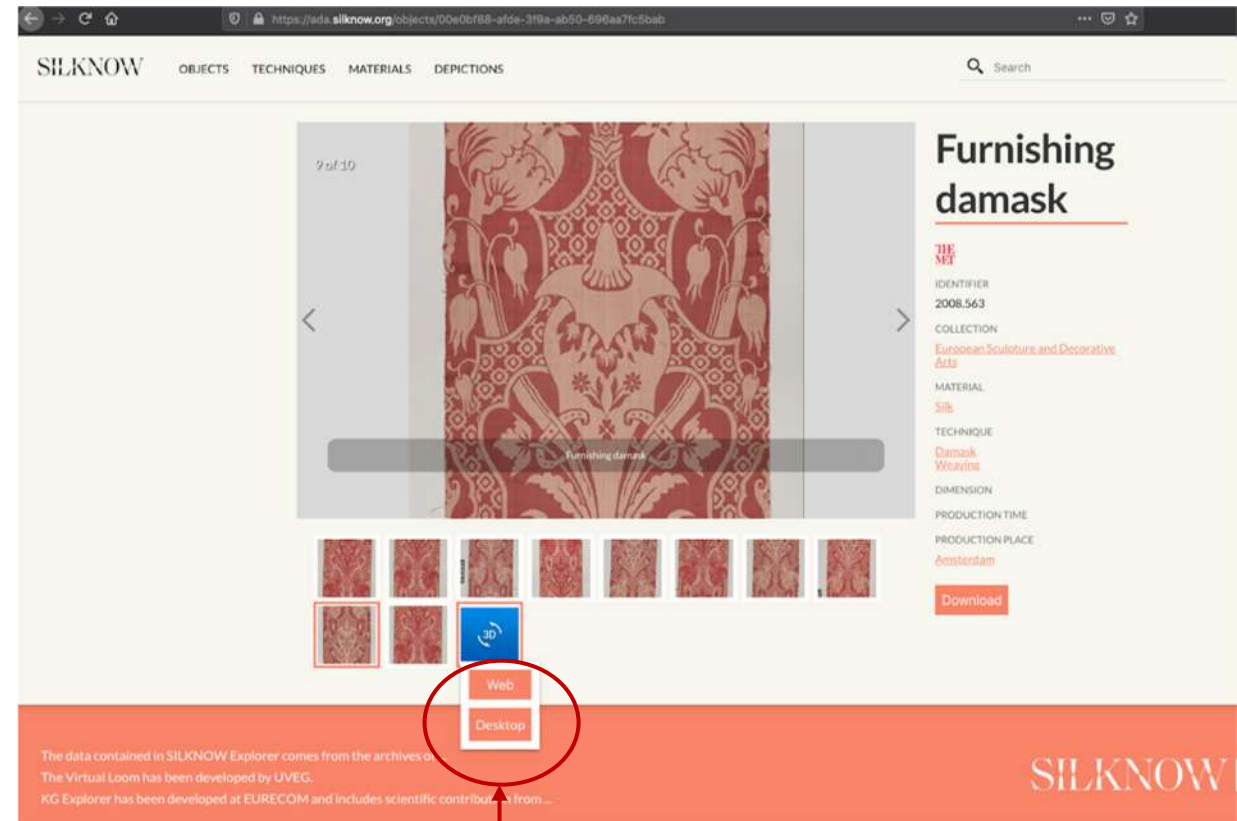
2. Select the image for which you want to produce the 3D representation



Accessing Virtual Loom online

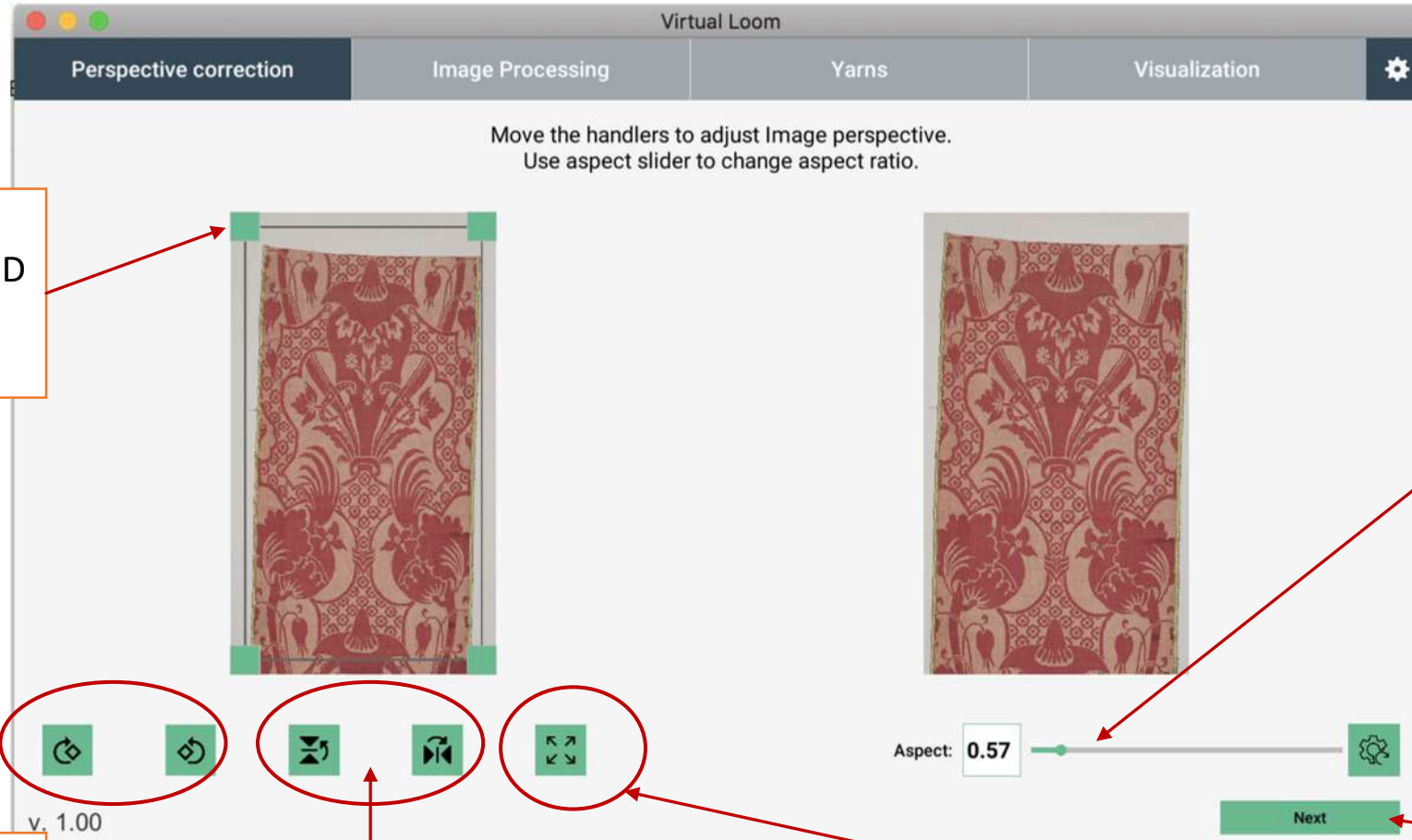


Press the "3D"
button



Select the version you
want to launch

Changing image aspect



Select the area you want to reproduce in 3D by moving the green squares

Change the aspect ratio

Apply rotation

Apply horizontal or vertical axis

Return to the original aspect

Go to Image Processing

Producing a 3D file of the image

Virtual Loom

Perspective correction | Image Processing | Yarns | Visualization

Select the technique to posterize the image based on the desired number of clusters.

Weaving Technique: Damask / Damassé

Clusters: 2

Apply

Next

v. 1.00

List of techniques to reproduce

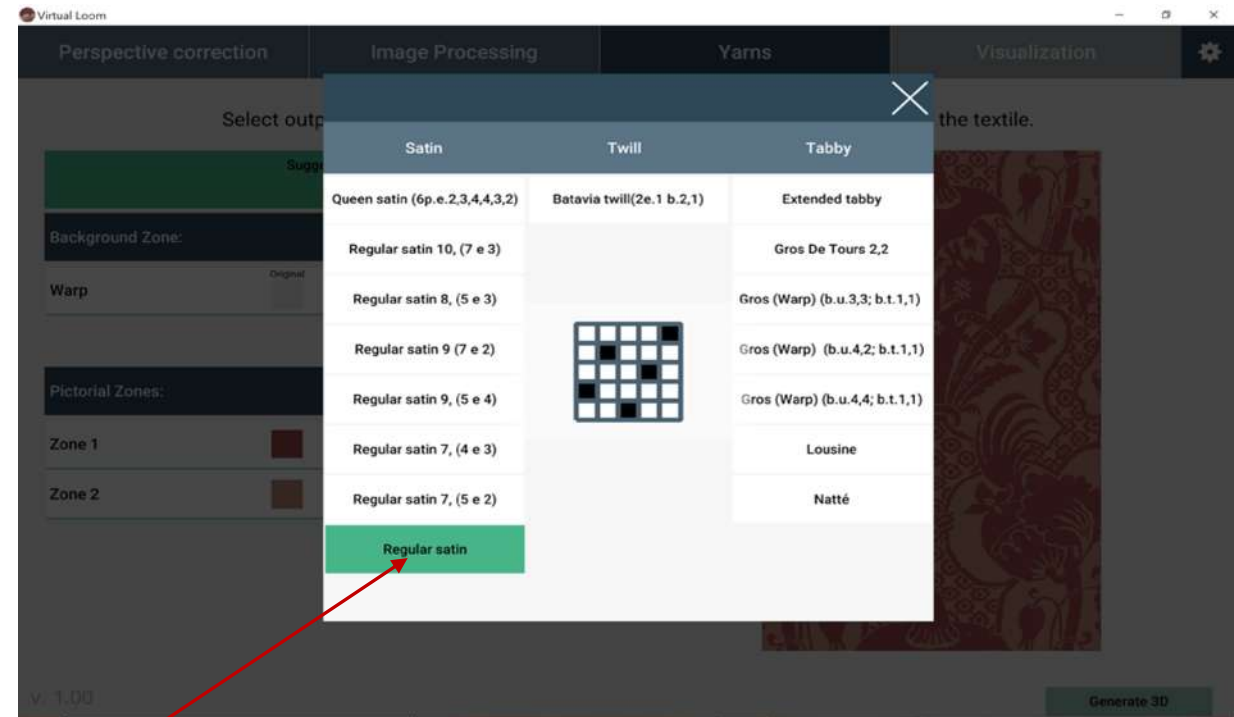
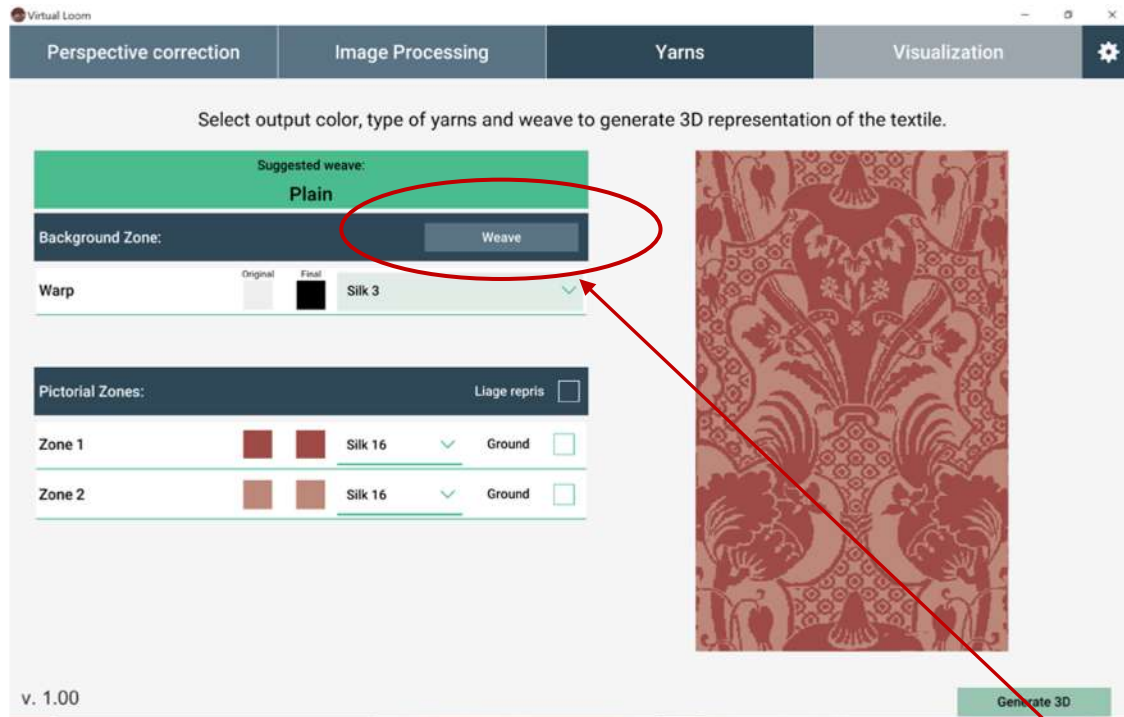
Number of clusters

Go to the next step

Apply parameters for image processing

General information in weaving techniques

Selecting the background zone



Select the Background zone

Choosing the background zone

Virtual Loom

Perspective correction | Image Processing | Yarns | Visualization | ⚙️

Select output color, type of yarns and weave to generate 3D representation of the textile.


Suggested weave:
Plain

Background Zone:

Warp: Original Final Silk 3

Pictorial Zones: Liage repris

Zone 2	<input type="checkbox"/>	<input type="checkbox"/>	Silk 16	<input type="checkbox"/>	Ground	<input type="checkbox"/>
Zone 1	<input type="checkbox"/>	<input type="checkbox"/>	Silk 16	<input type="checkbox"/>	Ground	<input type="checkbox"/>



v. 1.00

Select the pictorial backgrounds

Click to generate 3D

Navigating the 3D model

Virtual Loom

Perspective correction | Image Processing | Yarns | Visualization

Change area in the image

Hide visualization menu

Rotate

Generate the STL file

Take snapshot

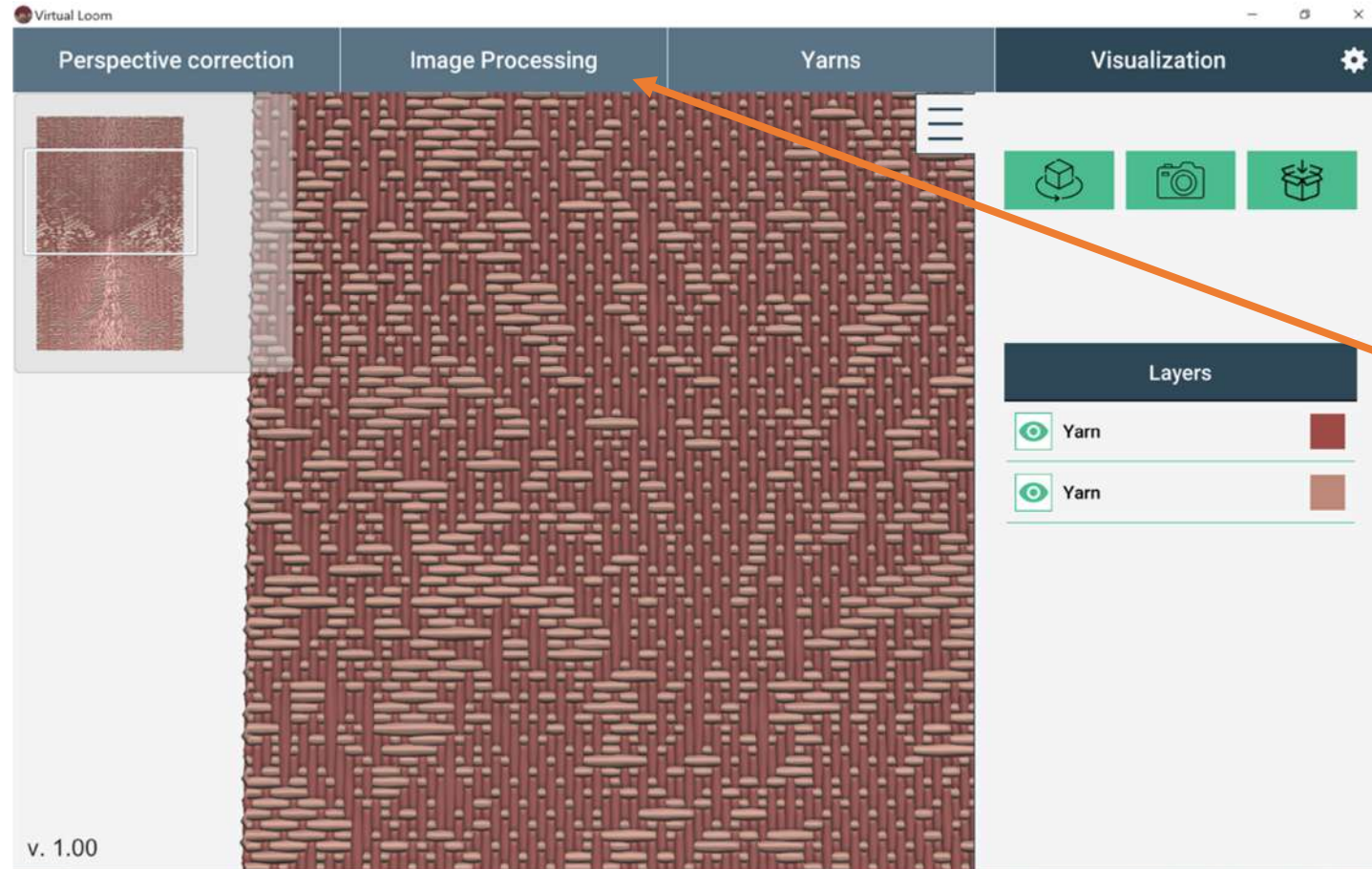
Layers

- Yarn
- Yarn

Hide yarns

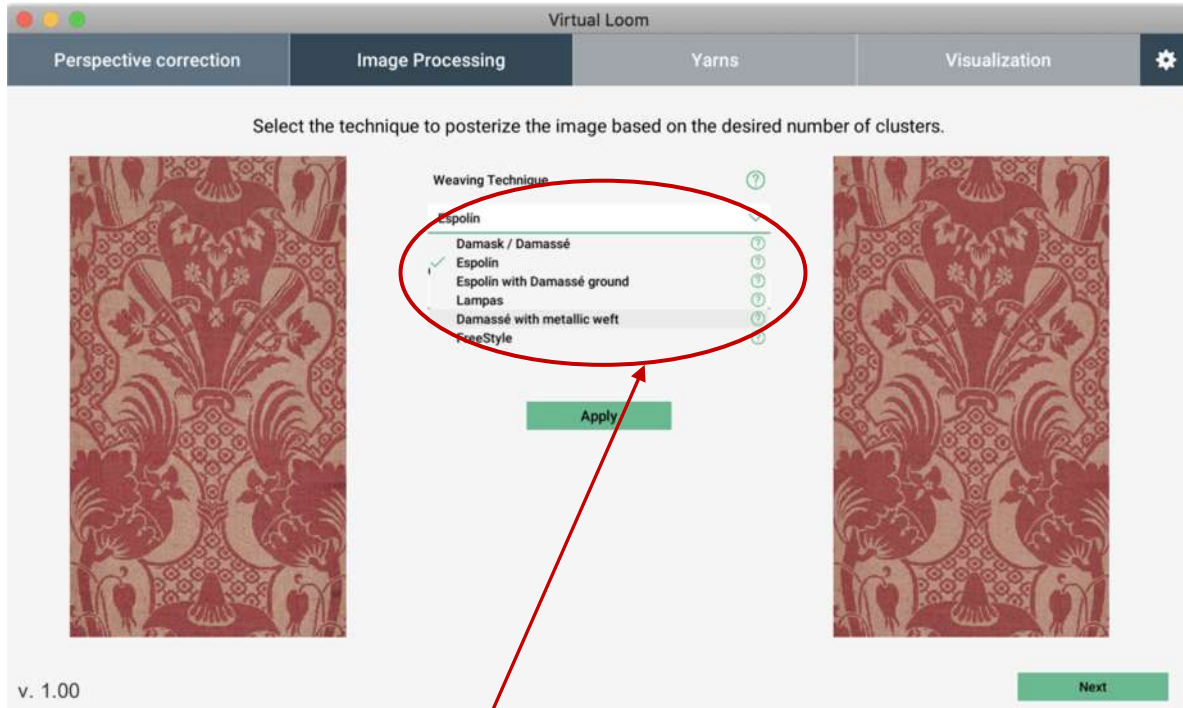
v. 1.00

If you want to change the initial techniques

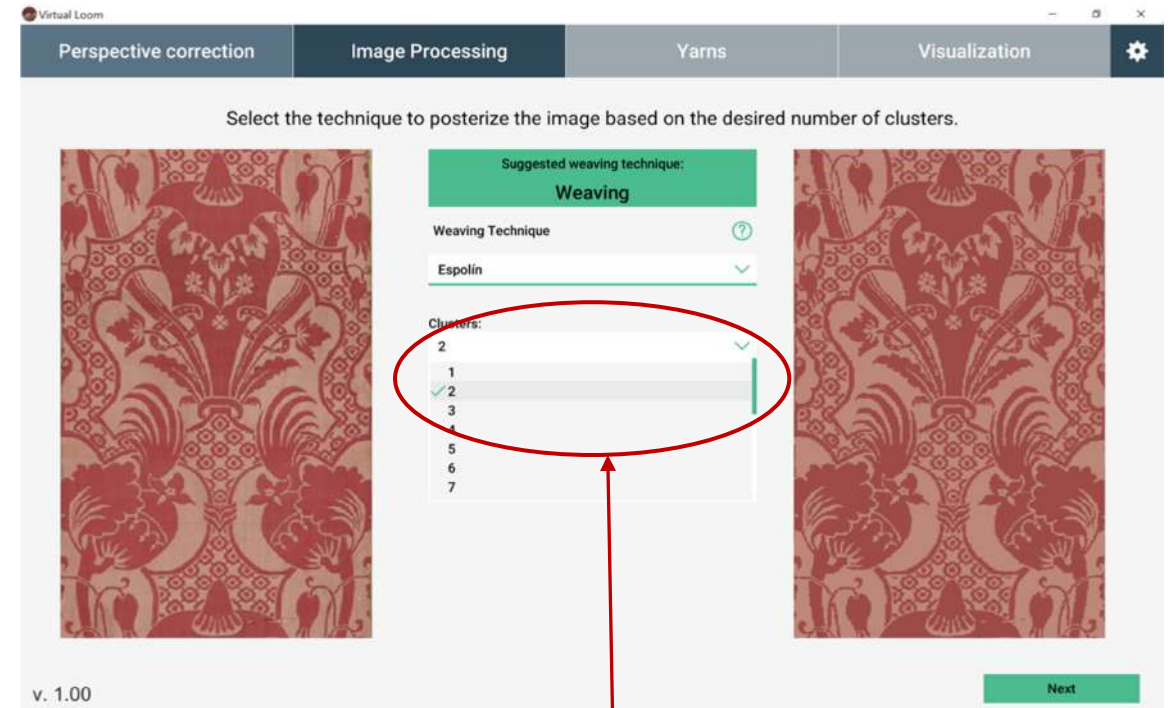


Click here to go back to Image Processing

Selecting other techniques

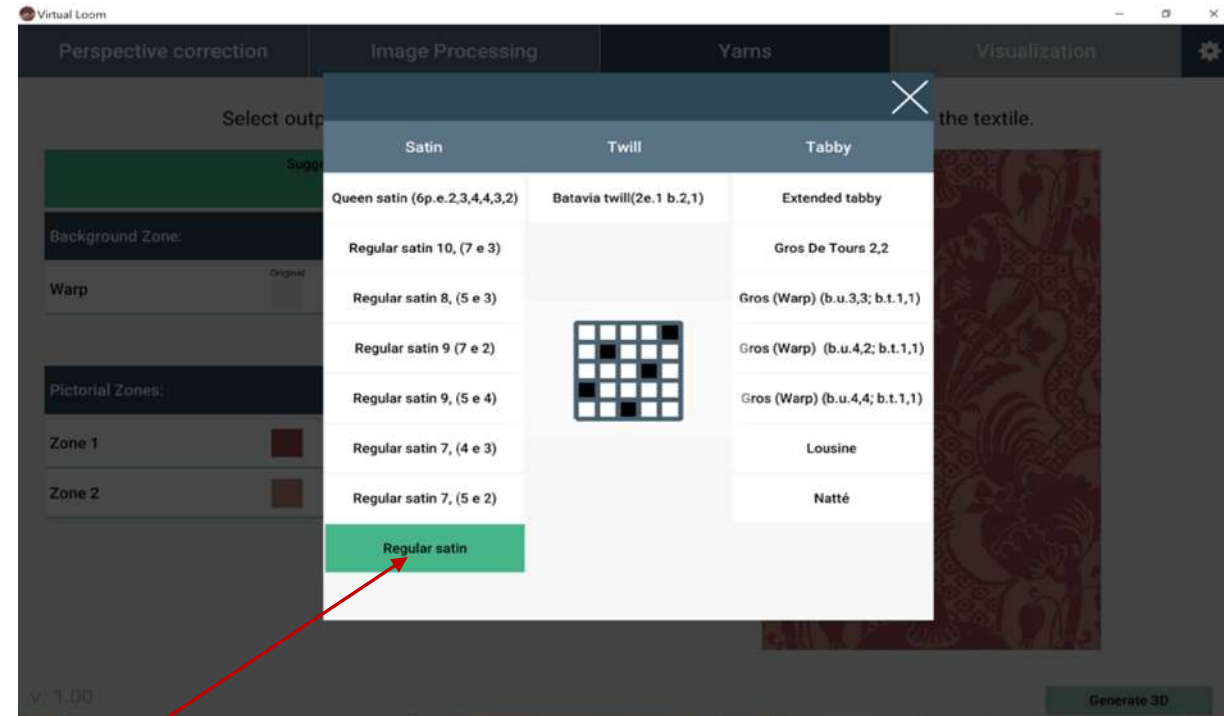
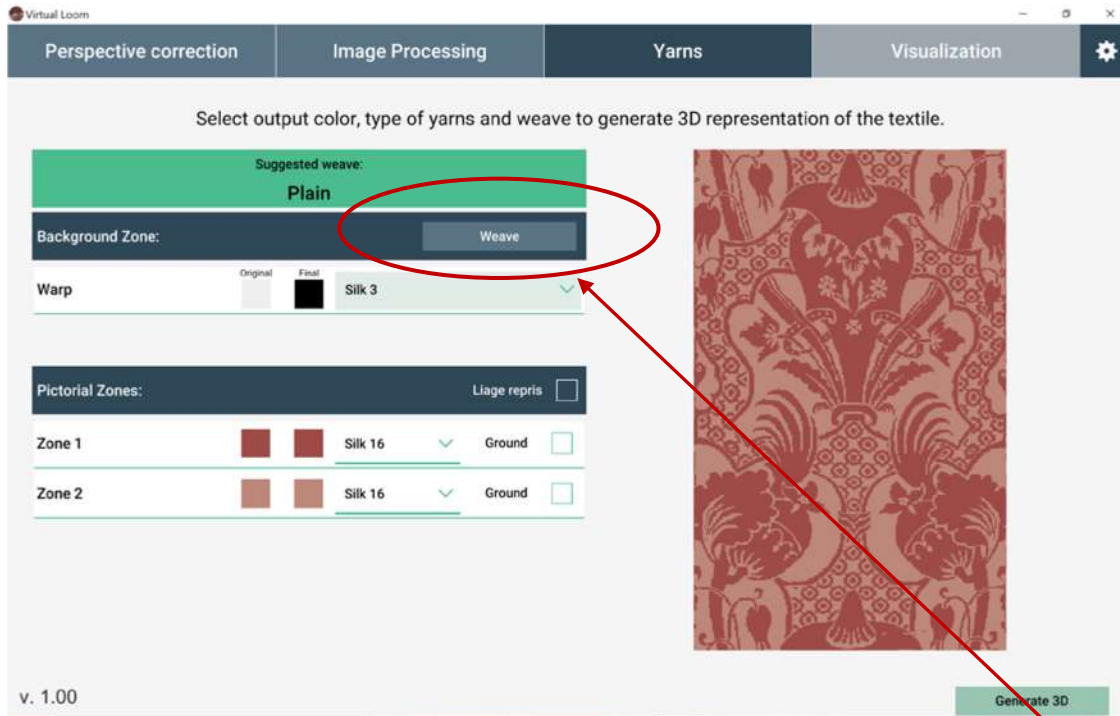


List of weaving techniques



List of clusters

Selecting yarns, colors...generating 3D



Select the Background zone

Selecting yarns, colors...generating 3D

Virtual Loom

Perspective correction | Image Processing | **Yarns** | Visualization | ⚙️

Select output color, type of yarns and weave to generate 3D representation of the textile.

Suggested weave:
Plain

Background Zone:

Warp: Original Final Silk 3

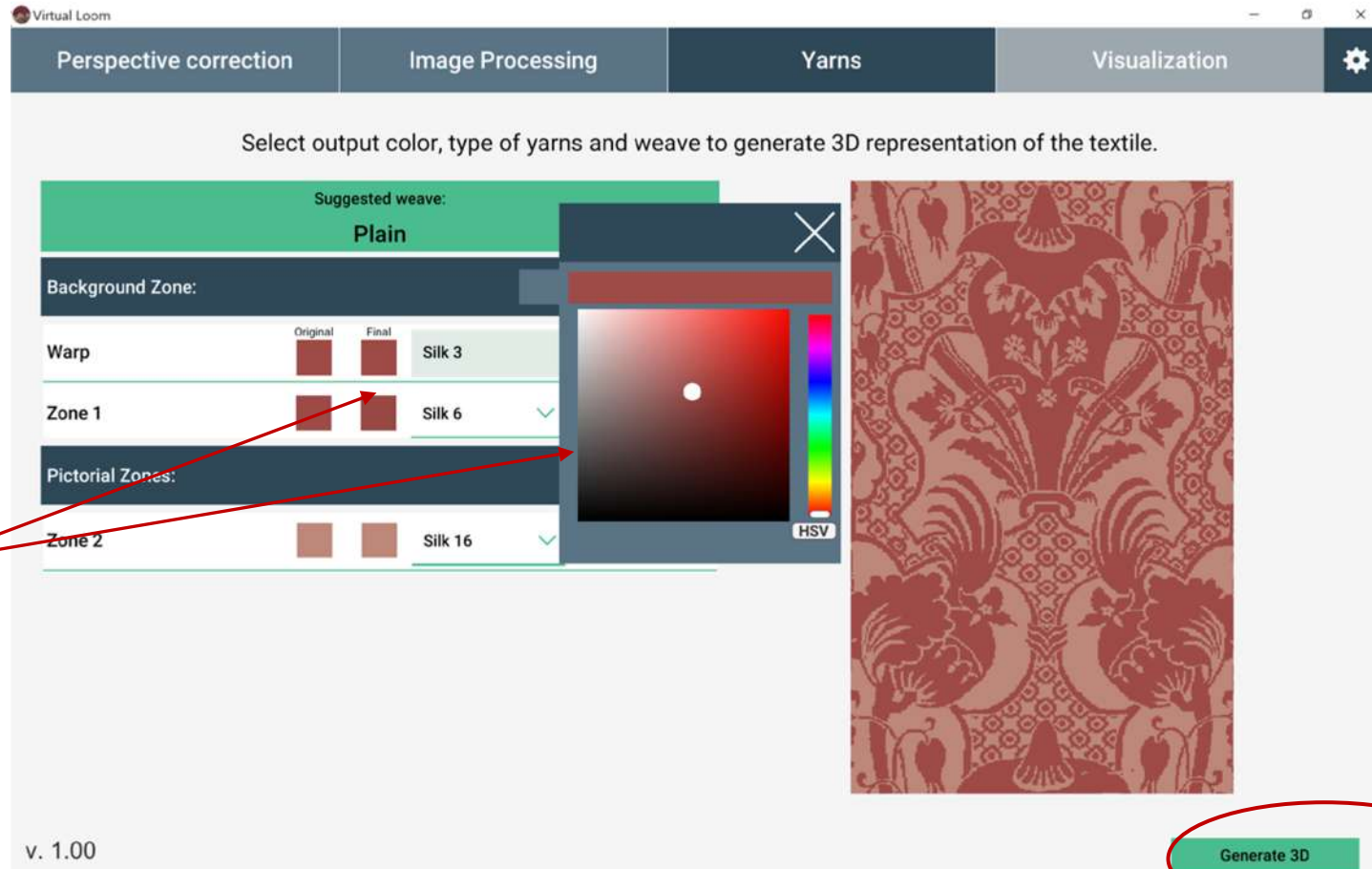
Pictorial Zones: Liage repris

Zone 2	<input type="checkbox"/>	<input type="checkbox"/>	Silk 16 <input checked="" type="checkbox"/>	Ground <input type="checkbox"/>
Zone 1	<input type="checkbox"/>	<input type="checkbox"/>	Silk 16 <input checked="" type="checkbox"/>	Ground <input type="checkbox"/>

v. 1.00

Select the pictorial backgrounds

Selecting yarns, colors...generating 3D



Click on the final color to open the palette

Generate the 3D version

Navigating the 3D model

The screenshot displays the Virtual Loom software interface. The main window is titled "Virtual Loom" and features a top navigation bar with four tabs: "Perspective correction", "Image Processing", "Yarns", and "Visualization". The "Visualization" tab is currently active, showing a 3D model of a dense, textured surface composed of numerous vertical, cylindrical yarn-like structures. To the left of the main view is a smaller image showing a close-up of the texture, with a red box highlighting a specific area. Below this image is a red arrow pointing to a text box labeled "Change area in the image".

On the right side of the interface, there is a "Visualization" panel with several controls:

- A hamburger menu icon (three horizontal lines) is circled in red, with a red arrow pointing to a text box labeled "Hide visualization menu".
- Three icons are arranged horizontally: a cube with a circular arrow (Rotate), a camera (Take snapshot), and a cube with a downward arrow (Generate the STL file). Each icon is circled in red, with red arrows pointing to text boxes labeled "Rotate", "Take snapshot", and "Generate the STL file" respectively.
- A "Layers" panel is located below the icons, containing three entries, each with a green eye icon and the label "Yarn". The entire "Layers" panel is circled in red, with a red arrow pointing to a text box labeled "Hide yarns".

In the bottom left corner, the version number "v. 1.00" is displayed.