

Smile Design



ver. 1.1
Revision 2 (03.2021)

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1 Introduction and Overview

1.1 Medit Smile Design Overview

Medit Smile Design is a program which allows you to perform smile design by working with 2D images. You can use pre-set teeth templates and customize them with a number of various tools for modifying their color, shape, position, and scale. You can also use the program to simulate metal and ceramic braces. Explicit explanations and guide messages accompany each stage on the left side of the window.

Medit Smile Design can be run from both clinic and lab accounts in Medit Link.

1.2 Intended Use and Disclaimer

You are responsible for the smile design process and informing your patients that the Smile Design results generated by the application may not be precise or reliable. Smile Design should only be used for consultation or communication purposes. Medit does not take responsibility or liability for any misunderstandings or miscommunications which may occur from use of this device. This application should be used for communication purposes only.

Medit Smile Design was not developed for medical or clinical purposes.

This software may not be used for the following purposes:

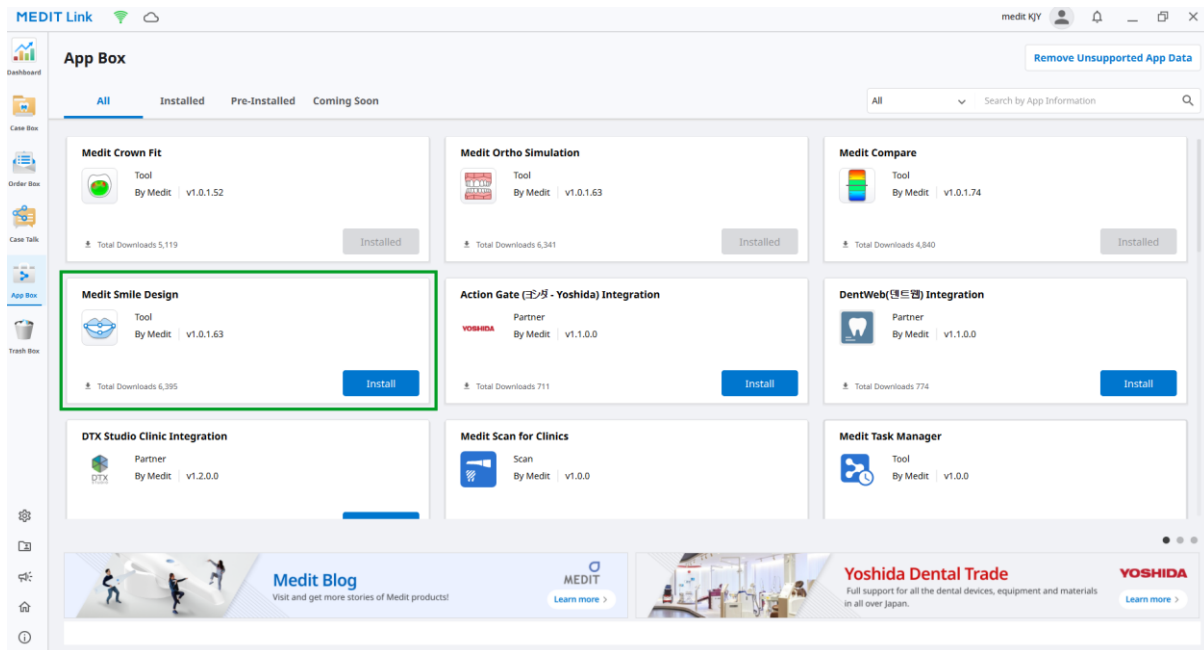
- Diagnosing, treating, mitigating, or preventing diseases.
- Diagnosing, treating, mitigating, or preventing injuries or disorders.
- Inspecting, replacing, or transforming a structure or function.

1.3 System Requirements

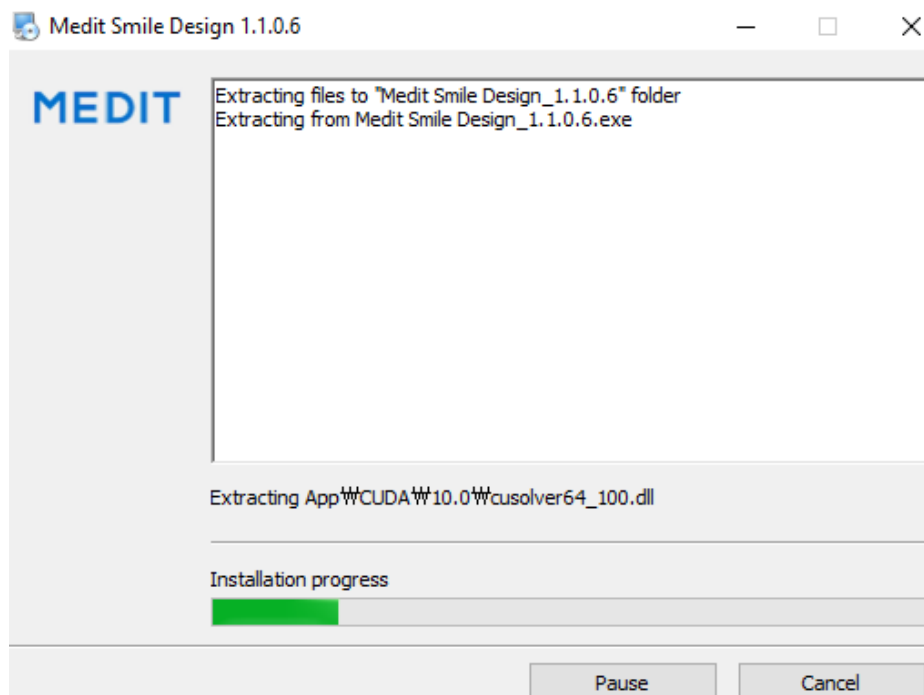
	Laptop	Desktop
CPU	Intel Core i5 2.6GHz or higher	
RAM	16 GB or higher	
Graphics	NVIDIA GeForce GT 760 (2GB) or higher/ or equivalent AMD video card	
OS	Windows 8 64 Bit (unavailable in 32 Bit) or higher	

1.4 Installation Guide

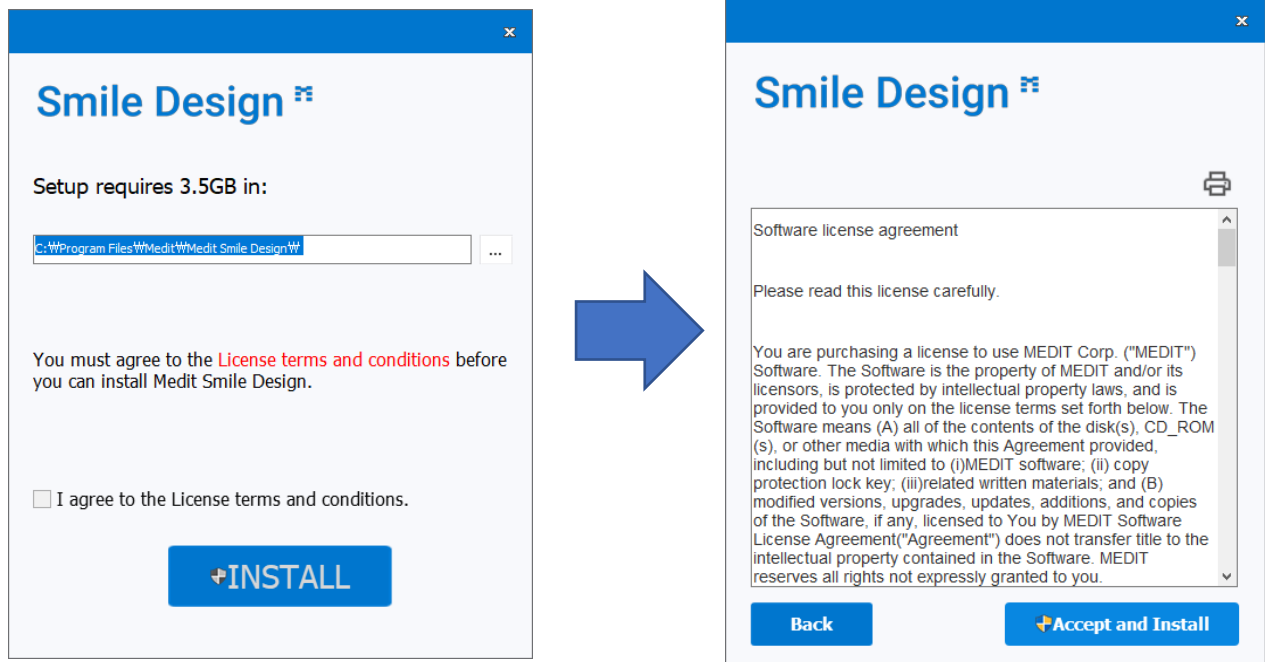
- ① Log in to your Medit Link account and go to the **App Box**.
- ② Find the “**Medit Smile Design**” app and click on the “**Install**” button.



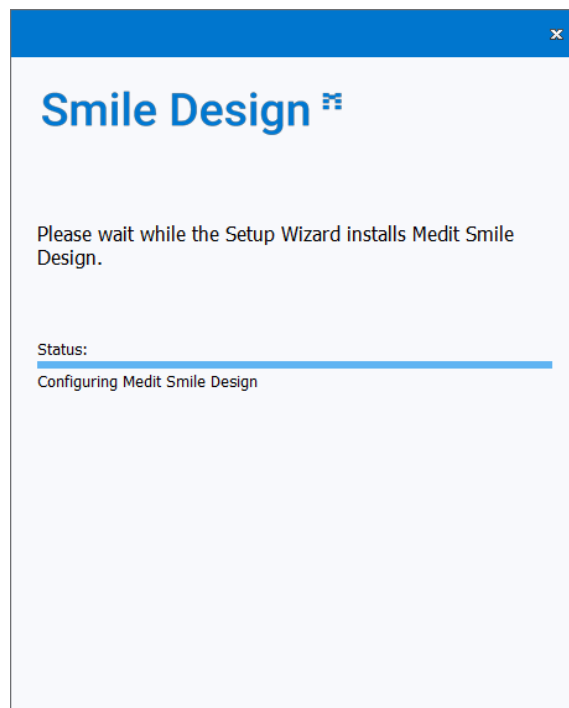
- ③ Once the download is complete, the Medit Smile Design installer will run automatically.



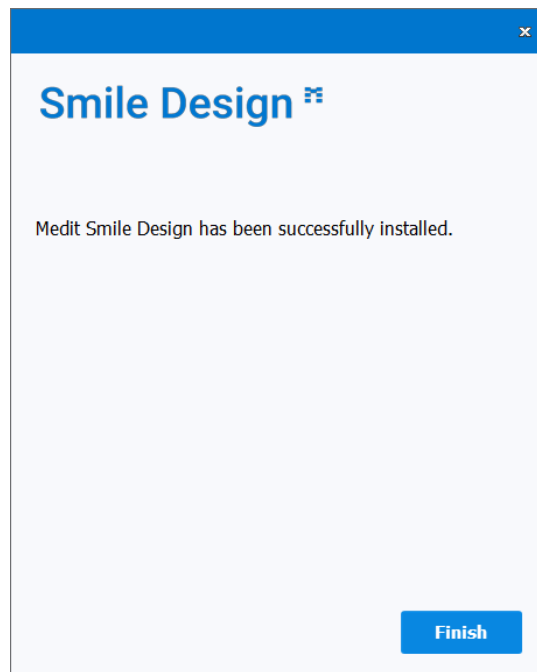
- ④ Read and agree to the License Terms and Conditions.



- ⑤ It may take up to several minutes to finish the installation process. Please do not turn off your computer until after the installation is complete.



- ⑥ Press “Finish” to complete the installation.



- ⑦ Restart Medit Link.

2 Data Management

2.1 Acquiring Data

Smile design is performed using 2D images.

- Supported file formats: .jpg, .jpeg, .png, and .bmp

Medit Smile Design usually requires two images: a retracted mouth picture and a smile picture (See examples below).

IMPORTANT: Proceeding with one picture is possible but might not be sufficient to perform the design process as intended.

Smile Image



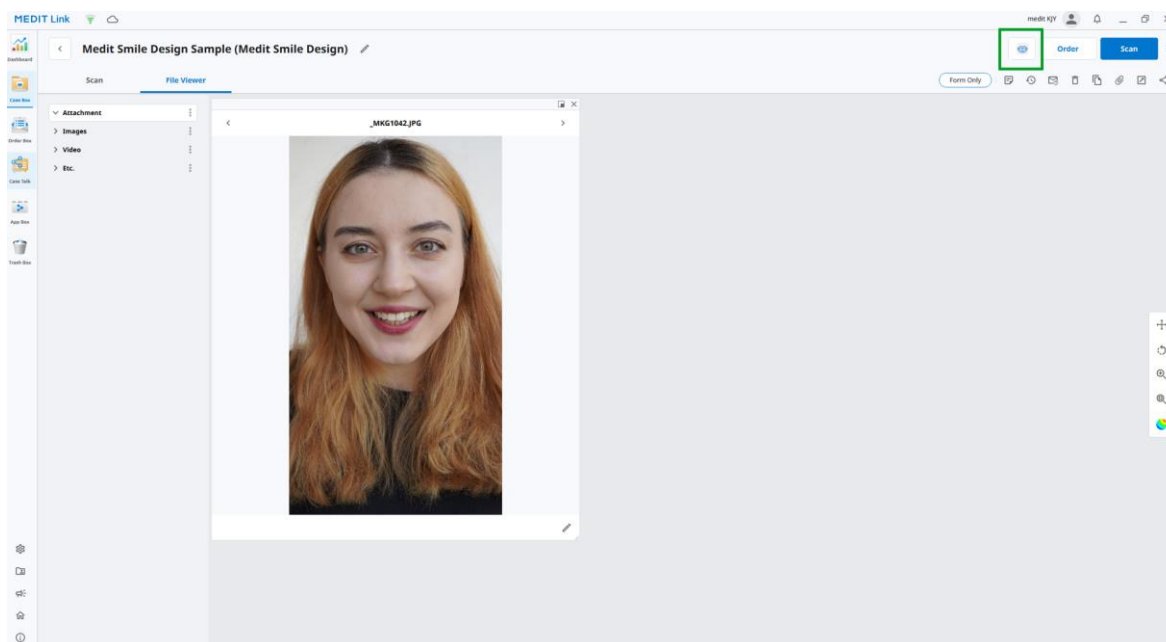
Retracted Mouth Image



IMPORTANT: To guarantee better alignment, make sure to take both pictures from the same angle.

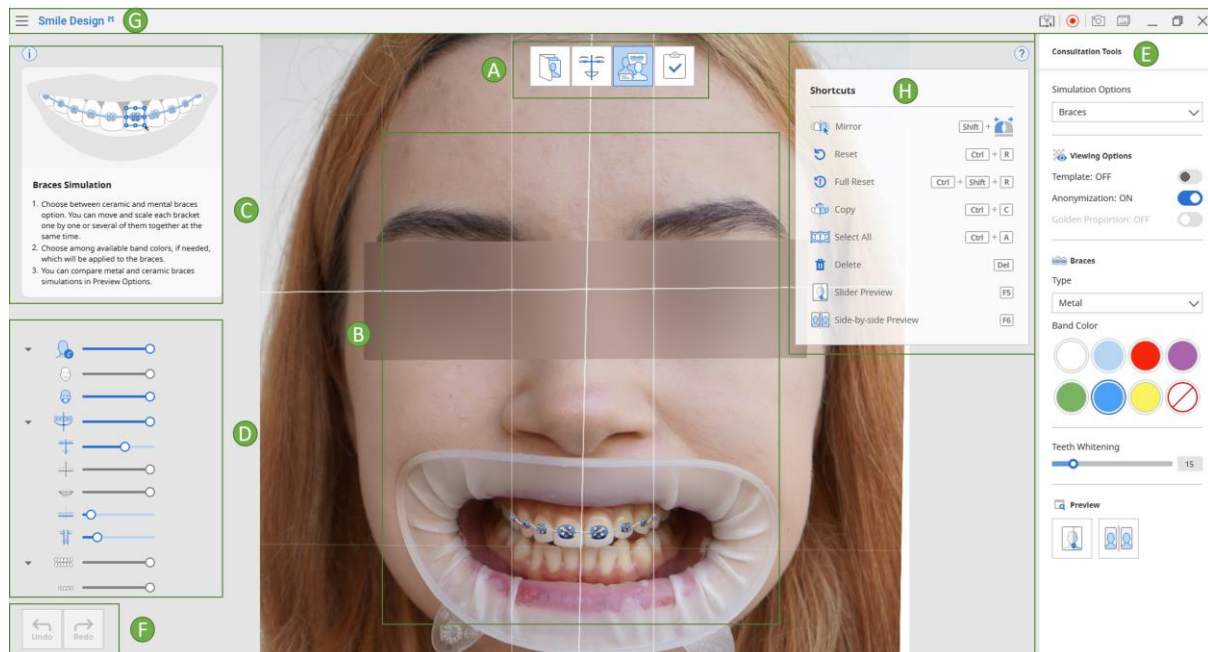
2.2 Running Medit Smile Design from Medit Link

- ① Go to the **Case Box** (Clinic account) or **Work Box** (Lab account) and choose the case you would like to work on. The case must have 2D images attached to it.



- ② Press the  icon in the upper right corner of the **Case Detail** window in Medit Link.
- ③ Once the app is launched, you will be asked to import images from the case in Medit Link.
 - Note: You can choose to blur the eyes area on the picture to anonymize the person in the images.

3 User Interface



A. Modes

B. Image View and Guide Lines

C. Guide Message

D. Data Tree

E. Toolbox

F. Undo/Redo

G. Title Bar

H. Shortcuts

3.1 Title Bar

The Title Bar consists of the following options:

Menu	Open menu. It includes tools to manage the program and shows the details of application.
Help Center	Go to the Help Center page. It contains various information about using Medit Smile Design.
Start Video Recording	Start the video capture.
Screenshot	Capture the screen.
Screen Capture Image Manager	Manage the captured screen images
Minimize	Minimize the application.
Maximize or Restore	Maximize or restores the application.
Exit	Terminate the application.

3.2 Tree View

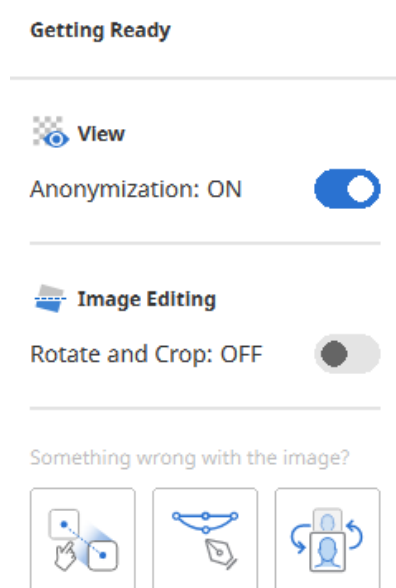
The **Data Tree** is located on the left side of the window.

- The tree shows the list of data in Medit Smile Design: 1) images; 2) guide lines; 3) teeth template.
- You can easily control data viewing options by hiding, showing, or changing the transparency one by one or as a group.

3.3 Toolbox

Toolboxes contain all major tools and are provided to assist the smile design process.

- ① Turn tools on and off using the toggles.



3.4 Undo/Redo

The undo/redo buttons are located at the bottom left corner of the window.



Undo

Undo

Undo the previous action.



Redo

Redo

Redo the previous action.

4 Modes

Modes indicate the current step you are working on. They are subject to a specific sequence.



If you import new images while working on the project, you will lose all current progress.



Import Images

Import new images from Medit Link.



Starting Up Mode

Start up by setting the facial guide lines and rotating the image if needed.



Consultation Mode

Go ahead with consultation by creating one or more simulation options. The options include using a template, applying braces, and/or teeth whitening.



Complete

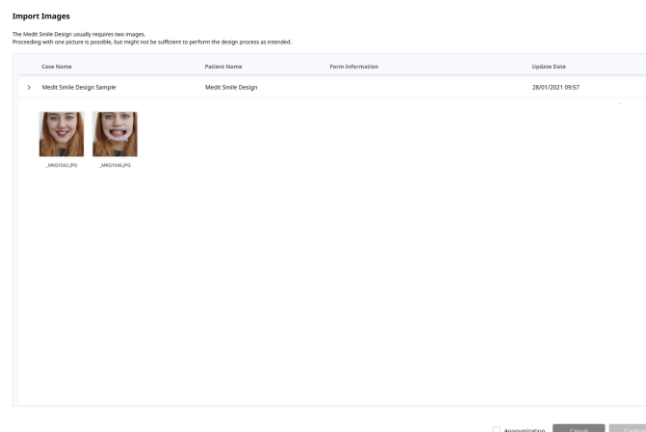
Save the current project and close the program.

4.1 Import Images

This step allows you to import images from a Medit Link case.



You can blur the eyes of the person in the image by checking the “Anonymization” box.



4.2 Starting Up Mode

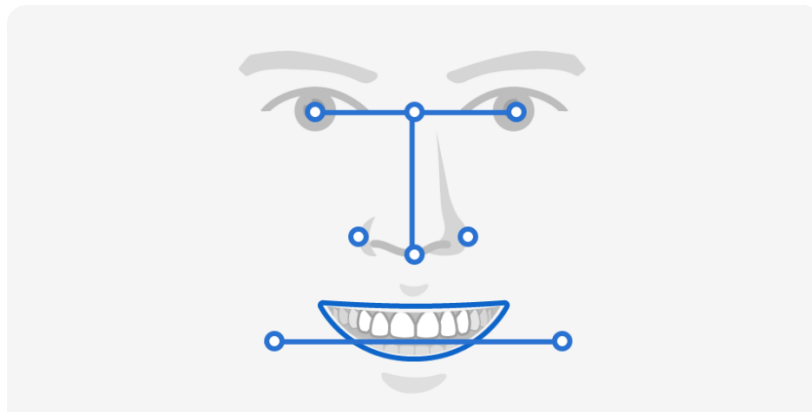
This mode helps to prepare for the smile design process by making sure the necessary guide lines are defined correctly.

4.2.1 Guide Lines

You can modify the guide lines in case you would like to improve the automatic alignment.

Check if:

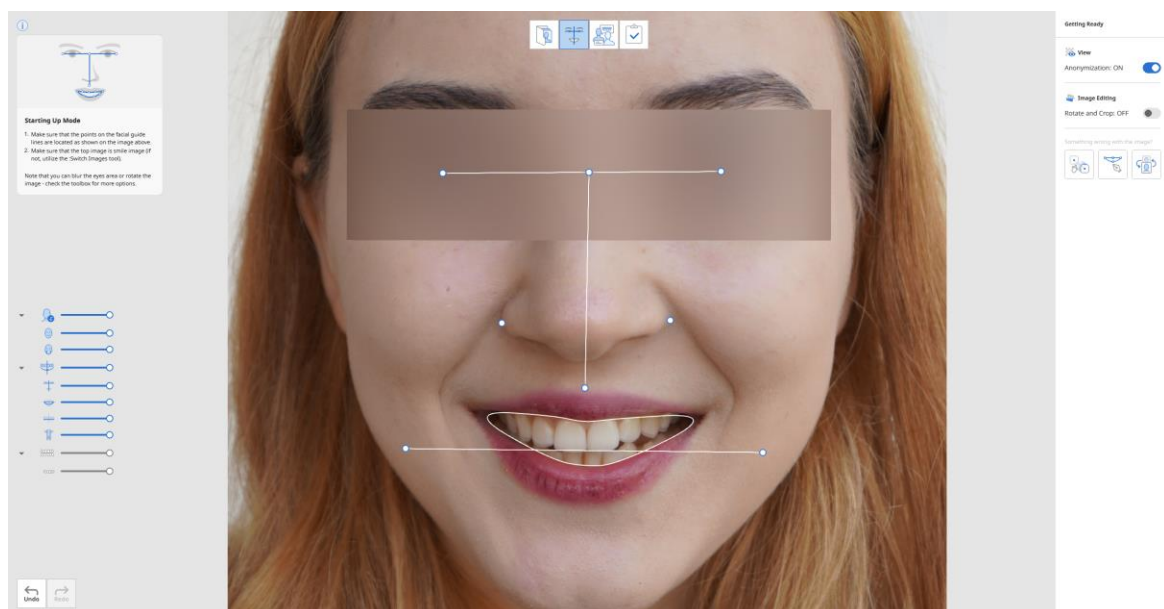
- ① The points and the facial guide lines are located as shown on the image below.



- ② The top image at this point is a smile picture (If not, utilize the “Switch Images” tool on the toolbox).
If lip line and facial guide lines are defined correctly by the program, move to “Consultation mode.”

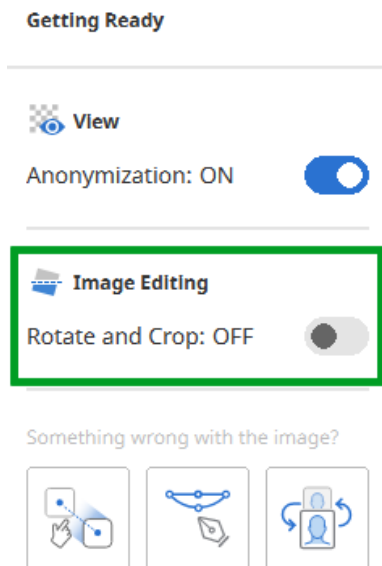


Note: You can blur the eyes area or rotate the image. Check the toolbox for more options.

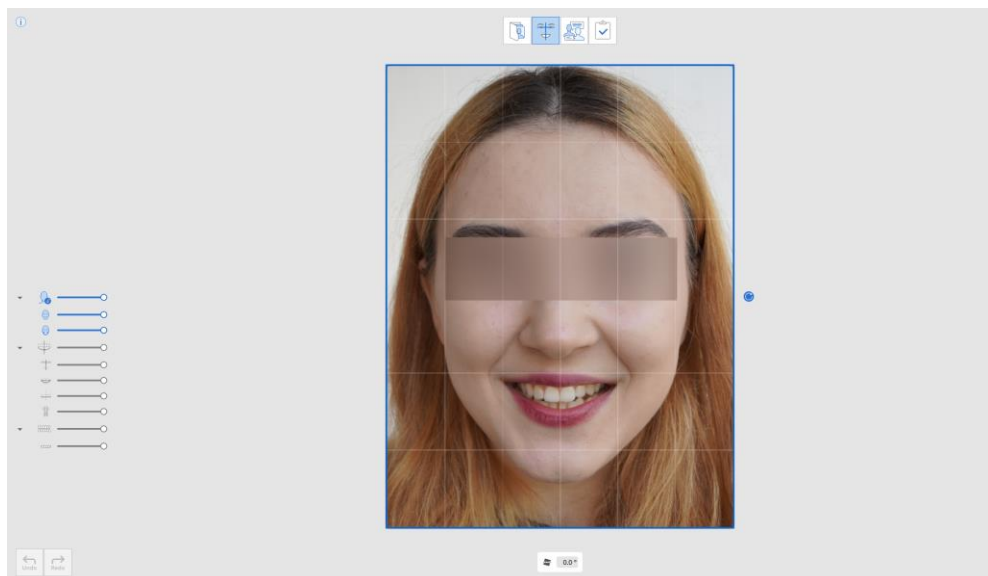


4.2.2 Rotation

- ① If you feel the image needs to be rotated, use the “Rotate and Crop” feature which can be accessed through the toolbox on the right.



- ② Use the blue rotation icon on the right side of the image or input the value in the box below the image. You can rotate the image in a range of from -3 to +3 degrees.
- ③ Press “Enter” to finish cropping.



4.2.3 When Something is Wrong with the Images

If the teeth in the lip line look blurry, as shown on the image below, align the two images manually by pressing the “Manual Alignment” button.



This might happen if you took the images from different angles.



Manual
Alignment



Use the left button to drag and align the two images or utilize the arrow keys on the keyboard.



This function can be used only when two images are imported.



Modify
Lip Line

If needed, modify the lip line by pressing the “Modify Lip Line” button.

- ① Left-click to add new points.
- ② Right-click to delete points.



Switch
Images

Smile design involves alignment of the two pictures you imported from Medit Link. If the top image at this stage is the retracted image, use the “Switch Images” tool to change their overlapping order.



This function can be used only when two images are imported.

4.3 Consultation Mode

Consultation mode helps work on various simulations: Utilize a template and choose the best of the available textures or envision a braces simulation with ceramic or metal braces.

All options that you can work on are as following:

Simulation Options	Type	Details
Template	Default texture	Utilizes standard Medit texture.
	Texture Wizard	Replicates the texture and the shade of the person in the image.
	Texture Library	Utilizes the custom texture library you imported to Medit Smile Design. It is only activated once you import the images.
Braces	Metal	
	Metal with colored elastic bands	Bands come in 7 different colors: light blue, red, purple, white, green, blue, and yellow.
	Ceramic	
Teeth Whitening	Teeth whitening	-



All simulation options you work with will be available for comparison in “Preview Options.”

Toolbox

Simulation Options

Template

Choose between working on a template or a braces simulation.

View

Template: ON



Anonymization: OFF



Golden Proportion: OFF



Control the viewing options: Turn on the template outline, anonymize the person in the image, or show the golden proportion when working on the template.

Texture

Texture : ON



Texture Type

Default

Select one of the three available options for the texture which will fill in the template.

Color



Saturation



Highlight



Brightness



Shadow



Transparency



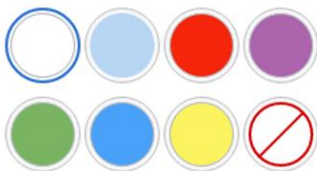
Adjust saturation, highlights, brightness, shadow, and transparency.

Braces

Braces Type

Metal

Band Color



When you work on braces simulation, you will be able to choose between metal and ceramic braces using the drop-down menu.

Choose a colored elastic band or choose a simulation with no band (The bottom right option).

Teeth Whitening



Use this toggle to whiten the teeth.

Preview Options



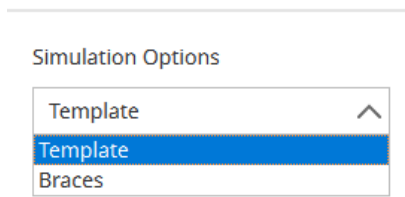
Use one of the preview options to select and compare various simulation options.



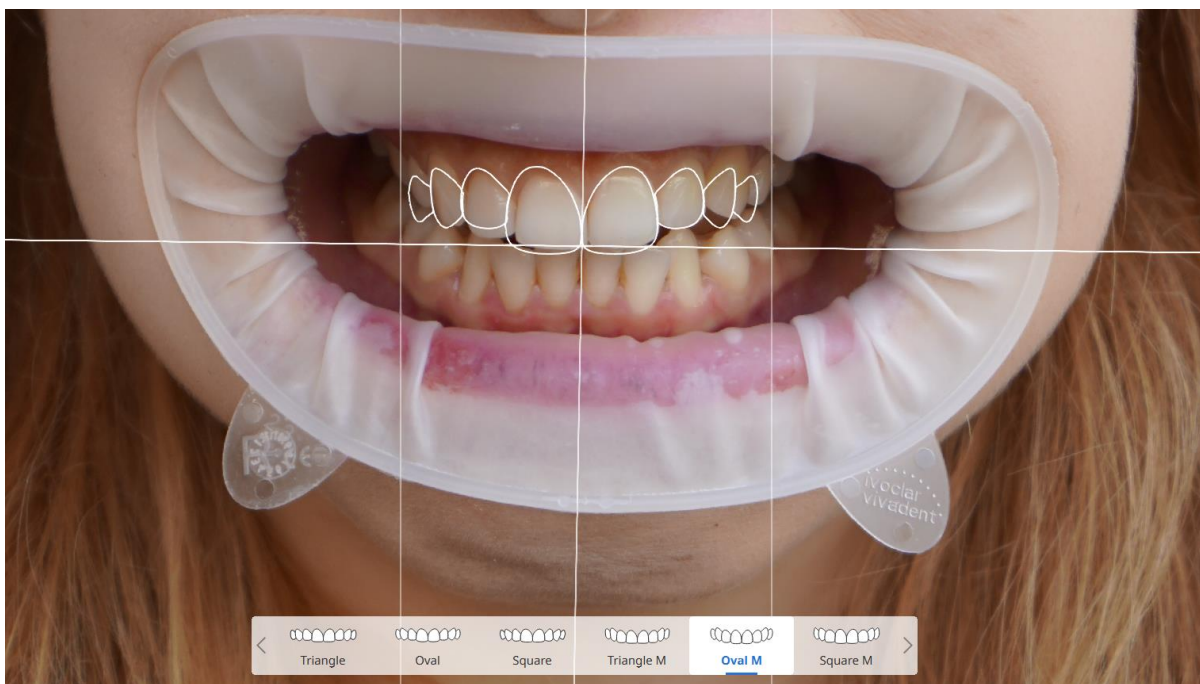
If you imported both a smile and a retracted mouth image, make sure you are working with the retracted mouth image at this stage. If not, return to the **Starting Up mode** and use the “Switch Images” tool.

4.3.1 Simulation Options – Template (Template Editing)

- ① Choose the template option from the toolbox.

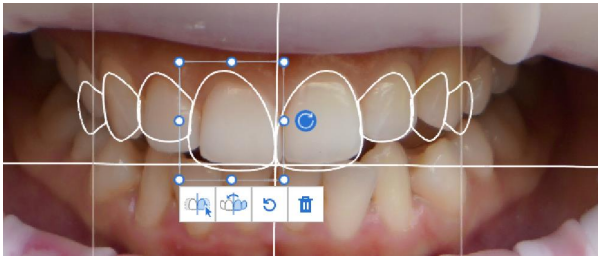


- ② Select one of the pre-set teeth templates to appear at the bottom of the screen. Use a mouse or keyboard arrows to navigate.

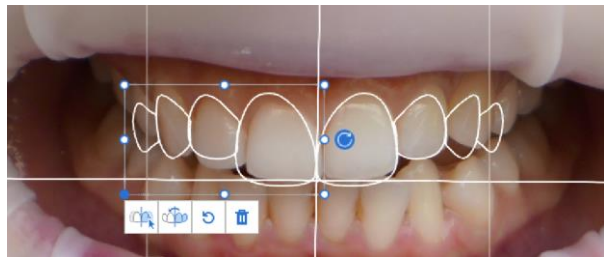


- ③ Select each tooth one by one to modify its scale, size, and location or select the whole template at once with the mouse. You can also rotate it.

Selecting Teeth One by One



Selecting Several Teeth



The changes you make to the template while looking through the other templates are temporarily saved while working with this tool.

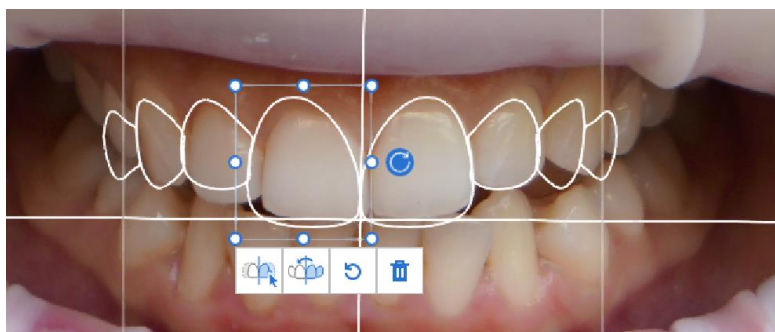
- ④ Double-click on a tooth to modify its shape, if needed, using the points of the teeth line.
- Use the left mouse button to add new points, and the right mouse button to delete points.



- ⑤ Choose a texture from the toolbox and finish working on the template.
- See below for more details on texture options.

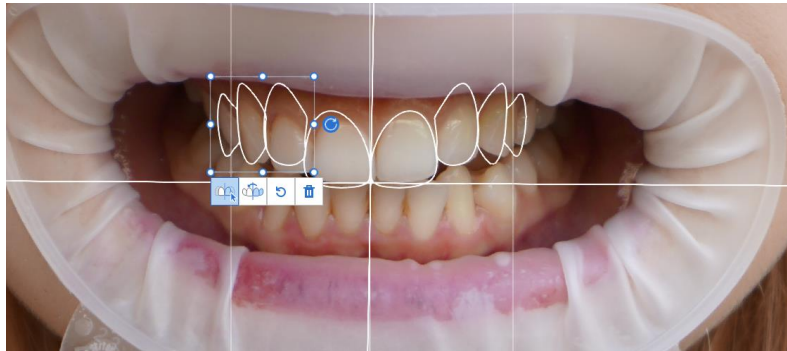
Modifying Template Shape

When selecting teeth of the template, you will see a box of tools which are designed to work with the template.

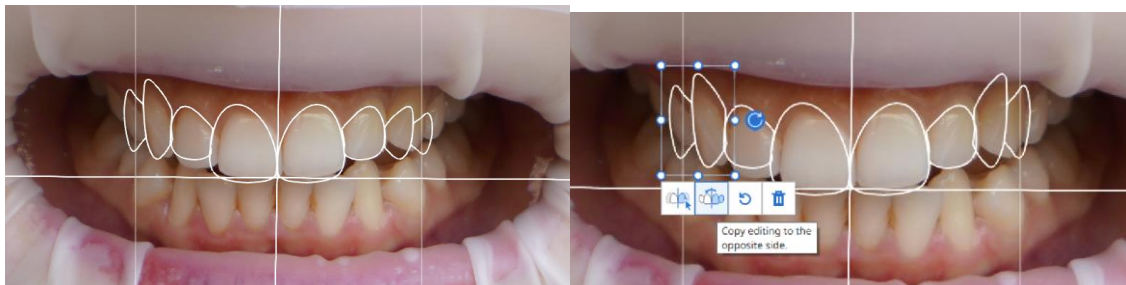




Simultaneous Design: Mirror the editing process on to the other side. The design will be changed simultaneously on both sides after pressing the button.



Mirroring the Design: Copy editing to the opposite side. Select the teeth to be copied by dragging the mouse and press the button.



Reset: Restore to default.



To completely reset the template right-click on the selected template at the bottom of the window.



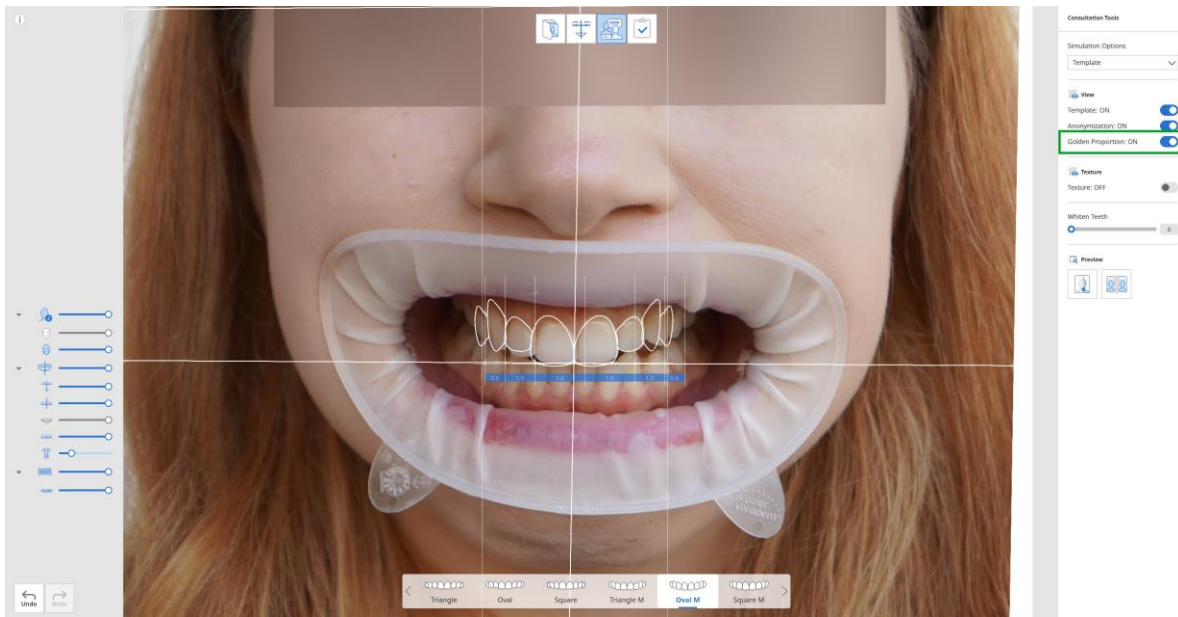
Delete: Delete the selection.



While working with the template, you can choose to make the golden proportion visible on the toolbox on the right.



Select the golden proportion guide lines by clicking on it to modify the position and scale.



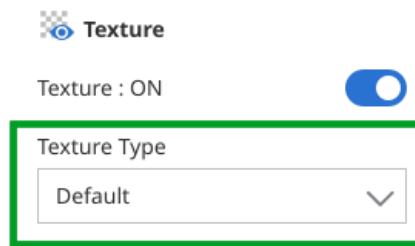
Template Editing Shortcuts

Use the following shortcuts for quicker template editing:

	Simultaneous Design	Shift + 
	Reset	Ctrl + R
	Total Reset	Ctrl + Shift + R
	Copy	Ctrl + C
	Select All	Ctrl + A
	Delete	Del
	Slider Preview	F5
	Side-By-Side Preview	F6

4.3.2 Simulation Options – Template (Color Adjustment)

- ① Select one of the available options for the texture using the drop-down menu.



This is how different texture types will look:

Default Texture



Texture Wizard

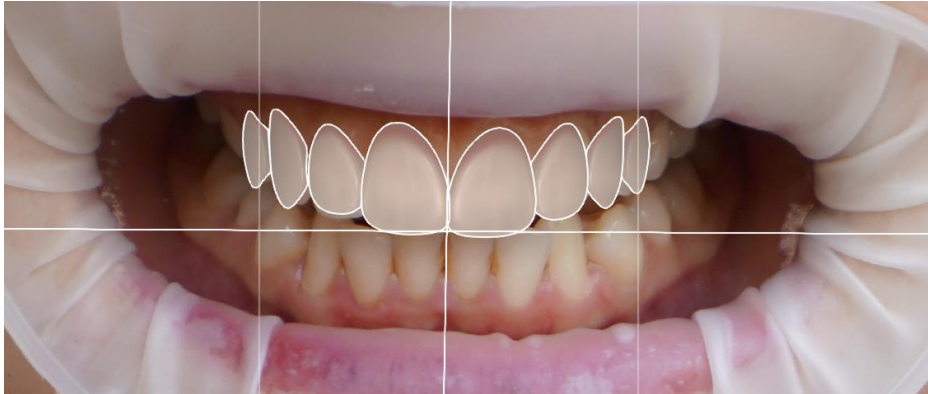


Texture Library



Utilizing the Default Template and Modifying its Color

- ① Select the “Default” texture.
- ② Modify the shade by adjusting the sliders for saturation, highlights, brightness, shadow, and transparency.

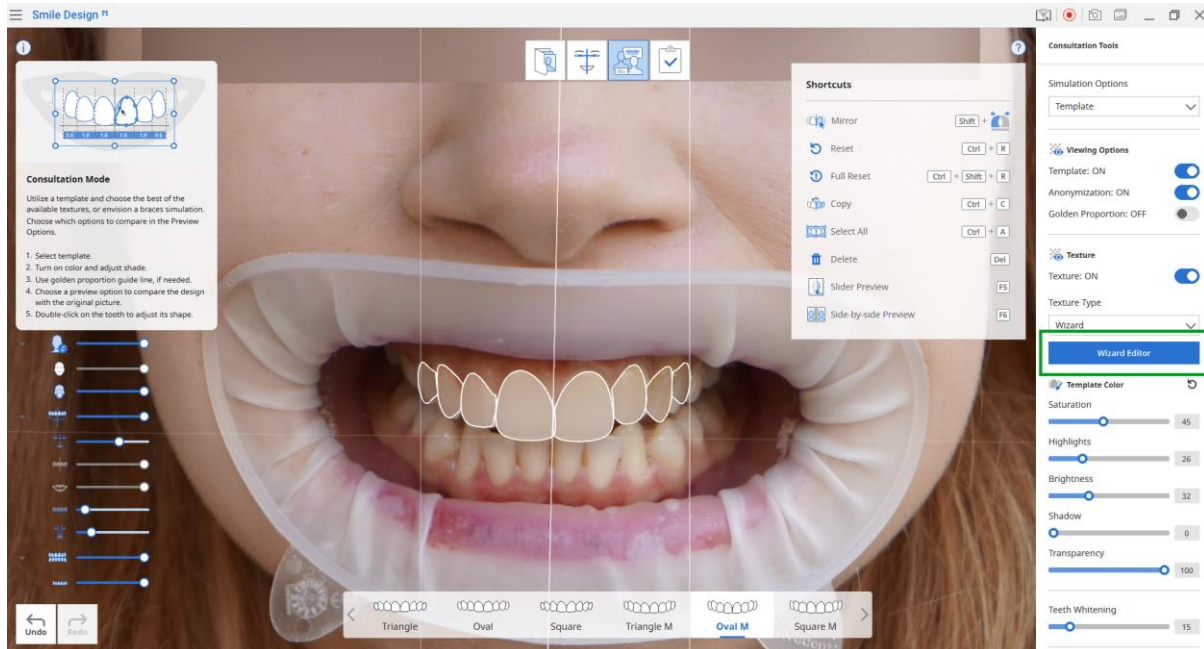


After adjusting the shade, you can still modify the shape of each tooth.

Leveraging Texture Wizard

Texture Wizard helps achieve the closest possible shade and texture of the image on which you are working.

- ① Adjust the texture by using the five “Color” sliders in the toolbox.
- ② If there is a mistake in detecting the texture of the teeth, you can re-adjust it yourself by pressing the “Wizard Editor” button.



- ③ You will see detection results for each tooth. Use your mouse to add, delete, or adjust the points to make sure the border of each tooth is well-drawn on the image.

Edit Wizard

Please help the Wizard to understand what is the shape of each tooth by moving points to match the shape of each of them.

1. The program will segment each tooth to extract the texture automatically, so please confirm the result for the patient texture. Try selecting the small parts of gingiva as well to make the template look more natural.
2. In case there is something wrong, double-click on the tooth to edit its segmentation.
3. Click "Confirm" to finish the process.



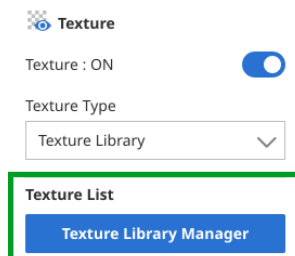
- ④ Press "Confirm." The changes will be applied right away.

Leveraging Texture Library

Texture Library allows you to import images of teeth restorations you collect for the program in order to extract their textures and make them available for you to use during **Consultation mode**.

- ① Open the Texture Library Manager.

- You can either go to Settings > Texture Library Manager or
- Choose the "Texture Library" option in the Texture drop-down menu in the toolbox. For that option, you must be working on the "Template" simulation option.



- ② Press the  button to import the images from your computer. There is no limit on how many images you can import.

Texture Library Manager

Import images of the teeth restorations. Their textures will be extracted and available to use at Consultation mode.

Don't have any images? No problem!
Medit Community shares their images [here](#).

1. Press the "Add" button and choose the images from your computer.
2. Click on each of the textures to access the editor. The program will segment each tooth to extract the texture automatically, so please confirm the results for each of the images.

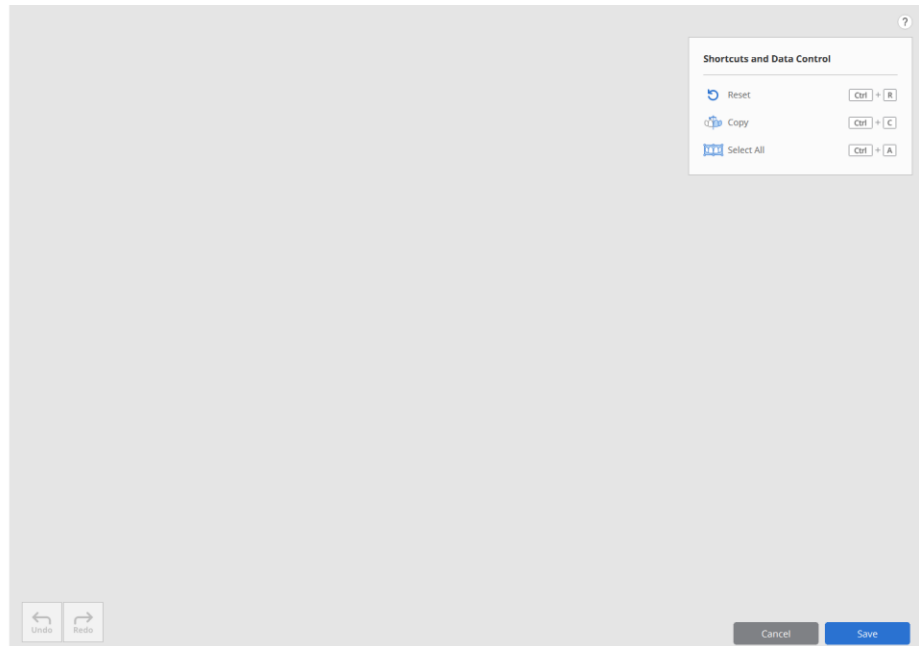
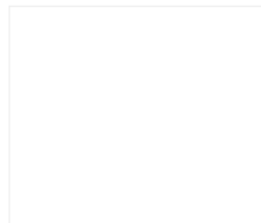
Try selecting the small parts of gingiva as well to make the template look more natural.

3. In case there is something wrong, double-click on the tooth to edit its segmentation.
4. Click "Confirm" to finish the process.

Texture Library Guide



Textures



If you do not have any images, you can access the Medit Community Texture Library. It is a common place for Medit users to freely share their restoration libraries, upload and download images, and utilize images in Medit Smile Design.



Please note: Medit takes no responsibility for the content shared in the Medit Community Texture Library. We encourage users to only share images which comply with local and international legislation.

- ③ Once the images are imported, you will see the list on the left.

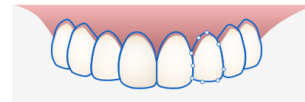
Texture Library Manager

Import images of the teeth restorations. Their textures will be extracted and available to use at Consultation mode.

Don't have any images? No problem!
Medit Community shares their images [here](#).

1. Press the "Add" button and choose the images from your computer.
2. Click on each of the textures to access the editor. Confirm the teeth outline for each of the images.
3. Try selecting the small parts of gingiva as well to make the template look more natural.
4. Click "Confirm" to finish the process and move on to the next image. All of the confirmed textures will be visible in the Toolbox.
5. Export the confirmed images as a Medit Smile Design library, or import one to use.

Texture Library Guide

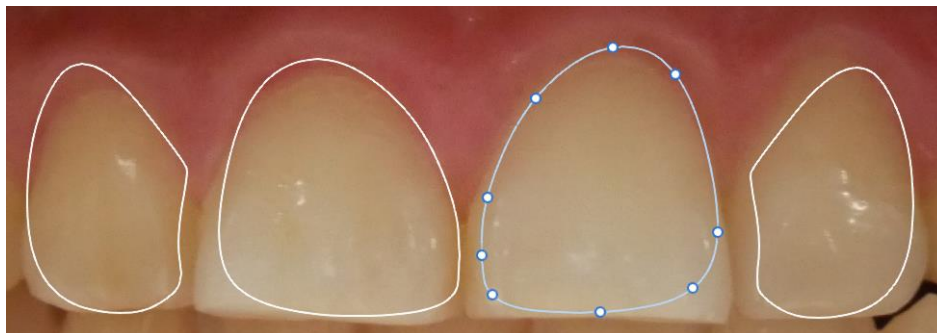


Textures

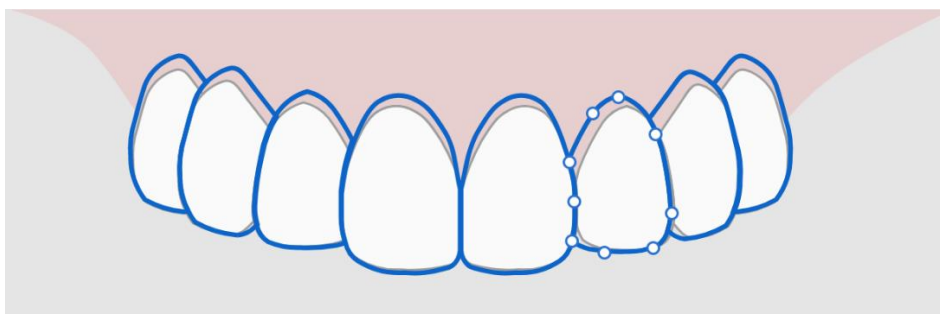


Sample Texture 4	✓
Sample Texture 3	✓
Sample Texture 2	✓
Sample Texture 1	✓

- ④ Select the first texture from the list and see how the template is applied to the image. If there is something to change, move the outline, or double-click on it to edit the points.



We recommend making sure the outline looks same as on the image below. If you allow small parts of gingiva be included in the extracted texture, the template will look more natural.



- ⑤ Press “Confirm” after editing is done, and move to the next one, and so on.

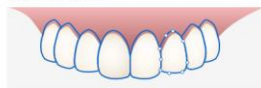
Texture Library Manager

Import images of the teeth restorations. Their textures will be extracted and available to use at Consultation mode.

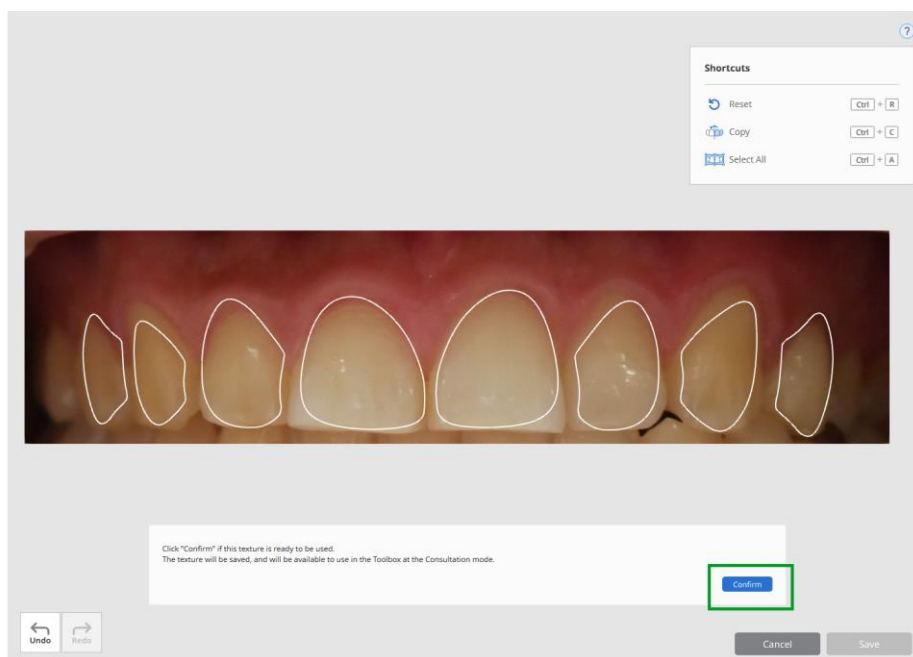
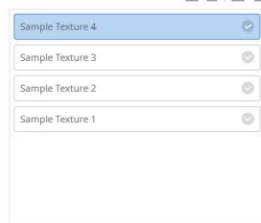
Don't have any images? No problem!
Medit Community shares their images [here](#).

1. Press the “Add” button and choose the images from your computer.
2. Click on each of the textures to access the editor. Confirm the teeth outline for each of the images.
3. Try selecting the small parts of gingiva as well to make the template look more natural.
4. Click “Confirm” to finish the process and move on to the next image. All of the confirmed textures will be visible in the Toolbox.
5. Export the confirmed images as a Medit Smile Design library, or import one to use.

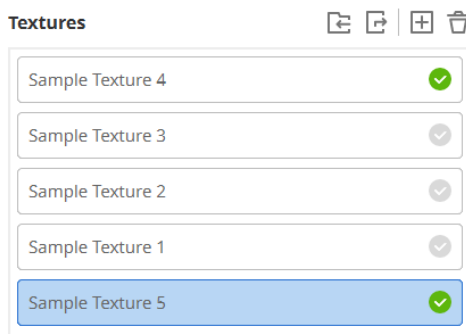
Texture Library Guide



Textures



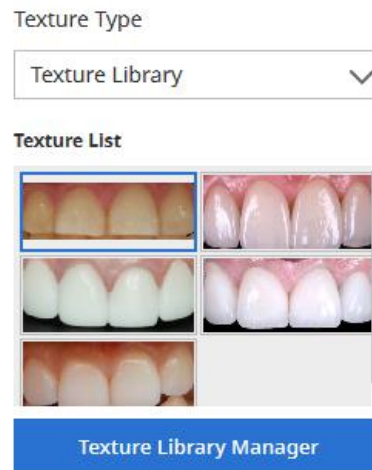
- ⑥ The textures that you confirm will be displayed with a green check mark.



- Only the textures you confirm will appear at the toolbox at the **Consultation mode**.

- ⑦ Once the editing is complete, press the “Save” button to finish the import process.

- ⑧ You will see the textures in the toolbox when you select the “Texture Library” option in the drop-down menu.



- ⑨ Adjust the texture by using the five “**Color**” sliders in the toolbox.



You can export and import the Texture Library files. This is especially useful when you work under the same Medit Link account from different PCs.

- ⑩ Import a library.

- Press the  button located on top of the texture list. Select the .meditSmileLibrary file from your computer.
- Click “Save” to finish the process and to make the textures available at the toolbox at the **Consultation mode**.

- ⑪ Export the library.

- Press the  button located on top of the texture list. All the confirmed textures will be exported.
- Select the save path for the file.

4.3.3 Simulation Options – Braces

- ① Choose the braces option from the toolbox.

Simulation Options

Braces	^
Template	
Braces	

- ② Another drop-down menu will appear on the toolbox. Choose between the ceramic and metal braces option.

Metal



Ceramic



- ③ You can move and scale each bracket one by one or several of them together at the same time.
- ④ Choose among available band colors, if needed, which will be applied to the braces.

Metal – no color



Metal – blue elastics



- ⑤ You can compare metal and ceramic braces simulations in “Preview Options.”

4.3.4 Preview Options

After finishing the consultation, you can choose one of the preview options:



Use the handle to move in between the original and smile design image.



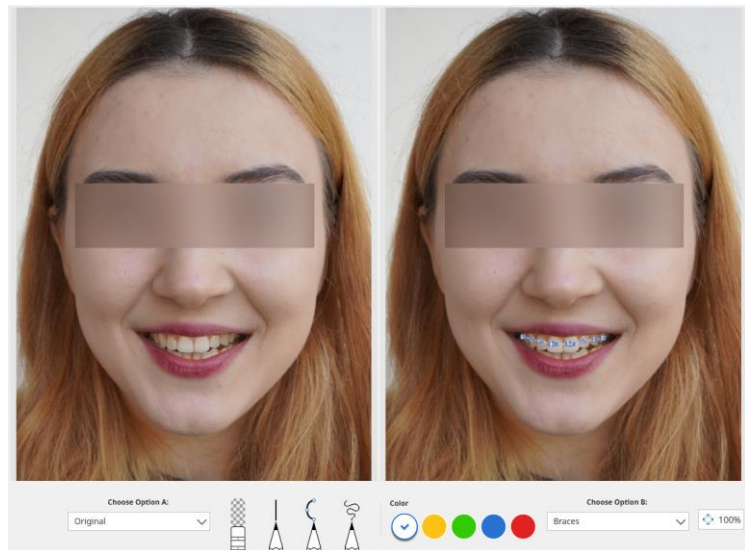
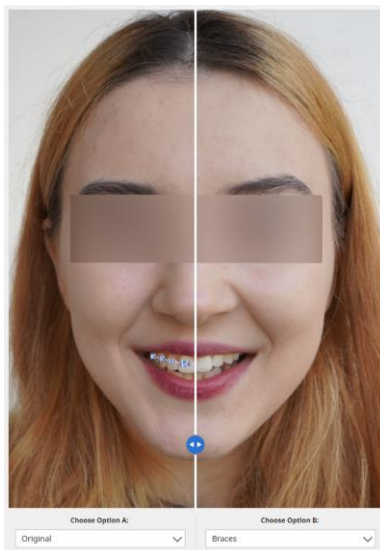
Compare the selected simulation options, and use the drawing tools if needed (straight line, curved line, pencil, and eraser).



A curved line is drawn by adding points on the image.



Adjust the size of each image using the mouse scroller.



Any changes you make will be reflected in both preview options.

- ① Choose what simulation you would like to see as options A and B from the drop-down menu.
 - All simulations you worked with will be available at this stage.

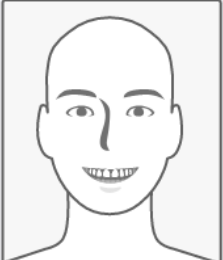
4.4 Complete

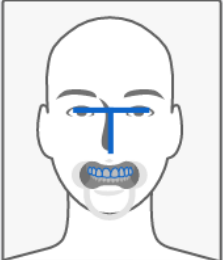
Save the created design and/or simulations as captured images.

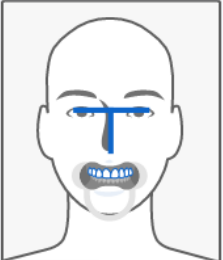
- ① After finishing the design process, press “Complete”  .
- ② You can choose one or more captured images to be saved to the Medit Link case.

Create Capture Images

Select one or more options for the side-by-side captured images that will be saved to Medit Link.
Check the "Save the Slider Version" box if you'd like to save the other preview options as well.
If eyes are blurred in Consultation Mode,
the same settings will be applied to captured images saved to the Medit Link.

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For Consultation
Simulation Preview

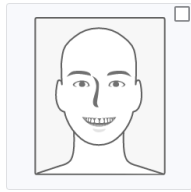
Focusing on Shape
Template Outline + Facial Lines

Full Picture
All Together

Cancel

Confirm

For Consultation



Save simulations and/or smile design previews.



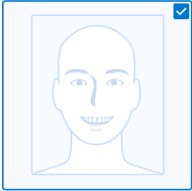
In order to save capture images using this version, you will be asked to choose simulations in the same way you did in **Preview**.

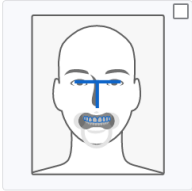


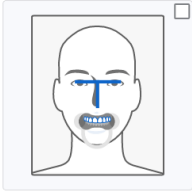
Check the “Save the Slider Version” box if you would like the slider preview option for the selected simulations to be saved to Medit Link.

Create Capture Images

Select one or more options for the side-by-side captured images that will be saved to Medit Link. Check the “Save the Slider Version” box if you’d like to save the other preview options as well. If eyes are blurred in Consultation Mode, the same settings will be applied to captured images saved to the Medit Link.

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Choose which simulation options you’d like to have compared side by side:

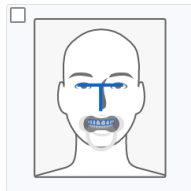
Choose Option A:

Choose Option B:

☒ Save the Slider Version

By pressing “Confirm” button, you agree that you understand that personal information can be collected and provided to a third party (or shared in any public domain) ONLY with the consent of the person whose images you worked on. You also agree that the consent of that person was truthfully obtained, and that Medit is not responsible for any problems that might arise therefrom.

Focusing on Shape

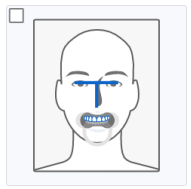


Save the before and after images (retracted picture). Only template outline and facial guide lines are displayed. The template texture is not displayed.



Slider version for this option is not supported.

Full Picture



Save the before and after images (retracted picture). Template outline, facial guide lines are displayed together with the template texture that you last worked on.



Slider version for this option is not supported.



If you blurred the eyes on the image during the smile design process, the same settings will be applied to the capture images saved to Medit Link.

- The Smile Design Project file will be saved to the Medit Link case upon completion alongside the smile design capture images.
- If you exit the program before the design process is finished, you will have two options:
 - Exit the program after saving; or
 - Exit the program without saving.

Exit Options

Exit Program After Saving

Saves all current progress and terminates the program.

Exit Program Without Saving

Terminates the program without saving any of the current progress.

Cancel

- If you choose the first option, you can continue working on the project later by running the application from the same case.
- You will be asked if you would like to start a new project or continue working on the existing one when running the application again from Medit Link.

Project Options

Continue with an Existing Project

Opens and proceeds with a previously saved project file.

Start a New Project

Ignores previously saved project files and proceeds with data import.

Cancel