

PortraitPro Body User Manual

Version 2.3

Anthropics Technology Ltd

www.portraitprobody.com

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Part



1 Getting Started

Introduction

PortraitPro Body is the easiest and fastest way to re-touch full body portraits, allowing you to achieve professional results in minutes.

PortraitPro Body works in a completely different way to ordinary airbrushing and warping software - it has been trained with thousands of examples of human body shape and appearance.

Due to the innate knowledge of human beauty that is built into PortraitPro Body, the highest quality full body portrait touch-up can be achieved by anyone in just a few minutes.

PortraitPro Body is available in two editions, Standard, and Studio. All editions are covered by this manual.

PortraitPro Body is available for Windows and Mac computers. This manual is for the Windows version of PortraitPro Body.

Getting Started

Take a look at the [Quick Start Guide](#)^[7] to see a quick overview of how to use PortraitPro Body.

The [Step By Step Guide](#)^[14] provides more detailed information about each step.

If you need further help, please visit <http://www.portraitprobody.com/support/> where you see the latest FAQ, and access our support ticket system. The support ticket system lets you send a question to our support staff.

1.1 Quick Start Guide

PortraitPro Body will guide you through the process of enhancing the body of a person in a portrait. You can use this quick start guide to familiarize yourself with the stages.

When you open PortraitPro Body, you will see the main home page. This page contains numerous videos and tutorials that will allow you to learn about and try different parts of the software. We would recommend that you work through some of these components in the suggested order. However, if you want to start working on your own image straight away then you should proceed as follows:

Select the image to enhance

Click on the **New Image** button, or select *Open...* from the *File* menu, or press CTRL + O. This brings up the file open dialog where you can select the image you want to load.

PortraitPro Body will load your image and show it in the main working area.

Select the body you want to enhance

Click on the middle of the face of the person you want to enhance. Occasionally the software will fail to identify the face and will prompt you to mark a second point on the chin.

Select the gender of the person

At the prompt, let the software know if the selected person is male or female.

Mark the skeleton joint positions

The software will now guide you through marking the skeleton joint positions. To mark a position simply click at the relevant position. If you make a mistake, you can go back to the previous point by right clicking or pressing CTRL + Z. Examples of the ideal joint positions are illustrated in the help panel on the right-hand side. If the bone that precedes the current joint is completely hidden in the image (e.g. behind the body or another object) then you can optionally mark it as obscured by pressing 'h'. This will mean it is given no further consideration by the software. Pressing 'h' again will restore its original status.

Mark the curves

The software will now help you mark curves around the edges of the arms, torso and legs. Again, you place a point by clicking at the relevant position. If you make a mistake, you can go back to the previous point by right clicking or pressing the backspace key. Examples of correctly marked curves are illustrated in the help panel on the right-hand side.

Identify overlaps

Sometimes the software needs further help in detecting which limbs are in front of which others. If this is the case, then you will be presented with two alternate configurations (e.g. "left arm in front of right arm" vs. "left arm behind right arm"). Select the correct configuration by clicking on either the left or the right image.

The software will now prompt you to finish the markup stages and edit the image. Alternatively, you can go back to any of the preceding markup stages.

Shape sliders section

The image is now ready to edit with the [shape sliders](#) ^[65] section. You can change the shape of the body by moving the sliders on the right-hand side. By opening the sections for torso, arms, or legs you can modify more specific parts of the body. Collectively these sliders allow a very fast method for getting the shape of the body roughly correct. You can see the image before and after the changes by pressing ENTER or by clicking the tab above the main image.

Shape tools section

Select the shape tools tab on the right-hand side. These tools allow you to make finer changes to the shape of the body. The (default) [drag curves](#) ^[71] tool allows you to directly use the mouse to drag the body contours to new positions. You can also drag the joint positions to change the pose of the body. Other tools in this section include:

- the [drag tool](#) ^[71] which allows you to drag any region of the image to warp it.
- the [repair tool](#) ^[72] which fixes any problems or tears in the image introduced by the other tools.

Other editing sections

Other parts of the software (selectable by clicking in the control column) can be used to modify other parts of the image:

- the [skin section](#) ^[72] allows you to smooth the skin on the body and also to improve the texture of the belly area.
- the [face section](#) ^[76] allows you to airbrush and reshape the face to improve the appearance. ([PortraitPro](#) is a standalone product that is specialized to this task and has many more options.)
- the [picture section](#) ^[79] allows you to change global aspects of the whole image such as contrast and color balance.
- the [warp fixer](#) ^[44] allows you to fix lines and other areas that have become distorted due to the body warping.

Save project and image

When you are happy with the changes you have made, you can save the edited image, using by selecting "Export Final Image" from the "File" menu, or by clicking the appropriate icon from the toolbar at the top of the control column. You can save the entire project (with file extension .prb) by selecting "Save Project" from the "File Menu" or by selecting the appropriate icon from the toolbar. This will allow you to return to this image and make further changes at another time.

Other people in the photo

If there is more than one person in the photo that you wish to edit, save your image and close the session, then open the saved image and select the next person to enhance.

1.2 Top Tips For Best Results

If you just read one page in this manual, make it this one to get the best results out of PortraitPro Body.

[Make sure the skeleton joints and curves are accurately placed](#)

You will get the best results if the outlines are accurately placed. Take a close look at the examples in the help window on the right-hand side of the workspace. You can return to the markup stage to improve the markup at any time (although you will lose all changes to the body). Take particular care to ensure that the outlines around the outside of the body follow the edge of the body.

[Don't move the sliders too far](#)

Often, you can greatly improve a picture with fairly subtle changes. Adjust the sliders just far enough to get the results you want. If you go too far, the result can look unnatural or fake.

[Don't use the sliders to make small shape changes](#)

You can avoid the need to move the sliders too far by using the shape tools to make finer-scale changes to one particular part of the body.

[Fixing problems](#)

You can fix regions that are torn or unrealistically warped using the [repair tool](#) ^[72] in the shape tools section. If the warps to the current body make unrealistic changes to the background, the repair tool can also be used to fix these problems.

[Make sure the skin area is right](#)

In the [skin section](#) ^[72], PortraitPro Body automatically estimates which areas in your picture are skin. However, you can sometimes improve the results by adjusting the skin area selected.

Use the skin select and deselect tools to paint over any skin areas that are wrong.

[Fixing distorted backgrounds](#)

If the background is significantly distorted after warping the image, you can fix it with the [repair and revert tools](#) ^[72].

1.3 PortraitPro Body Editions

PortraitPro Body comes in two editions, Standard, and Studio. The Standard edition is intended for more casual users or amateur photographers. The Studio edition is intended for enthusiast or professional users.

This manual covers all editions, with features that are only available in some editions are indicated like this: Studio Edition Only

The following table shows the main features of PortraitPro Body and which editions they are in.

Standard	Studio	
✗	✓	Available as a smart filter in Photoshop
✗	✓	Available as a Lightroom External Editor
✗	✓	Read camera RAW format
✗	✓	Read Adobe DNG format
✗	✓	Read & write TIFFs and PNGs containing 16 bits per color
✗	✓	Support for JPEG, PNG and TIFF embedded color profiles
✗	✓	Supports conversion between different color spaces
✓	✓	Body shape editing
✓	✓	General warping tools
✓	✓	Skin smoothing
✓	✓	Stomach replacement
✓	✓	Eye enhancing

✓	✓	Face sculpting
✓	✓	Face smoothing
✓	✓	Warp fixer
✓	✓	Picture control tools
✓	✓	Read and write JPEG, PNG and TIFF format images
✓	✓	Lite mode
✓	✓	Free online support

Part



2 Step By Step Guide

This section of the manual describes the various stages that you may need to go through when you use PortraitPro Body.

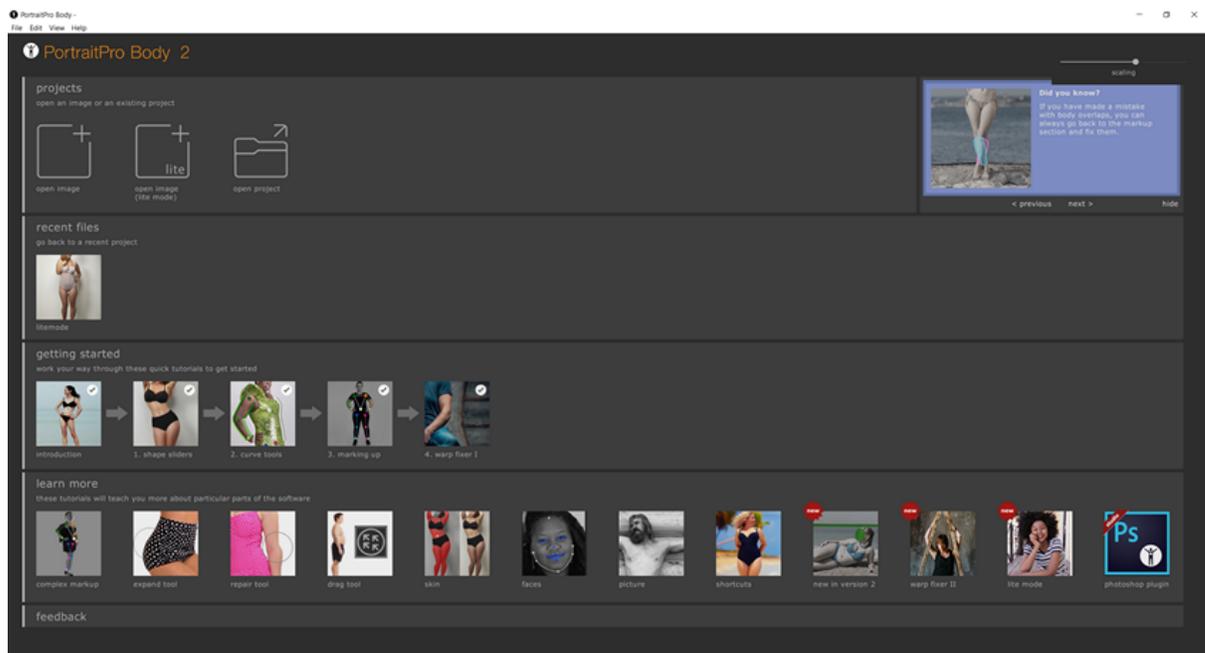
There are two parts of the program:

- o in the [markup stages](#) ^[53], the image is annotated by the user with the joint positions and curve positions.
- o in the [enhancing stages](#) ^[62], the image is manipulated to create the desired effects.

2.1 Open an Image

The PortraitPro Body Home Screen

When you run PortraitPro Body, it begins with the home page:



Open a single image

To open an image to enhance:

- o Select the *Open* command in the [File menu](#) ^[50].
- o Alternatively, click the button marked "open".

This will bring up the Open Image or Project window.

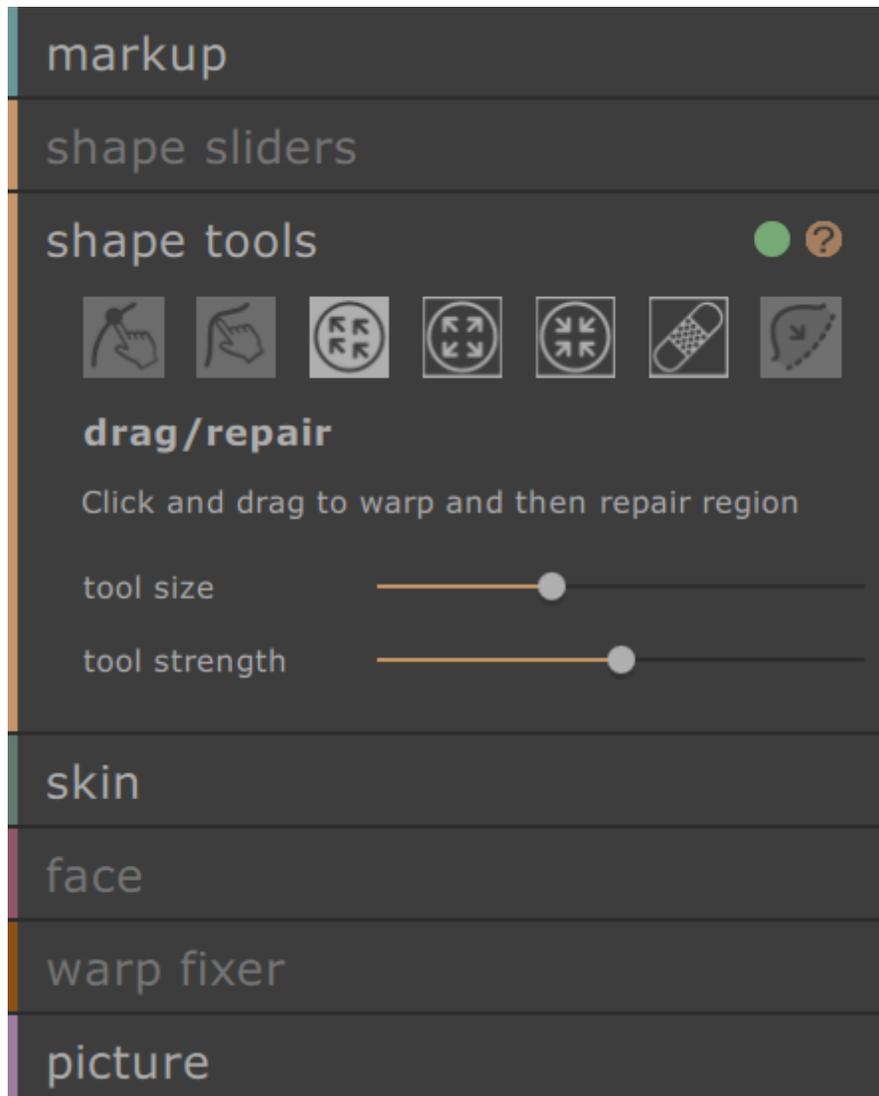
Browse to the file you want to enhance and press the Open button.

[Image types that PortraitPro Body can open.](#)

2.2 Open an Image in Lite Mode

Lite mode allows you to make quick adjustments to your image without needing to mark it up. To open an image in lite mode, select 'open image (lite mode)' from the homepage and choose an image.

You will see the following in the control column:



You can still use the following:

- Some of the shape tools.
- Most of the skin section features (skin is still automatically detected).
- All of the picture section sliders.

Various sections and tools are unavailable since there is no information about the body in the image. If you

decide you want to markup your image later, you can click on the 'markup' section. Note that this will clear any changes you have made.

2.3 Plug-in Mode

Using the PortraitPro Body Plug-in

Studio Edition Only

The Studio edition of PortraitPro Body can enter a "plug-in mode". This is intended for use when PortraitPro Body has been launched by another application (such as Photoshop) to enhance an image that is being managed by the other application. PortraitPro Body then behaves like a plug-in to the other application.

After the plug-in has been successfully installed as outlined in the [Plug-in Installation Guide](#)⁸², you will be able to use PortraitPro Body as a plug-in in any of the supported photo editing applications.

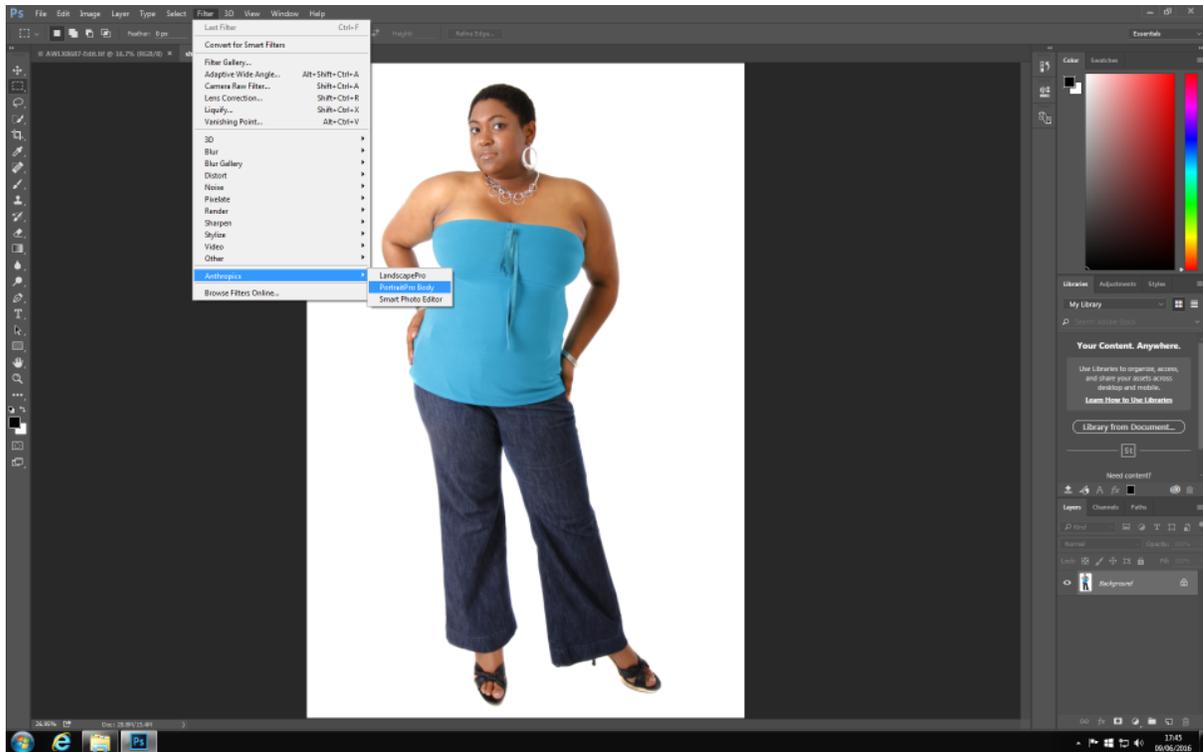
When PortraitPro Body is run as a plug-in from another application, the image or layer in the other application will automatically be loaded into PortraitPro Body where you can enhance the bodies in the usual way. Once you are happy with your results, select Save and Return from the File menu or click the close button on the toolbar. This will close PortraitPro Body and return the enhanced image to the original application.

When PortraitPro Body is in plug-in mode, the only command in the file menu is return from Plug-in and several of the toolbar controls are also not selectable.

Using PortraitPro Body from Photoshop

When the plug-in has been installed, PortraitPro Body will appear as a filter in Photoshop. In the Photoshop *Filter* menu, you will find a sub-menu called *Anthropics*, and in that you will find *PortraitPro Body*.

The PortraitPro Body filter works like other Photoshop filters in that it is applied to the current selection (or the whole area if there is no selection) on the current layer. When you select the filter, the image being filtered will automatically be opened in PortraitPro Body.



Plug-in Location: Filter > Anthropics > PortraitProBody

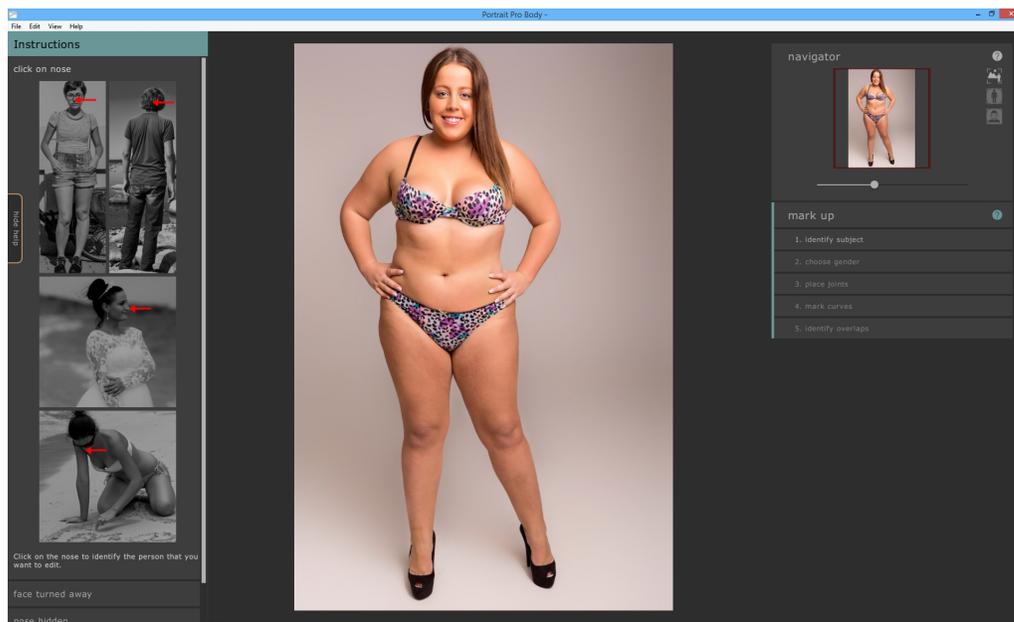
2.4 Markup the image

Before the image can be edited, we must first tell the software which person in the image we wish to work on, their gender and the positions of the joints and body curves.

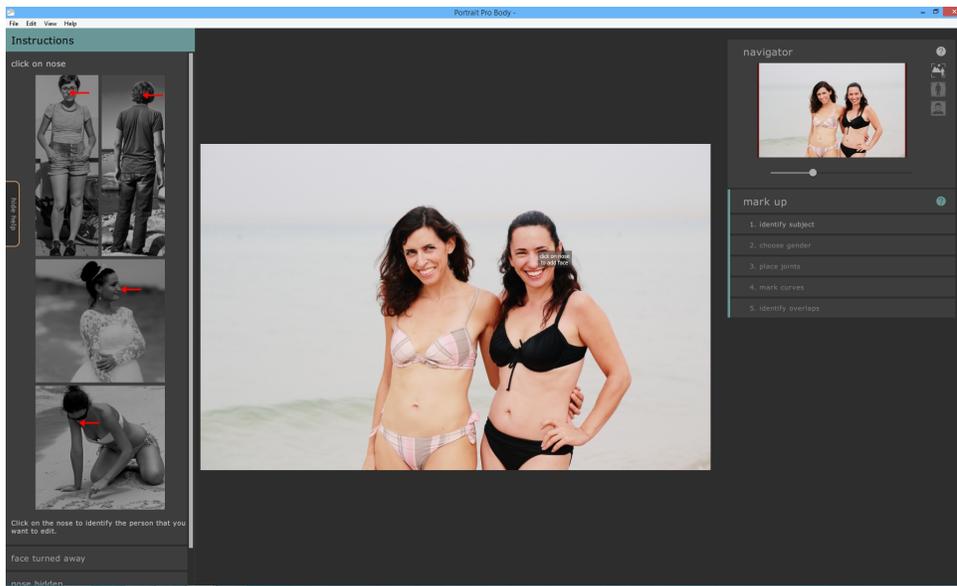
2.4.1 Select the face

After opening the image, the markup process starts.

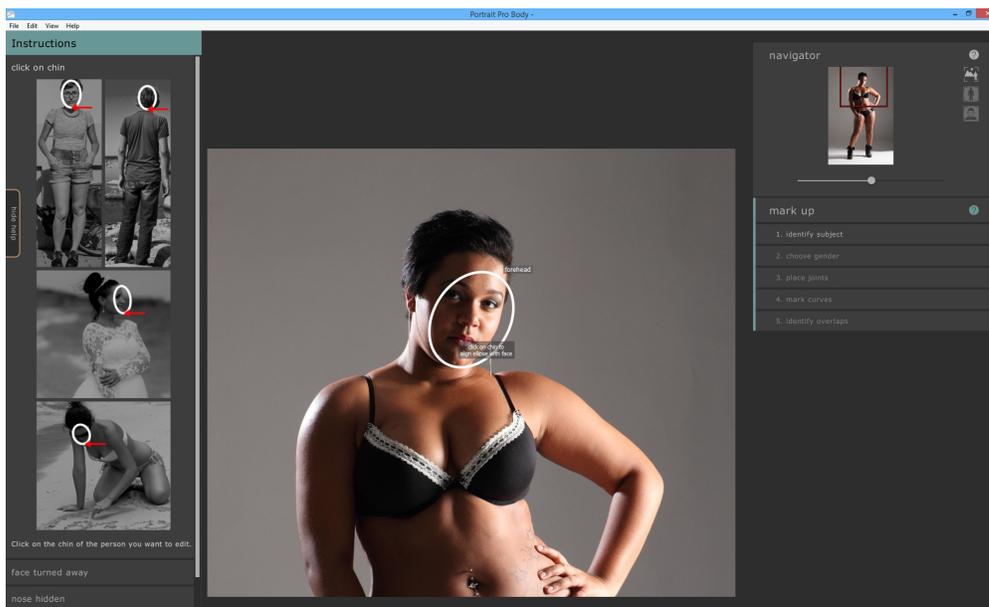
Throughout the help process, a panel on the left-hand side of the window gives instructions and provides guidance for unusual cases. This panel can be hidden by clicking on the tab on the left-hand side of this panel or by using the View menu.



To identify the person that you want to edit, move the mouse over the center of their face (the tip of the nose works well) and click the image. If the face is identified successfully by the software you will now be asked to identify the gender.



Occasionally, the software will fail to identify the face based on your click. This often happens when the face is close to profile or is partially obscured by hair or another object. When this happens, the software will prompt you to select a second point on the chin of the person you wish to edit. As you do this, an oval will be displayed and when you have the correct chin point, this oval should roughly surround the face.

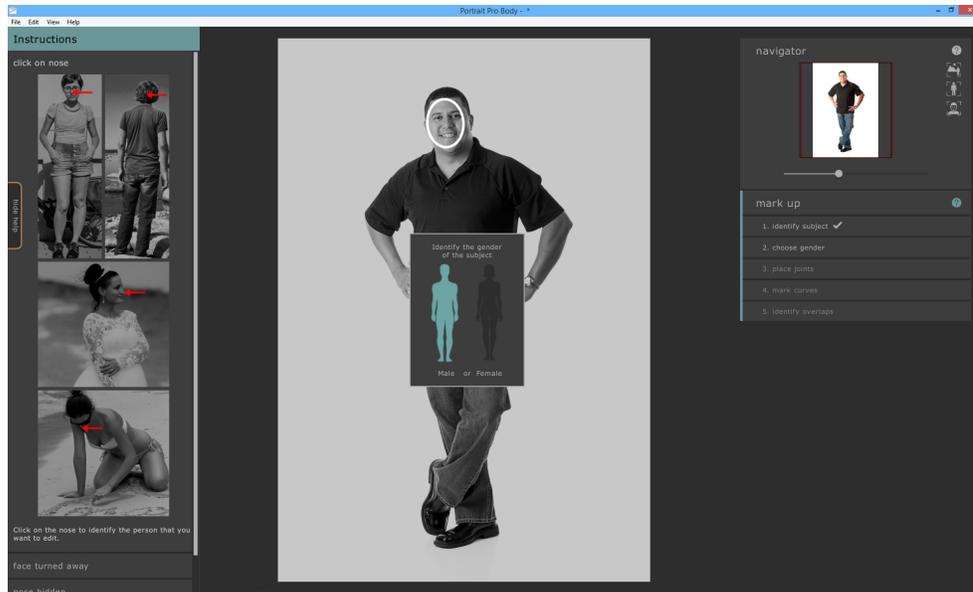


Alternatively, the face may not have been detected because you clicked on the wrong image position in the first stage. If this is the case, you can undo your change by selecting Undo from the Edit menu or using the shortcut CTRL + Z.

For further information, consult the [select face reference](#) ⁵³.

2.4.2 Choose gender

The next step is to identify the person as being male or female. This is done via a simple dialog box which is superimposed on the image.

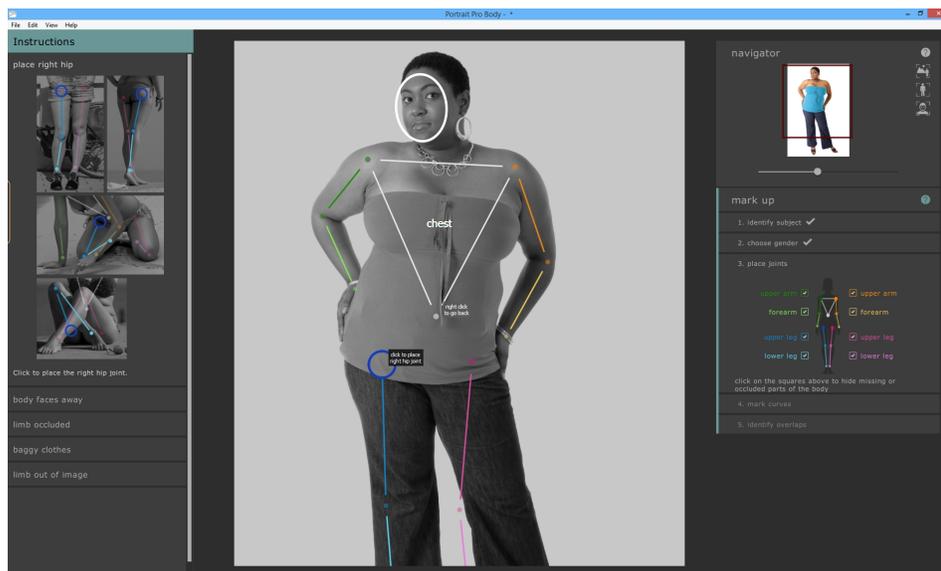


To select the gender, click on the picture of the male or female body.

If you make a mistake, you can return to this part of the program by clicking on "Choose Gender" on the right-hand side panel.

2.4.3 Mark skeleton joints

The goal of the third markup stage is to identify where the skeleton of the person is. The joints are marked in one after another, in a predetermined order. To mark a joint position, simply click on the appropriate point in the image. The cursor will then jump to the next point.



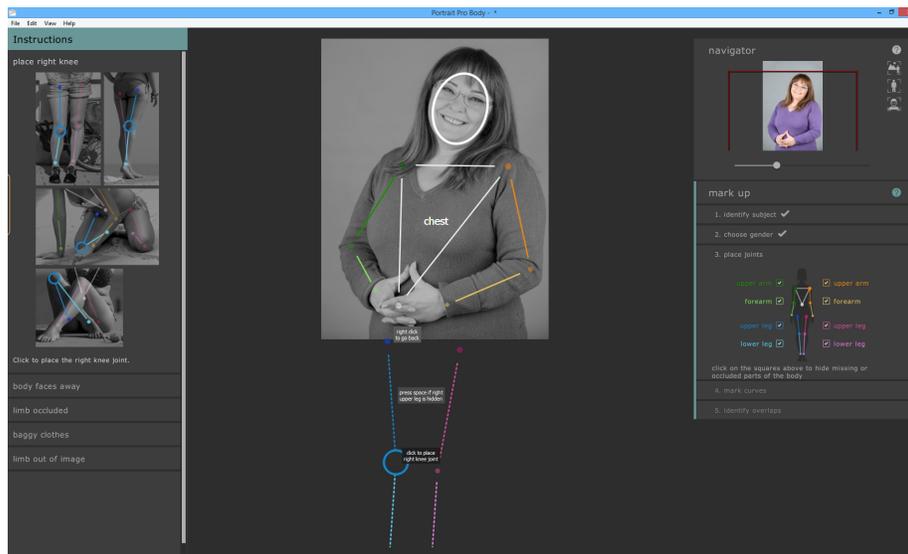
If you want to go back and change the position of the point you just marked, you can go back to the previous point by pressing backspace or right clicking.

The joint positions are added in the order:

- Right shoulder (on the left side of the image for people facing the camera)
- Right elbow
- Right wrist
- Left shoulder
- Left elbow
- Left wrist
- Belly Button
- Right hip
- Right knee
- Right ankle
- Left hip
- Left knee
- Left ankle

At each stage, the help panel on the left-hand side shows examples of exactly where to mark the point. In general the point should be placed in the center of the joint so that the "bones" are aligned along the center of the limb.

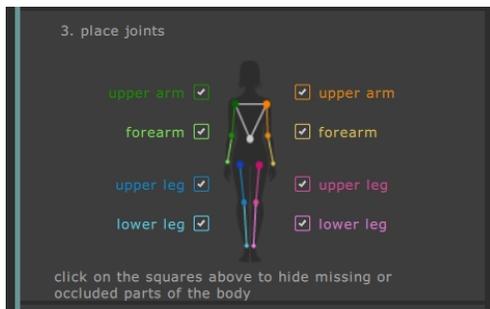
If the joint is outside the image bounds, then simply mark the joint where you think it would be outside the image boundary.



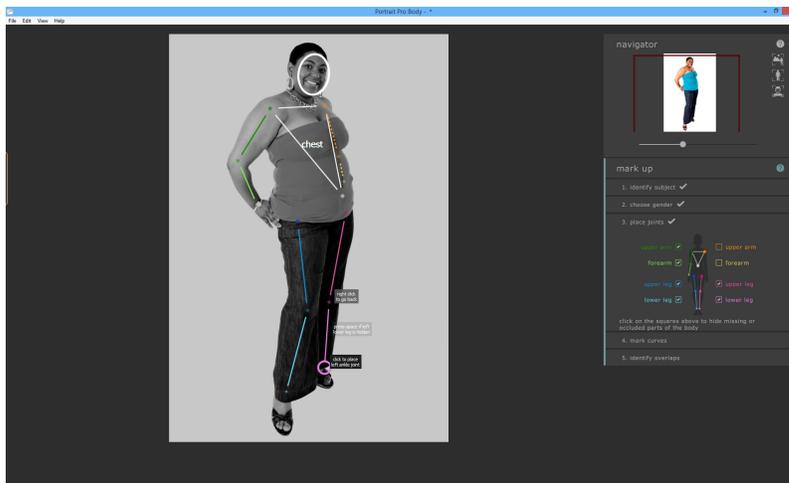
Other unusual markup situations are covered in the left-hand help panel.

Hidden limbs

The widget on the right-hand panel can be used to mark limbs as hidden. For example, if the arm is completely obscured by the body or by another object, it could be identified as hidden here.



When a limb is marked as hidden, it will appear as dashed in the main panel. Alternatively, hitting the H key will toggle the visibility of the limb that precedes the current point.



Marking a limb as hidden means that it will have no further effect on the proceedings and means that there is no need to mark the curves of this limb in the next stage. Limbs should only be marked as hidden if they are completely invisible in the image. If any part is visible (e.g. the top half of the upper leg is in the image, but the lower half is cut off) then they should not be tagged as hidden.

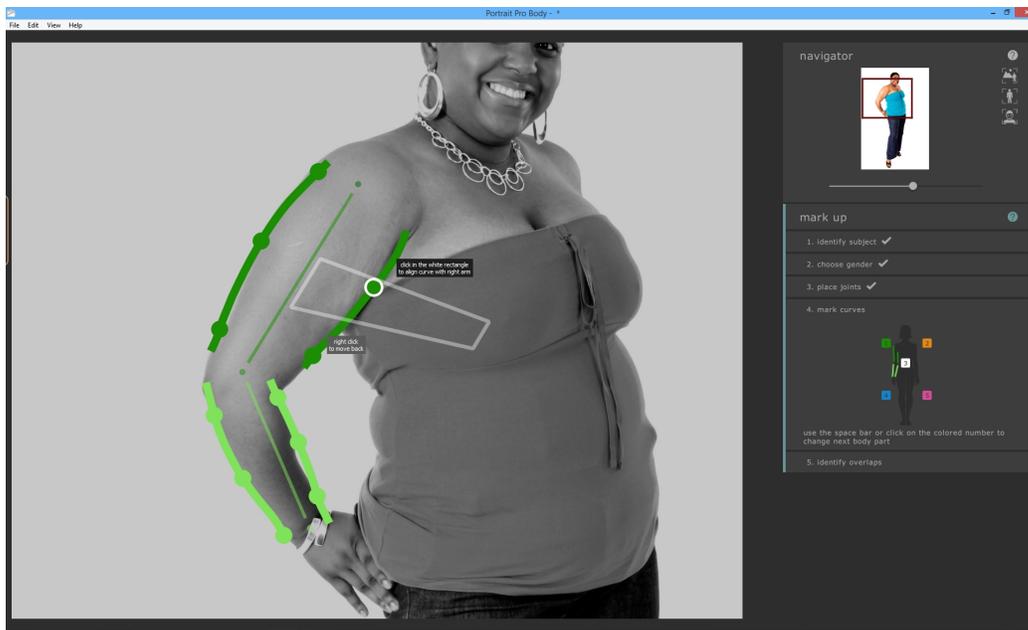
For further information, consult the [mark skeleton joints reference](#) ⁵⁶.

2.4.4 Mark body curves

The fourth stage of markup is to mark the curves of the body. This proceeds in the fixed order:

- right arm
- left arm
- torso
- right leg
- left leg

When this markup stage is entered, the curve is attached to the mouse cursor. Mark the first point by moving the mouse cursor to a position on the edge of the limb. The mouse cursor is constrained to stay within a small rectangle or triangle, so it should be clear which edge should be marked. The goal is simply to place this particular point on the edge of the limb. Don't worry about whether the entire curve lines up well at this stage -- this will happen naturally as you mark more points.



To fix the point, press the left mouse button. The program will then jump to the next position on the curve. When you have marked all of the points on the left arm, the software will scroll to the right arm and the process continues. Points that are on hidden limbs or outside the image are skipped automatically.

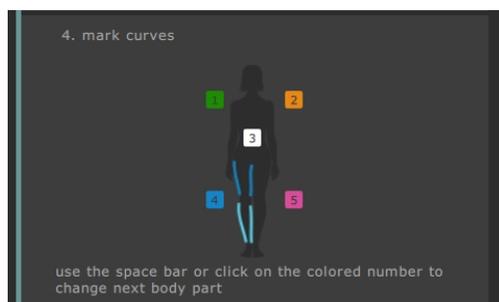
At each stage, the help panel on the left-hand side shows examples of exactly where to mark the curves. This is mainly straightforward with the exception of marking the torso for women. In this case, the torso curve should also surround the outside of the breasts.



Unusual markup situations are covered in the left-hand help panel.

If you want to go back and change the position of the point you just marked, you can go back to the previous point by pressing backspace or right clicking.

If you want to move back to a different limb, you can do this by clicking the appropriate number on the right-hand curve widget, or by pressing using the left and right arrow buttons to move to the next or previous limb.



For further information, consult the [mark curves reference](#) ⁵⁹.

2.4.5 Identify overlaps

For some images, the marked bones and curves overlap one another and the software will quiz you to identify which limb is in front of which. For other images, where there is no ambiguity then this stage is skipped.

A typical case is presented like this:



In this case the left-hand interpretation indicates that the left lower leg (pink) is in front of the right lower leg (blue). The right-hand interpretation indicates that the left lower leg is behind the right lower leg. For this image, it is clear that the left leg is in front of the right leg and so the left-hand interpretation is correct. To indicate this, simply click on the left-hand image and the software will move to the next overlap.

2.4.6 Finishing markup

When the markup is complete a dialog box will appear that asks if you wish to move to edit mode or to continue marking up the image.



Under normal circumstances, the user will simply move on to the edit mode. However, if you *know* that you have made a mistake in the markup stages, clicking the other button gives you the opportunity to correct any mistakes.

2.4.7 Correcting markup

It is possible at any point to go back to markup stage although with practice this is rarely necessary.

- From the editing mode, click "markup image" from the right-hand panel (all edits to the image will be lost). Then click on the section (select face, choose gender, mark joints, mark curves, identify overlaps) in the left-hand panel.
- From the markup modes, click directly on the section (select face, choose gender, mark joints, mark curves, identify overlaps) in the left-hand panel.

Each markup mode works slightly differently when we return to it. Rather than marking the image with a series of sequential clicks, it is possible to change any aspect of the markup at any time. The following sections describe each stage in turn.

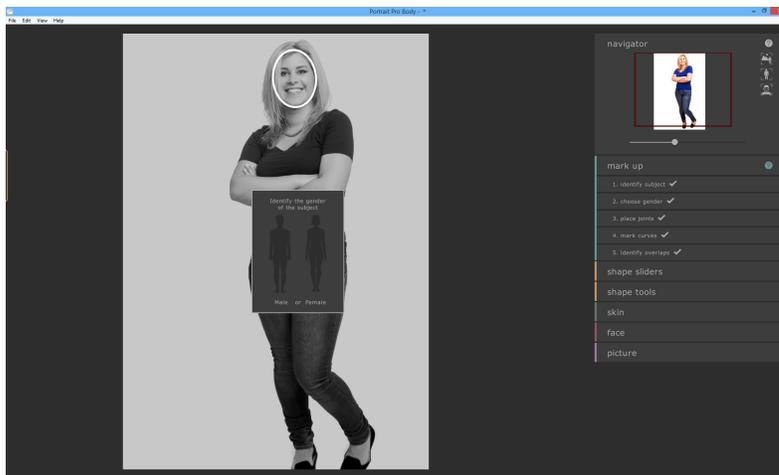
Select the face

You can adjust the face points by clicking and dragging the two controls on the face oval. The face oval should roughly surround the face in the image.



Choose gender

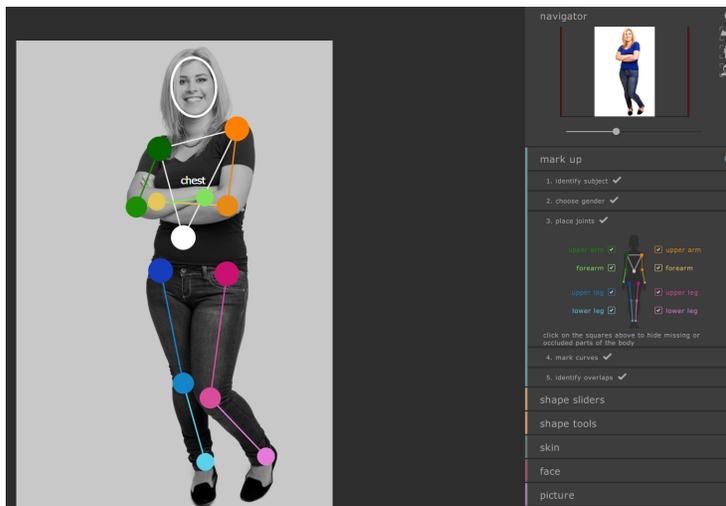
To select the gender, click on the picture of the male or female body in the pop-up window.



If you make a mistake, you can return to this part of the program by clicking on "Choose Gender" on the right-hand side panel.

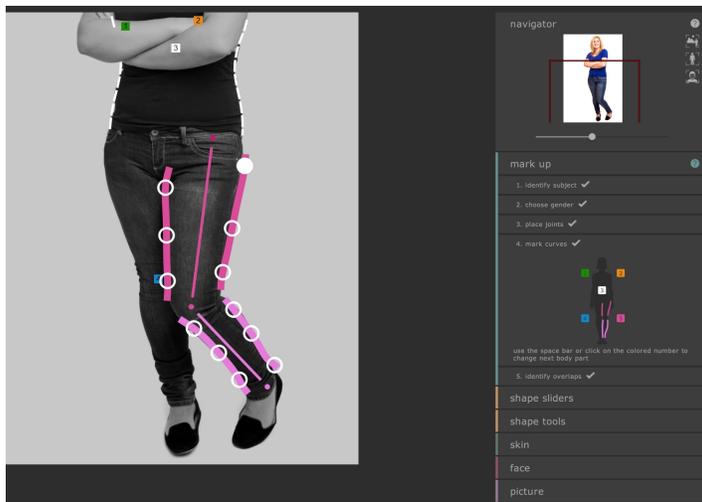
Mark skeleton joints

When we return to the skeleton markup stage, we can see all of the points simultaneously. To change the position of one of the joints simply click and drag the point across the image.

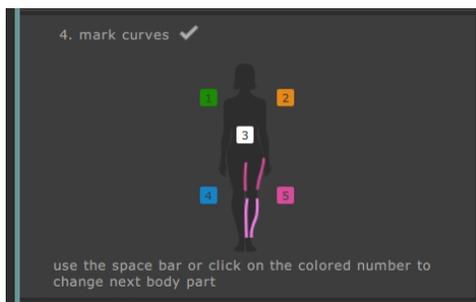


Mark curves

When we return to the curve markup stage, we still deal with the curves one body part at a time, but now we can adjust any of the points on the curves by clicking on them and dragging.



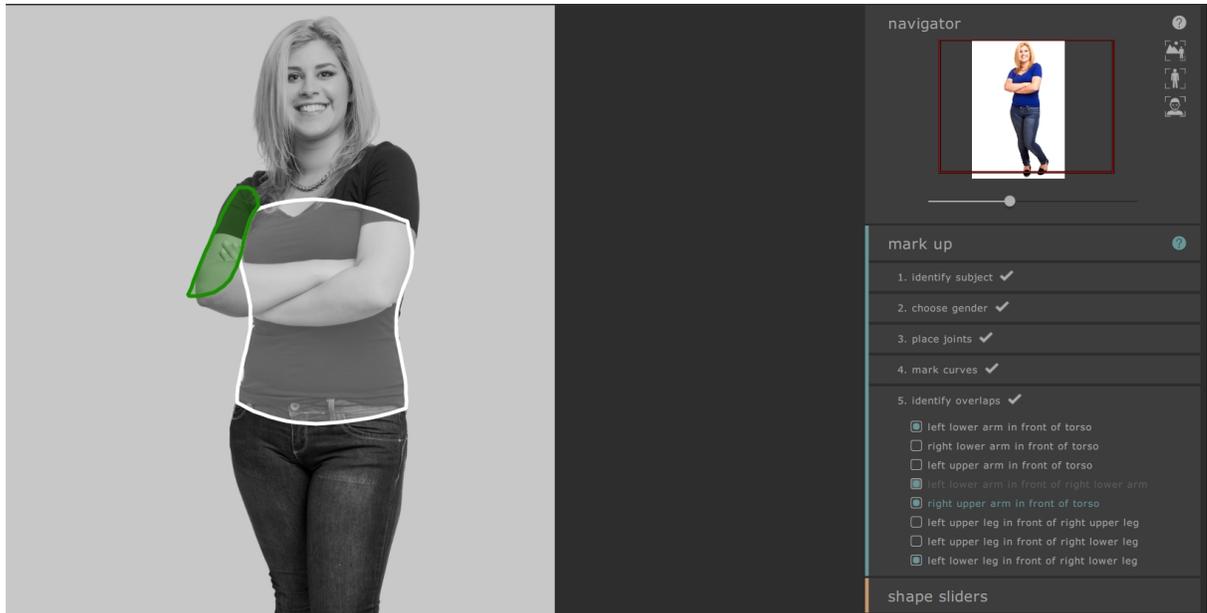
To move between body parts, press the space bar to move to the next part or backspace to move back, or use the number keys 1, 2, 3, 4, and 5 to directly move to the right arm, left arm, torso, right leg and left leg respectively. You can also identify the desired body part on the curve widget on the right-hand side:



Alternatively, you can click on the colored number tags that are superimposed on the image.

Identify overlaps

To change the interpretation, click on the list on the right-hand panel to toggle between which body part is in front.



Moving to edit mode

When you have finished making all the changes you want, click the button in the right-hand panel corresponding to the edit mode (e.g shape sliders or skin) that you wish to move to.

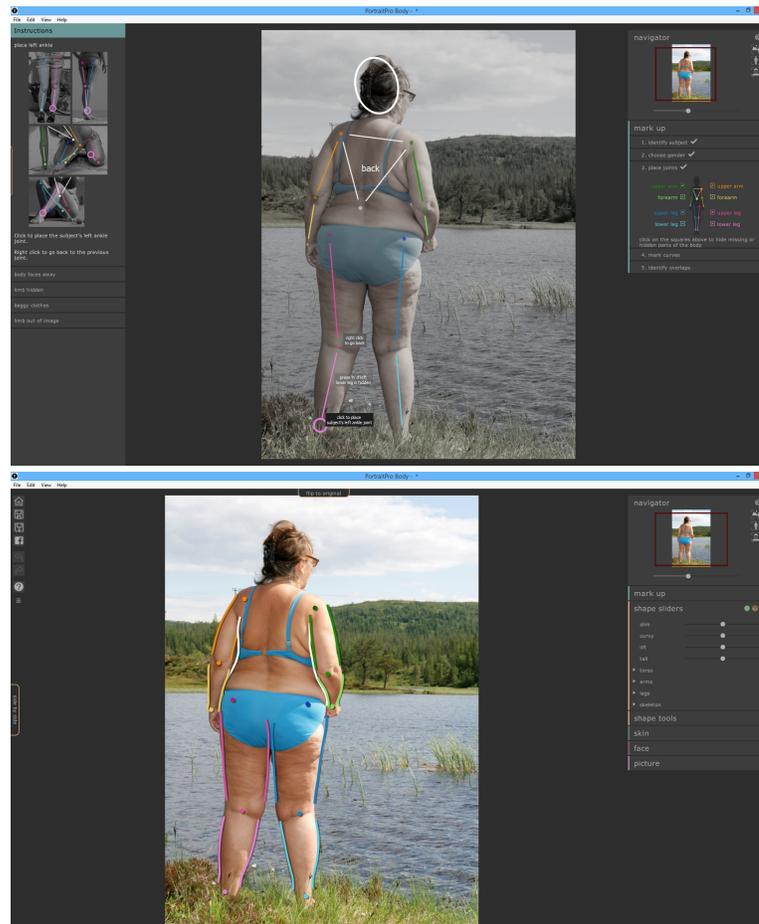
The software will then re-do its analysis and you can begin editing again.

2.4.8 Common markup mistakes

In general, placing the curves with great precision is not necessary. As long as the skeleton points and curves are in roughly the correct place, the editing functions will work satisfactorily.

There are however, two common pitfalls:

- When the subject faces away from the camera, make sure to mark the right arm points on the right-hand side of the image (as opposed to the left-hand side as is normal). The software will know that the person faces away from the camera and identify the center as 'back' rather than 'chest'.
- Be careful to identify the overlaps correctly -- if you make a mistake here, it means that some useful curves will not be visible in the editing stages and other erroneous curves will appear.

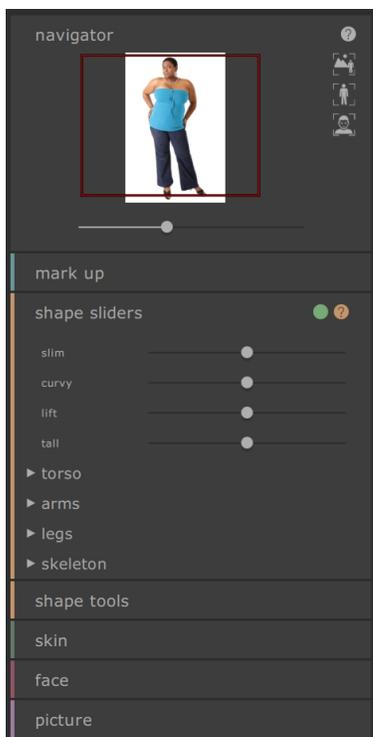


2.5 Editing the image

Once we have marked up the image, it is now ready to manipulate. After a short processing interval, the software will move to the editing mode and a number of different sections appear in the right-hand panel. These sections comprise:

- [Shape sliders](#) ³²
- [Shape tools](#) ³³
- [Skin](#) ³⁹
- [Face](#) ⁴³
- [Warp fixer](#) ⁴⁴
- [Picture](#) ⁷⁹

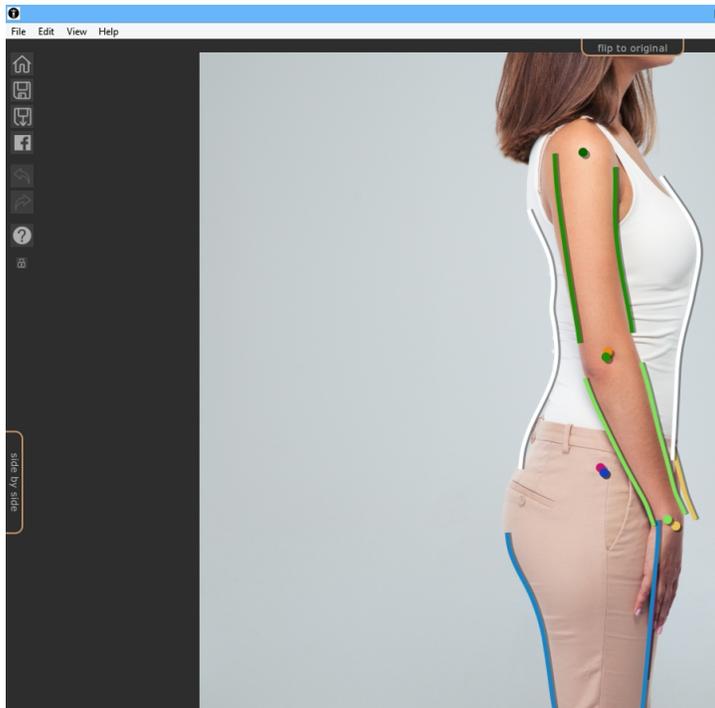
After finishing the markup stages, the shape sliders mode will be open. A final option on the right-hand side is to return to the markup procedure. To move to one of these sections, simply click on its name.



Each of these sections has a number of controls and two buttons that are visible in the title bar when it is open. The first button allows you to turn the effects of this section off (shape sliders and shape tools are connected in this regard). To reset the effects of a section, press this button (it will change from green to red) and then start again. The second button activates the help system which explains the controls in the panel.

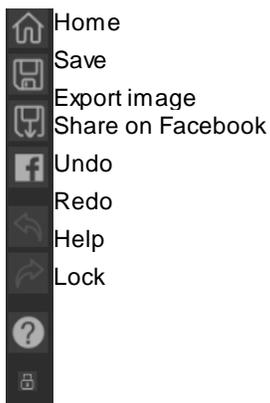


In addition, the main editing page contains several other controls. There is a tab above the main image that allows you to flip between the original and edited image (it will do nothing until you make some changes). Pressing the ENTER key achieves the same result. There is a second tab at the extreme left of the screen that allows you to see the original image next to the edited image (clicking on it twice removes the original image again).



Finally, there is a tool bar, which contains buttons for:

- Home / Close -- close the current project and return to home screen
- Save Project -- save the current project
- Export Image -- save the edited image
- Share -- Post a before / after picture to Facebook
- Undo -- Undo the last change
- Redo -- Redo the last undone change
- Help -- Opens a context sensitive help that guides you around the screen
- Lock -- Locks the toolbar so that it is always visible or unlocks it so that it only appears when the mouse is close



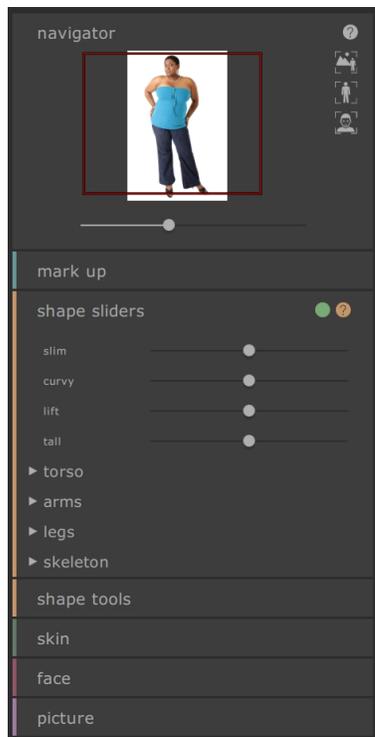
2.5.1 Shape sliders

In the shape slider mode, it is possible to make large manipulations to the shape of the body by simply moving the sliders in the right-hand panel.

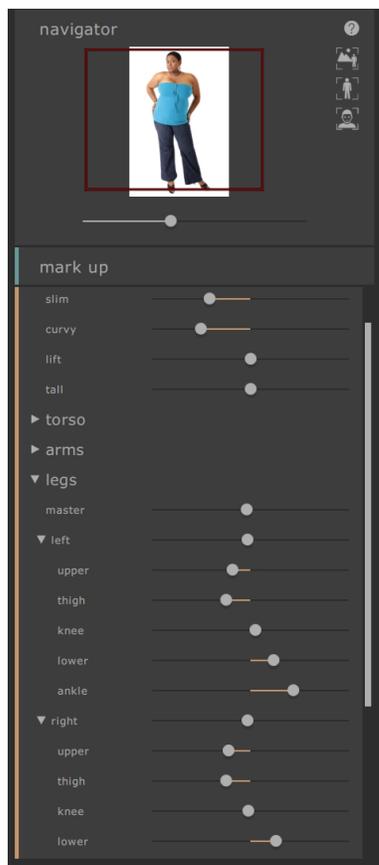
The sliders are separated into several different sections.

There are four sliders at the top of the section make large scale changes to the entire shape:

- Slim -- makes the entire subject thinner
- Curvy (women only) -- narrows the waist and expands the chest and hips
- Built (men only) -- slims the stomach and broadens the shoulders
- Lift -- raises the bottom / chest areas
- Tall -- extends the legs and the torso length and stretches the neck



Below these sliders, there are four sections dealing respectively with the torso, legs, arms and skeleton. Each section can be opened to reveal more sliders by clicking on the title or triangle, and subsections can be opened in the same way to edit progressively finer parts of the body.



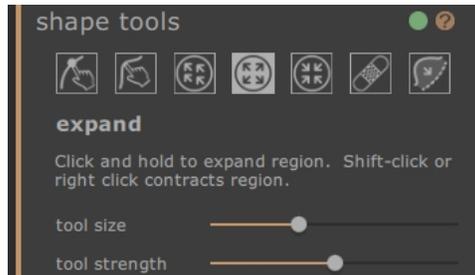
The sections comprise

- Torso -- allows editing of the hips, waist, chest etc.
- Arms -- allows editing of the upper and forearms, elbows, wrists etc.
- Legs -- allows editing of the upper legs, thighs, knees, lower legs and ankles
- Skeleton -- allows movement of the joints to achieve various effects, including lengthening the legs, tilting the hips and extending the neck

For further information, consult the [shape sliders reference](#) ⁶⁵.

2.5.2 Shape tools

The shape tools section provides a number of tools for editing the shape of the person in the image by directly manipulating the image. In general these tools make finer scale changes to the image than is possible with the shape sliders.



[Edit body tool](#)

When this tool is selected, and the mouse is moved over the image, the curves on the edge of the body will be highlighted. You can use this tool to pick up the curves and move them. The program knows about the statistics of human body shape and so tries to find a solution that is compatible with the current mouse position but also sensible. So, for example, if you move the left-hand side of the torso in then the right-hand side of the torso will also move in. Once a point has been moved, it is fixed unless another point is placed nearby.



When the move curves tool is selected, it is also possible to move the skeleton joints, which are represented as colored dots at the joint positions. To move the joints simply drag them to a new position.

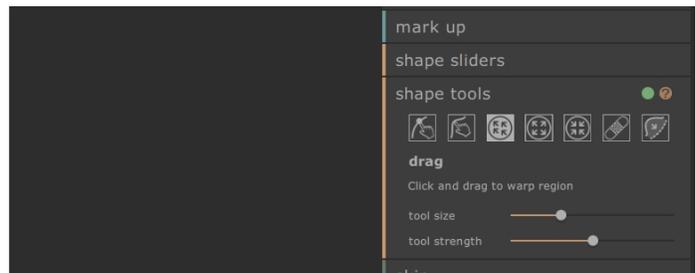
[Edit body local tool](#)

The local curve tool allows you to make fine scale local changes to the curve. To move a curve, simply click on it and move the mouse to drag it to a new position. Only curve positions very close to the mouse will be affected. When this tool is selected, a slider will appear that controls the size of the region over which the local change is affected.



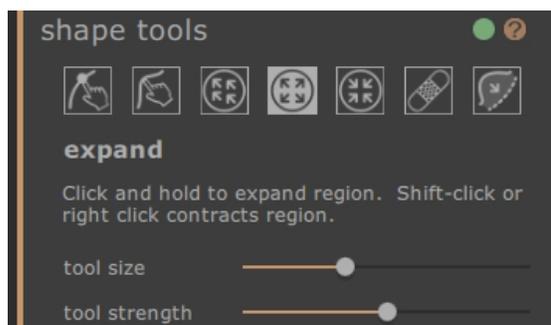
Drag tool

The drag tool can be used anywhere in the image -- it is used to locally change the shape of the image by clicking and dragging the mouse. A circle surrounding the cursor allows you to visualize the area which will be dragged. When this tool is selected, sliders appear on the right-hand panel that control both the area over which the change is made (tool size) and the strength of the change (tool strength).



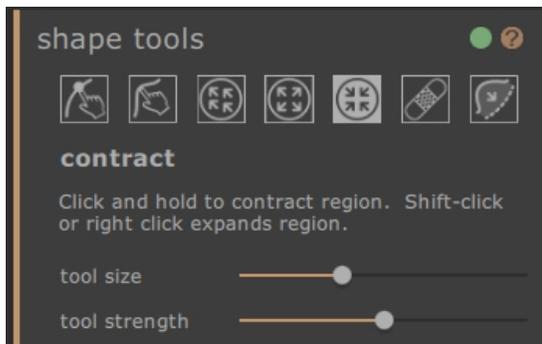
Expand tool

The expand tool can also be used anywhere in the image and causes a local expansion within the circular cursor region when the mouse is held down. When this tool is selected, sliders appear on the right-hand panel that control both the size of the brush and the strength of the effect.



Contract tool

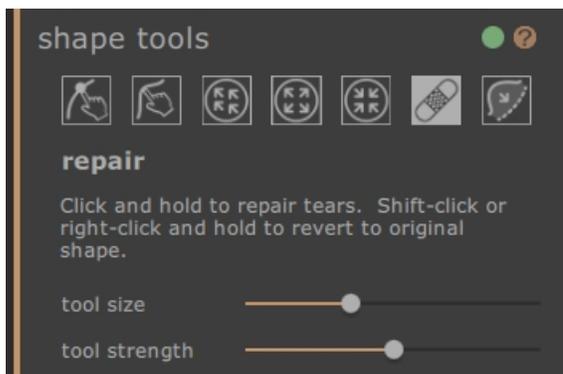
The contract tool can also be used anywhere in the image and causes a local shrinking within the circular cursor region when the mouse is held down. When this tool is selected, sliders appear on the right-hand panel that control both the size of the cursor and the strength of the effect.



Repair tool

The repair tool fixes problems with the shape of the image by making the shape changes locally smooth within the circular window. Occasionally, movement of the sliders, or use of the other shape tools will cause tears, discontinuities, or unrealistic shape changes. Applying the repair tool by holding the mouse down over the desired area, will gradually fix these problems. When this tool is selected, sliders appear on the right-hand panel that control both the size of the cursor and the strength of the effect.

If the SHIFT button is held down, the repair tool switches to the revert tool. This has the effect of locally restoring the shape of the image to its original state. As well as meaning that the shape changes are locally smooth, it also returns objects to their original position.



Fix bulges and pinches tool

The fix bulges and pinches tool is a very specific tool for sorting out problems in the shape that are at a finer scale than the curve tools can deal with. Typically, it would be used to reduce bulges at the hips, or creases due to fat or a tight bikini strap. To operate the tool, move the cursor over one of the existing curves. The region under consideration is blown up and the shape is visualized before and after the change. Pressing and holding the mouse button causes the shape change to be made. Essentially, the local shape of the contour in the image is estimated and warped towards the smoother (but usually more desirable) curves that were drawn in the markup change.



Image before tool

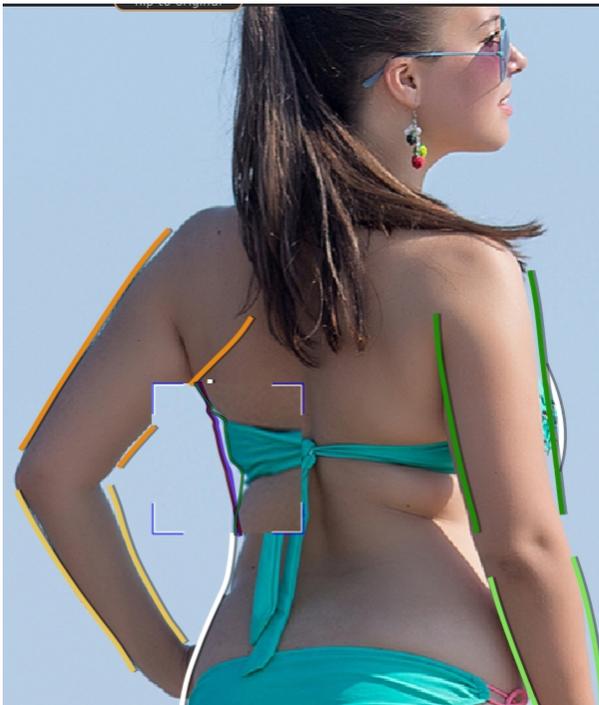


Image with tool



Image after tool

For more information, consult the [shape tools reference](#) ⁷⁰.

2.5.3 Skin

The skin section allows you to manipulate the skin texture and tighten the stomach region. This only applies to the body. To manipulate skin on the face, use the face section.

[Markup canvas](#)

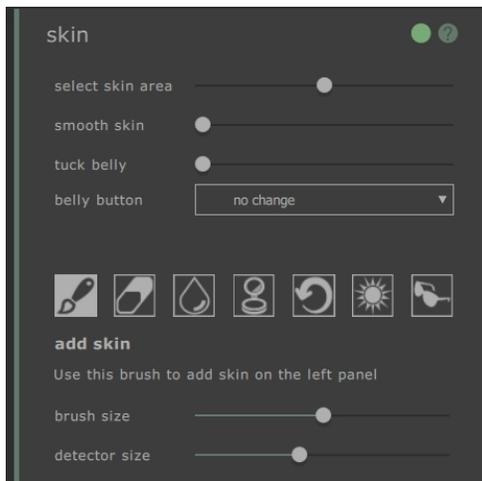
When the skin section opens, a second copy of the image appears on the left of the image that we are editing. This is in grayscale, but with a red mask superimposed to indicate the current estimated skin region. This will determine which parts of the image are changed by this section.



The automatically selected skin region is usually approximately correct. However, if it is not correct, the topmost slider ('select skin area') increases or decreases the amount of skin selected. To further refine the skin region, use the mark skin or remove skin tools to directly add or subtract from the skin area in the left panel.

The remaining controls in the skin section are used to manipulate the texture of the skin. The 'smooth skin' tool smooths the selected skin area to provide an airbrushing effect. The tuck belly slider tones the stomach region to reduce fat and increase definition. The belly button drop down menu allows you to replace the belly button with a different choice. If the new belly button is not in the correct position, you can change it by dragging the white control point on the left panel.

The tool bar at the bottom, contains tools to select the skin, remove skin, smooth, remove blemishes, restore, lighten and darken. We define the effects of each below:



Add skin tool

When this tool is selected, and the mouse is moved over the left image, a cursor consisting of two concentric circles appears. When you paint on the canvas, skin is selected by finding any areas in the larger circle that match the colors in the smaller circle. A preview of the area that will be selected is updated directly. When this tool is selected two sliders appear underneath, that control the size of the concentric circles.

Remove skin tool

This tool has the opposite effect of the add skin tool -- instead of adding to the selected skin region, it decreases the selected skin region. As with the add skin tool, two sliders appear under the tool which control the concentric circles in the cursor.

Smooth tool

The smooth skin tool allows you to locally smooth an area in the image. It is applied by clicking and dragging directly on the right-hand image. The size of the area over which the effect is applied and the strength of the effect are controlled by two sliders which appear when this tool is selected. The tool will work even on regions which have not been selected as skin, and the region you smooth will be added to the skin mask.

Remove blemishes tool

The remove blemishes tool is used to remove spots, moles, tattoos and other local features on the skin. It makes an estimation from the edge of the circular cursor. The size of the region and the strength of effect can be adjusted using sliders that appears under the tool when it is selected.

Restore tool

The restore tool reverts the skin in the circular cursor back to the original state. The size of the affected region and the strength of effect can be adjusted using sliders that appear under the tool when it is selected.

Brighten skin tool

The lighten tool locally brightens the image when the user clicks on the right-hand canvas. This could be used to decrease shadows which might make a region look flatter. The size of the affected region and the strength of effect can be adjusted using sliders that appear under the tool when it is selected.

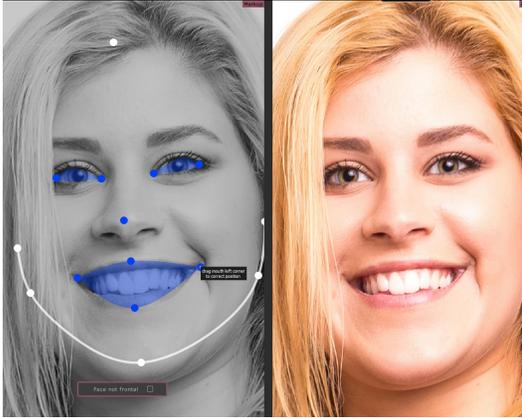
Darken skin tool

The darken tool locally decreases the intensity of the image when the user clicks on the right-hand canvas. This could be use to increase shadows which might make a region look less flat. The size of the affected region and the strength of effect can be adjusted using sliders that appear under the tool when it is selected.

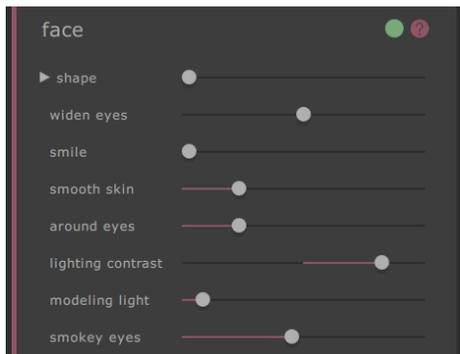
For more information, consult the [skin section reference](#)^[72].

2.5.4 Face

The face section is used to make changes to the subject's face. When you click on this section, the view will zoom into the face region and a second canvas opens on the left-hand side. This new canvas shows the estimated markup of the facial feature points. If the points are in the wrong place, the controls in this section will not work properly. To change the markup, simply click and drag the points to the correct position.



Please note that the face section is intended only for frontal faces. To indicate that the face is not frontal, click the button that is superimposed over the left (markup) canvas and this disables the effect of the rest of the section.



The face section consists entirely of sliders which are manipulated in the right-hand panel and make changes to the main canvas. They broadly fall into three categories:

- Shape sliders -- these allow you to change the overall shape of the face and also to manipulate its components (e.g eye size).
- Smoothing sliders -- these allow you to smooth the skin in the facial region.
- Lighting sliders -- these allow you to relight the face so that the picture is more flattering.

Note that the companion product [PortraitPro](#) is specialized to making face changes and contains many more controls for changing the shape and appearance of facial portrait photos.

For more information, consult the [face section reference](#) ⁷².

2.5.5 Warp fixer

When you warp the body in an image, it will sometimes distort the background in undesirable ways: lines and other areas may have become distorted and need fixing. The warp fixer provides an intelligent way to do this, allowing you to create 'patches' on your original image. Parts of your image covered by the same patch always move together.

When you enter the warp fixer, you will see:



The warp fixer section provides three tools for creating and editing patches:

- line patch -- create a patch using a line. This is a quick and effective way to corrects line that have become distorted.
- brush patch -- create a patch using a paint brush. This can be used for fixing small areas that have become distorted.
- patch eraser -- erase parts of a patch. You can erase parts of a patch regardless of which tool you used to create it.

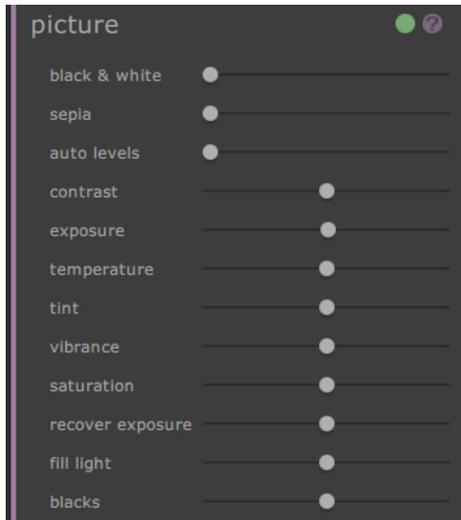
As you create a patch, it automatically groups it with any others that it touches, creating a larger patch.

Patch Controls allow you to manage the patches that you have created. You can:

- Delete selected patches.
- Group selected patches so that they move in the same way.
- Ungroup selected patches so that they can move in different ways.

2.5.6 Picture

The Picture section tackles overall changes to the contrast, brightness and color palette of the whole image, similar to those found in more conventional image editing tools. All of the effects are achieved by moving the sliders in the right-hand panel directly.



The sliders consist of:

- black and white -- converts the image to black and white
- sepia -- converts the image to sepia
- auto levels -- an intelligent transformation that tries to generally improve the image
- contrast -- increases or decreases the contrast of the image while leaving the average brightness and color unchanged
- exposure -- adjusts the overall brightness of the image
- temperature -- adjusts the color of the whole image to remove any temperature (red-blue) color cast
- tint -- adjusts the color of the whole image to remove any tints (green-purple) color cast
- vibrance -- makes the colors in the picture more intense
- saturation -- similar to vibrance, but has less effect on colors that are less intense
- recover exposure -- recovers over-exposed areas
- fill light -- fills in shadows
- blacks -- darkens black regions in the image

For more detail, see [Picture tools](#) ⁷⁹.

2.6 Group Shots

[Working with group shots](#)

If there is more than one person in your image, you will need to save the image and re-open it to start working on another body in the image.

Part



3 Reference

This section provides information about the different menu commands and controls in PortraitPro Body.

The [Homepage Reference](#)^[48] page describes the application home page.

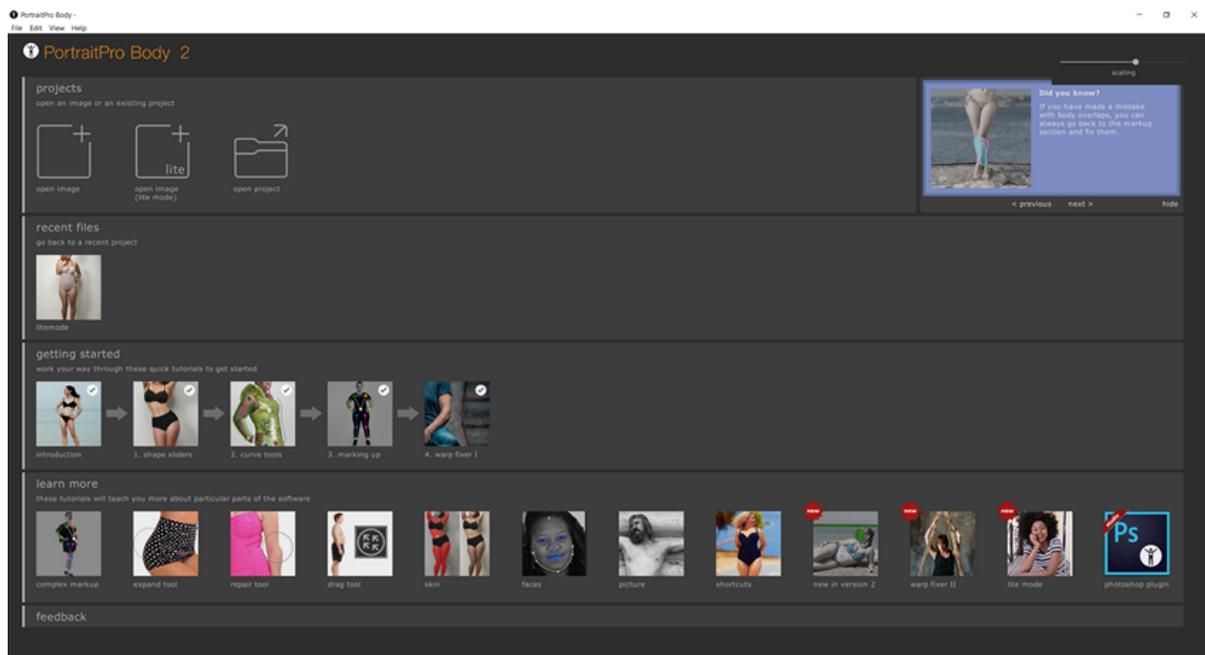
The [Menu Commands](#)^[50] page describes each menu command.

The [Marking Up the Body](#)^[53] page describes each of the controls available when you [markup an image](#)^[18].

The [Enhancing the Body](#)^[62] page describes the controls that are available when you enhance an image.

3.1 Homepage

When you load the program or close a project, the home page will be shown.



From the homepage, you can:

- Edit a new image
- Load an existing project
- Re-load a recently-used project
- Open a tutorial concerning a particular aspect of the software

Projects

To load a new image, click the new image button. To load an existing project, click the open project button. You can open a window that do either job by pressing the space bar while on the home page. Alternatively (and from any point in this software), you can press CTRL+O or use Open from the File menu.

All of these actions bring up open file dialogs. In this window, you can choose the project or image that you wish to open.

[Recent files](#)

Below the open file button are icons representing the eight most recently used projects. In each case a thumbnail of the body that was manipulated and the file name are provided. Click on the appropriate icon to resume working on this project. This section will only appear after you have saved your first project file.

[Getting started](#)

The Getting Started section contains the overview video (which is run the first time that you load the software) and four other tutorials, each of which consists of a short video and a project to work on. The user is encouraged to work their way through these tutorials when they first open the software.

[Learn more](#)

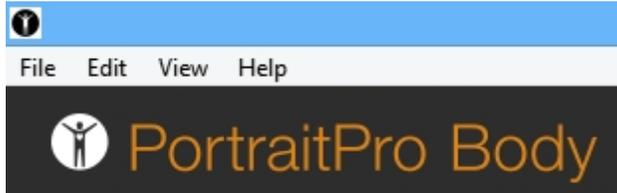
The Learn More section contains a number of further tutorials that help explain other parts of the software. This section opens up after the getting started tutorials have been run.

[Scaling slider](#)

The slider in the top right-hand of the homepage allows the user to rescale all of the elements of the user interface. Move this slide to make everything smaller or larger so that it suits the screen that you are working on.

3.2 Menu Commands

These are the commands available on the menu bar in PortraitPro Body.



File Menu ⁵⁰	Commands to open and save files, print, or change settings
Edit Menu ⁵¹	Undo & Redo
View Menu ⁵²	Commands to control the visibility and appearance of various elements of the user interface
Help Menu ⁵²	Commands to launch help, check for updates, get support, or view about box

3.2.1 File Menu

The File menu contains the following commands:

Open...	Opens either an image or a project file (see Supported File Types ⁸⁸). If a file is already open with unsaved changes, you will be prompted to save or discard the changes before the new file is opened.
Save Project	Saves the project in the native ('.prb') format. If the project has not previously been saved, the File Save panel will be shown prompting you for a filename. This command is only available at the enhancing the body stage ⁶² .
Save Project As...	Saves the current file. This is similar to the Save command, except that a File Save panel is always shown to let you select where to save the file. This command is only available at the enhancing the body stage ⁶² .
Export Image...	Saves the current file. The first time this command is used after opening a file, the following rules apply:

	<p>If you opened a JPEG file, the enhanced image will be saved as a JPEG.</p> <p>If you opened a PNG file, the enhanced image will be saved as a PNG.</p> <p>If you opened a TIFF file or any RAW file type (<u>Studio edition only</u>), the enhanced image will be saved as a TIFF.</p> <p>All other file types can be saved as JPEG, TIFF or PNG, and can be selected from the file types.</p> <p>From then on, this command will save the same type of file as previously saved.</p> <p>This command is only available at the enhancing the body stage^[62].</p>
Share	<p>Connects to Facebook and posts a before / after photo with a comment.</p> <p>This command is only available at the enhancing the body stage^[62].</p>
Close / Homepage	<p>Closes the current session. If there are any unsaved changes, you will be prompted to save or discard these.</p> <p>The Close command returns you to the Homepage^[48].</p>
Print...	Brings up the Print dialog that lets you print out the enhanced image.
Exit	Closes the application. If there are any unsaved changes, you will be prompted to save or discard these.

Plug-in Mode

If the application is in [plug-in mode](#)^[17], then the only command in the File menu is **Return From Plug-in**, which returns the enhanced image to the calling application and closes PortraitPro Body.

3.2.2 Edit Menu

The Edit menu contains the following commands:

Undo	<p>Provides undo for changes to slider values and changes made with the brush tools.</p> <p>This means it is safe to experiment with different saved settings, or try moving any sliders, since you can always go back to the result you had earlier if you don't like the changes.</p> <p>This command is only available at the enhance image stage.</p>
Redo	Lets you redo an operation that has been undone with the <i>Undo</i> command.

3.2.3 View Menu

The View menu contains the following commands:

Full Screen	Makes the application fill the entire screen, to maximize the working area. To restore the application to its windowed state, select this command again.
Lock Toolbar	Toggles whether the toolbar is always visible (locked) or only appears when the mouse is close to the top left of the image.
Before and After	Toggles whether we are viewing a single canvas (after) or two canvases side by side (before and after).
Markup Help	Toggles whether help is shown in markup mode.
Scale	Change the size of the fonts and interface elements to make the elements larger or smaller.
Animate	Starts an animation showing how the image has changed (click on the canvas to stop).

3.2.4 Help Menu

The Help menu contains the following commands:

Contents	Launches the online help, showing the Table of Contents.
Quick Start Guide	Launches the online help showing the Quick Start Guide  .
Keyboard Shortcuts	Launches the online help showing the Keyboard Shortcuts  .
Check For Updates...	Launches the default web browser to show whether you have the latest version of PortraitPro Body. If updates are available, links will be provided for you to download them.
Support...	Launches the default web browser to show the PortraitPro Body support pages. You can use this to find answers to common questions, or to contact the PortraitPro Body support team.
About	Brings up the About Box, which shows the version of PortraitPro Body that you have.

3.3 Marking Up the Body

After loading in a new image, there are a series of markup stages that must be carried out by the user before the image can be edited.

These are:

- Identifying the person that we wish to edit
- Identifying the gender of the person that we have chosen
- Marking the positions of the person's joints in the image
- Marking the curves on the edge of the limbs and torso
- Identifying the depth order of the limbs (if ambiguous)

Markup Help

Throughout the markup stages, a help window is available to provide guidance. By default this is visible and is on the left-hand side of the main canvas. A tab on the extreme left of the image (which expands when the mouse is near) can be used to toggle the presence or absence of this markup help window. This can also be done by choosing Markup Help from the View menu.

The help typically consists of several pages. The top-most page (visible by default) gives general instructions for markup of this area. The other pages deal with special cases (e.g. how to make-up the skeleton when it is partially outside the bounds of the image). To view these other pages, click on the relevant tab on the help window. During the markup tutorials, this help will be specific to the image that you are marking up.

3.3.1 Select Face reference

To identify the person that you want to edit, move the mouse over the center of the tip of their nose. If the face is identified successfully by the software you will now be asked to identify the gender.



Occasionally, the software will fail to identify the face based on your click. This often happens when the face is close to profile or is partially obscured by hair or another object. When this happens, the software will prompt you to select a second point on the chin of the person you wish to edit. As you do this, an oval will be displayed and when you have the correct chin point, this oval should roughly surround the face.



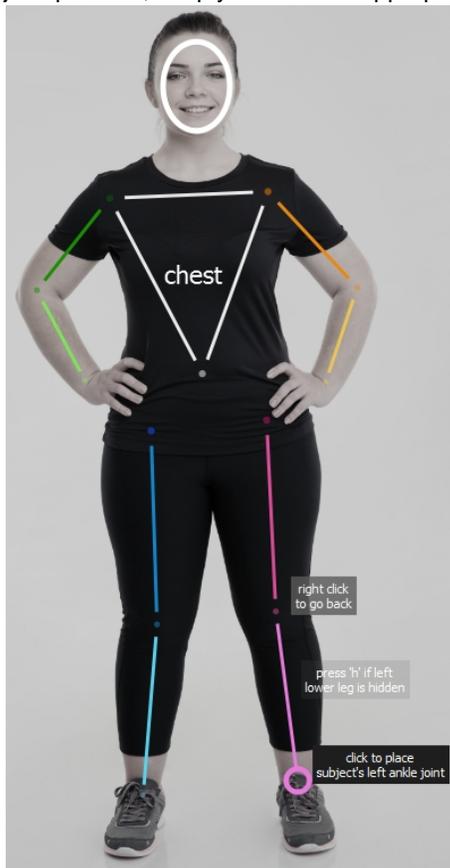
Alternatively, the face may not have been detected because you clicked on the wrong image position in the first stage. If this is the case, you can undo your change by selecting Undo from the Edit menu or using the shortcut CTRL + Z.

Special cases:

Face turned away	If the face is turned away, then make your best guess as to where the nose would be.
Nose hidden	If the nose is hidden by another object then guess where it would be.
Nose out of image	If the nose is out of the image then click where you guess it would be. You can pan the image using CTRL + mouse drag or via the navigator in the top right corner.

3.3.2 Mark skeleton joints reference

During the initial markup process, the joints are marked one after another, in a predetermined order. To mark a joint position, simply click on the appropriate point in the image. The cursor will then jump to the next point.



If you want to go back and change the position of the point you just marked, you can go back to the previous point by pressing backspace or right clicking.

When the user returns to this section (by clicking on Mark Joints in the right-hand panel), the existing joint positions are all shown in parallel and the user can adjust them by clicking and dragging.

The skeleton joints are (in order of marking)

Right shoulder	A point in the center of the right shoulder joint, so that it is mid-way between the two sides of the arm. The right shoulder would be on the left of the image for photos where the subject faces the camera (i.e. for most photos).
Right elbow	A point in the center of the right elbow so that it is mid-way between the upper and lower arm and mid-way between the two sides of the upper arm and the two sides of the lower arm.

Right wrist	A point in the center of the right wrist, so that it is mid-way between the two sides of the arm.
Left shoulder	A point in the center of the left shoulder joint, so that it is mid-way between the two sides of the arm. The left shoulder would be on the right of the image for photos where the subject faces the camera.
Left elbow	A point in the center of the left elbow so that it is mid-way between the upper and lower arm and mid-way between the two sides of the upper arm and the two sides of the lower arm.
Left wrist	A point in the center of the left wrist, so that it is mid-way between the two sides of the arm.
Belly button	A point on the belly button of the subject.
Right hip	A point at the top of the right leg, mid-way between the two sides of the leg.
Right knee	A point in the center of the right knee so that it is mid-way between the upper and lower leg and mid-way between the two sides of the upper leg and the two sides of the lower leg.
Right ankle	A point in the center of the right ankle that is mid way between the two contours of the lower leg.
Left hip	A point at the top of the left leg, mid-way between the two sides of the leg.
Left knee	A point in the center of the left knee so that it is mid-way between the upper and lower leg and mid-way between the two sides of the upper leg and the two sides of the lower leg.
Left ankle	A point in the center of the left ankle that is mid way between the two contours of the lower leg.

Special cases:

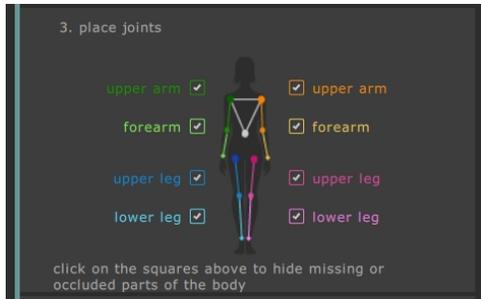
Body faces away	If the body faces away then the right shoulder will be on screen right. Otherwise it will be on screen left.
Limb obscured	If the limb is hidden by another part of the body or object, then guess where it should appear. Press 'h' or use the control in the right-hand panel to tag it as hidden (see below).
Baggy clothes	If the limb is obscured by baggy clothing make your best guess as to where it would be.
Limb out of image	If the joint is partially or entirely outside the image, guess where it would be.

Panning the canvas

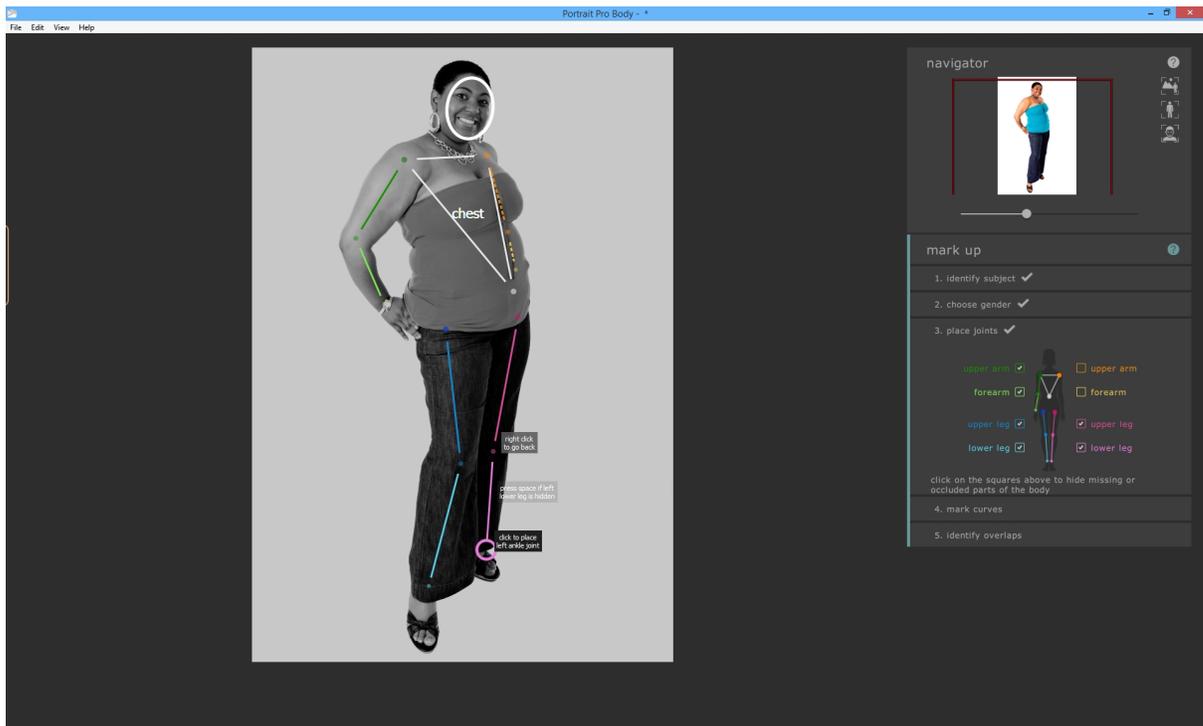
When the mouse is close to the edge of the image, an arrow will appear which indicates that you can pan the canvas in that direction by pressing the space bar.

Hidden limbs

The widget on the right-hand panel can be used to mark limbs as hidden. For example, if the arm is completely obscured by the body or by another object, it could be identified as hidden here.



When a limb is marked as hidden, it will appear as dashed in the main panel. An alternative method for toggling between the limb preceding the current joint being hidden and visible, is to press the 'h' key while the mouse is in the main panel.



Marking a limb as hidden means that it will have no further effect on the proceedings and means that there is no need to mark the curves of this limb in the next stage. Limbs should only be marked as hidden if they are completely invisible in the image. If any part is visible (e.g. the top half of the upper leg is in the image, but the lower half is cut off), then they should not be tagged as hidden.

3.3.3 Mark curves reference

The fourth stage of markup is to mark the curves of the body. This proceeds in the fixed order:

- right arm
- left arm
- torso
- right leg
- left leg

During the initial markup of the image, the curve is attached to the mouse cursor. Mark the first point by moving the mouse cursor to a position on the edge of the limb. The mouse cursor is constrained to stay within a small rectangle or triangle, so it should be clear which edge should be marked. The goal is to place this particular point on the edge of the limb. Don't worry about whether the entire curve lines up well at this stage -- this will happen naturally as you mark more points.

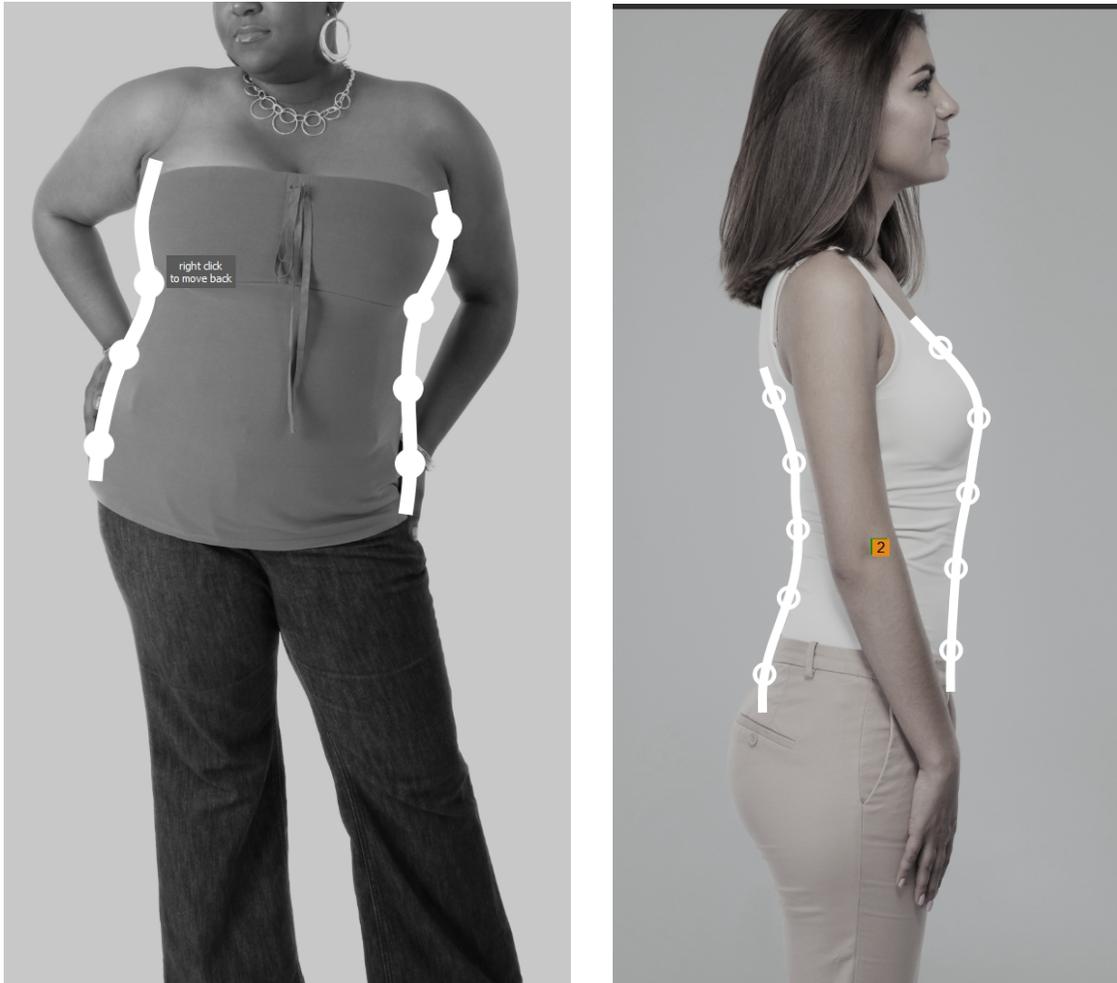
To fix the point, press the mouse button. The program will then fix that point and jump to the next position on the curve. When you have marked all of the points on the right arm, the software will scroll to the left arm and the process continues. Points that are on hidden limbs or outside the image are skipped automatically.

If you want to go back and change the position of the point you just marked, you can go back to the previous point by pressing backspace or right clicking.

When the user returns to edit curves that have already been marked up, all of the fixed points on a given part of the body are visible simultaneously. These points (and therefore by proxy the curves to which they are attached) can be moved by clicking and dragging them. It is possible to switch between curve sets by using the left and right arrow keys, clicking on the numbers in the image, or by clicking on the control in the right-hand panel.

Female Torsos

For the female torso, the curves should be marked around the breasts.



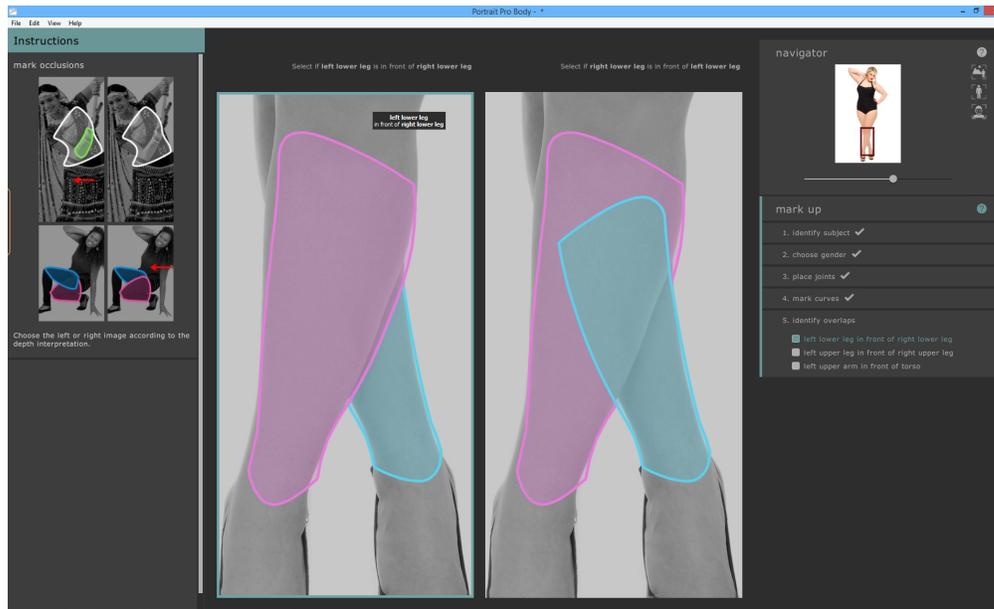
Special cases

Limb obscured	If the limb is hidden by another part of the body or object, then guess where the curves would be if they were not obscured.
Baggy clothes	If the limb is obscured by baggy clothing, then make your best guess as to where the body curves would be.

3.3.4 Identify overlaps reference

For some images, the marked bones and curves overlap one another and the software will quiz you to identify which limb is in front of which. For other images, where there is no ambiguity then this stage is skipped.

A typical case is presented like this:

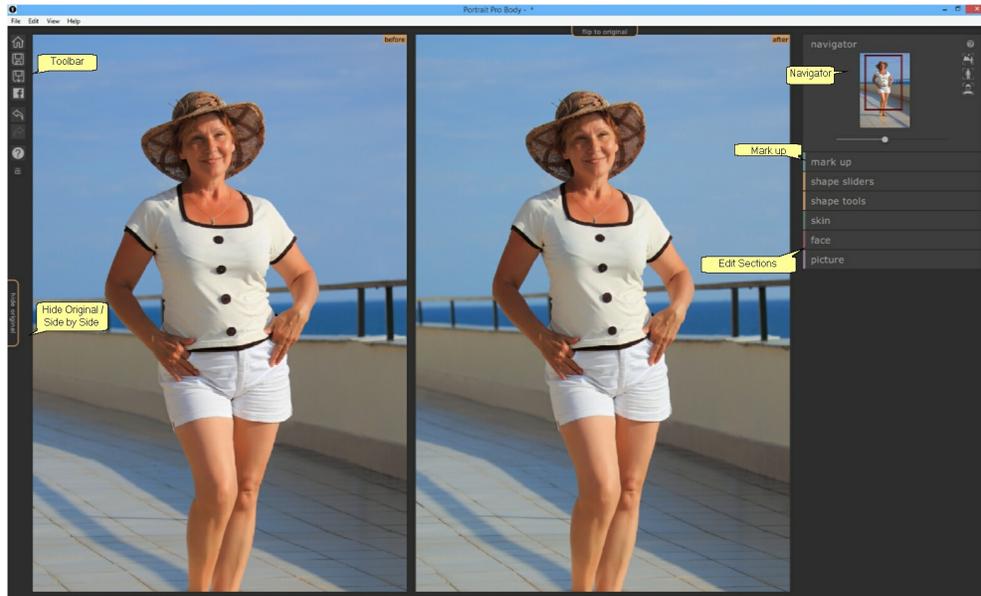


In this case the left-hand interpretation indicates that the left lower leg (pink) is in front of the right lower leg (blue). The right-hand interpretation indicates that the left lower leg is behind the right lower leg. For this image, it is clear that the left leg is in front of the right leg and so the left-hand interpretation is correct. To indicate this, simply click on the left-hand image and the software will move to the next overlap.

When the image has already been marked up but the user wants to edit the overlaps the user is presented only with the current interpretation for a particular ambiguity. To change the interpretation click on the image to toggle which body part is in front. To change which overlaps we are considering, select the comparison from the right-hand panel.

3.4 Editing the Image

This section describes the main controls available when you are editing an image.



Canvases

Enhanced Photo - Shows the enhanced ("After") image.

Original Photo - Shows the original ("Before") image (not always present).

To pan either canvas, hold CTRL and drag the canvas with the mouse. To zoom in and out, use the + and - keys.

Alternatively you can use the [navigator panel](#).^[64]

Viewing the enhanced image

The tab to the left of the images controls the layout of the working view.

- Click on the **Side by Side** tab to return to the side by side layout.
- Click on the **Hide Original** tab to have only the enhanced image shown.

Flipping between the enhanced and original image

Whichever layout you have, you can press the Enter key at any time to switch from the enhanced image view to show the original image. The original image is only shown while you hold down the Enter key.

This lets you flip between the enhanced and original image which is a great way to see the changes.

Alternatively, you can click and hold the mouse button down on the tab above the images that says **Flip To Original**. If you Shift-Click this tab, the system will smoothly animate between the original and enhanced images.

Toolbar

The toolbar contains buttons for:

- Home / Close -- close the current project and return to home screen
- Save Project -- save the current project
- Export Image -- save the edited image
- Share -- Post a before / after picture to Facebook
- Undo -- Undo the last change
- Redo -- Redo the last undone change
- Help -- Opens a context sensitive help that guides you around the screen

Navigator

The navigator in the top-right corner helps you move around the canvas. It provides controls for zooming to fit the image, zooming into the body, and zooming to the face of the current subject as well as controls for panning and zooming. More details can be found in the [navigator reference](#) ⁶⁴.

Markup

Clicking on the markup header returns to the markup section so that you can edit the body markup if you made a mistake. Note that all of your edits to the image will be lost if you choose this option.

Edit Sections

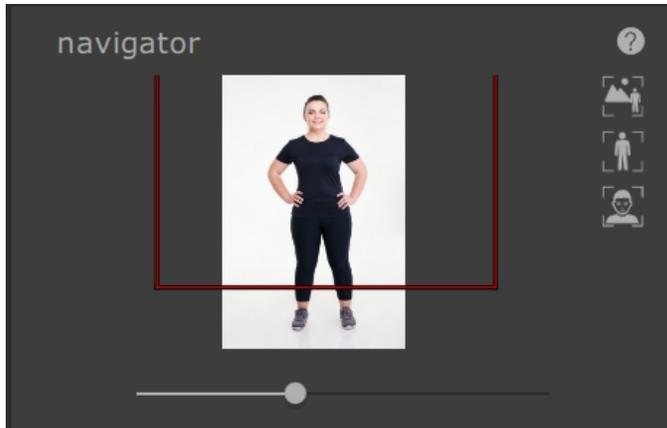
These are grouped into the following sections:

- Shape Sliders -- make large scale changes to the shape of the body by dragging sliders
- Shape Tools -- make finer scale changes to the body shape using brushes and tools
- Skin -- make changes to the skin texture and appearance
- Face -- make changes to the shape and appearance of the face
- Picture -- make global changes to aspects of the image such as brightness and contrast

3.4.1 Navigator

The navigator is in the top right corner of the markup and editing screens.

It lets you see what part of the whole image is visible in the working view. It also provides controls to let you zoom in and out, or pan the current view.



The Navigator contains the following controls:

Header bar	Lets you collapse the navigator to create extra space. Click again to expand the Zoom control.
Help button	The help button triggers the context sensitive help system which helps explain the controls in this section.
Zoom Slider	Lets you zoom in (slide to the right) or out (slide to the left).
"Fit to picture" Button	Zooms the view so that the whole image is visible.
"Fit to body" Button	Zooms the view so that the view is centered on the current body.
"Fit to face" Button	Zooms the view to the face.

The rectangle in the Zoom Control can be dragged to pan the view.

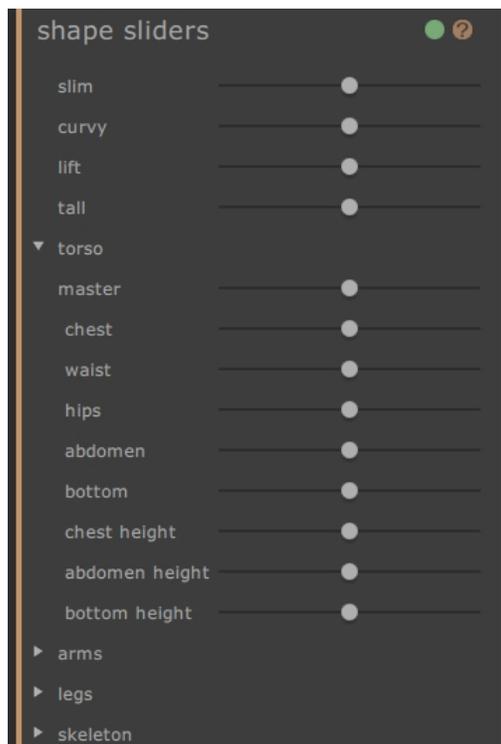
Keyboard Shortcuts

+	Zoom in
-	Zoom out
1	Zoom so that whole image is visible
2	Zoom so that body is visible
3	Zoom so that the face is visible

You can also pan the image by holding down CTRL and dragging the canvas with the mouse.

3.4.2 Shape sliders

The shape sliders allow you to make large changes to the shape of the subject.



The shape sliders section contains the following controls:

Header bar	Lets you collapse the shape slider section.
------------	---------------------------------------------

	Click again to expand the shape sliders control.
On/Off button	Lets you turn the shape changes on or off. To reset the shape changes, use this button to turn them off and then make new changes by moving the sliders. This button also turns on or off the shape tools section.
Help button	The help button triggers the help system which helps explain the controls in this section.
Sliders	Each slider allows you to change the shape in a different way. To move the slider, click on the handle and drag to the left or right. To reset the slider, double click on it. If a slider will have no effect then it will be grayed out and showed as inactive. The parts of the image affected by the slider can be previewed by clicking on its name.
Expand sliders button	Opens up a new section or subsection of sliders.
Collapse sliders button	Collapse a section or subsection of sliders.

Master Sliders

slim	Makes the body slimmer overall
curvy (women only)	Makes the waist smaller and the hips and chest larger
built (men only)	Widens the shoulders and narrows the waist
lift	Lifts the chest, abdomen and bottom
tall	Lengthens the limbs and torso

Torso Sliders

master	changes the size of the entire torso
chest	changes the size of the chest
waist	changes the size of the waist

hips	changes the width of the hips
abdomen	changes the size of the abdomen (same as waist slider if frontal view)
bottom	changes the size of the bottom (same as hips if frontal view)
chest height	Lifts the chest vertically
abdomen height	Lifts the abdomen vertically
bottom height	Lifts the bottom vertically

Arm Sliders

master	Changes the size of both arms
left	Changes the size of the left arm
left upper	Changes the size of the upper left arm
left lift	Lifts the region bellow the upper left arm
left lower	Changes the size of the lower left arm
left wrist	Changes the size of the left wrist
right	Changes the size of the right arm
right upper	Changes the size of the upper right arm
right lift	Lifts the region below the upper right arm
right lower	Changes the size of the lower right arm
right wrist	Changes the size of the right wrist

Leg Sliders

master	Changes the size of both legs
left	Changes the size of the left leg

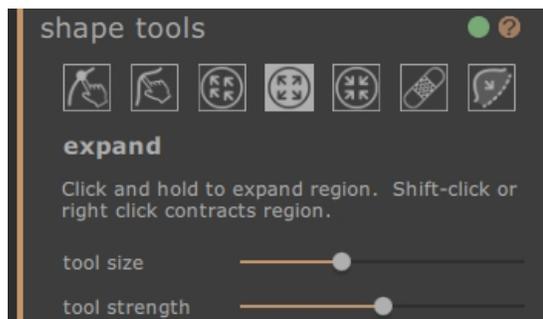
left upper	Changes the size of the left upper leg
left thigh	Changes the size of the upper part of the left upper leg
left knee	Changes the size of the left knee
left lower	Changes the size of the left lower leg
left ankle	Changes the size of the left ankle
right	Changes the size of the right leg
right upper	Changes the size of the right upper leg
right thigh	Changes the size of the upper part of the right upper leg
right knee	Changes the size of the right knee
right lower	Changes the size of the right lower leg
right ankle	Changes the size of the right ankle

Skeleton Sliders

neck length	Moves the head parallel to the torso
face position	Moves the head perpendicular to the torso
shoulder width	Widens the shoulders
left elbow	Moves the left elbow towards or away from the body (sometimes useful when slimming the torso to avoid a tear in the image)
right elbow	Moves the right elbow towards or away from the body (sometimes useful when slimming the torso to avoid a tear in the image)
hips angle	Changes the angle of the hips
torso length	Changes the length of the torso
hip height	Moves the hips up or down, and hence changes the ratio of the torso length to leg length
leg length	Increases the length of the legs

3.4.3 Shape tools

The shape tools section provides a number of tools for editing the shape of the person in the image by directly manipulating the image. In general these tools make finer scale changes to the image than is possible with the shape sliders.



The shape tools section contains the following controls:

Header bar	Allows you to collapse the shape tools section. Click again to expand the shape tools section.
On/Off button	Allows you to turn the shape changes on or off. To reset the shape changes, use this button to turn them off and then make new changes by using the tools. This also turns on or off the shape slider section.
Help button	The help button triggers the context sensitive help system which helps explain the controls in this section.
Tools	Each tool makes different types of changes to the body. Click on the slider icon to select it. Press the TAB button repeatedly to cycle through the tools.
Current tool	The current tool is highlighted and the name is shown below the tool icons. A brief description of the tool is also shown.
Tool sliders	For some tools, sliders will appear under the tool icons that control the size and strength of the tool. To reset the sliders, double click on them.

Keyboard Shortcuts

[Decrease tool size (where applicable)
]	Increase tool size (where applicable)
9	Decrease tool strength (where applicable)
0	Increase tool strength (where applicable)
Tab	Moves to next tool
Shift	When held switches to alternate tool -- edit body to edit body local and vice-versa, expand to contract and vice-versa, repeat to revert.

Edit body tool

When this tool is selected, and the mouse is moved over the image, the curves on the edge of the body and will be highlighted. You can use this tool to pick up the curves and move them. The program knows about the statistics of human body shape and so tries to find a solution that is compatible with the current mouse position but also sensible. So, for example, if you move the left-hand side of the torso in then the right-hand side of the torso will also move in. Once a point has been moved, it is fixed unless another point is placed nearby.

When the move curves tool is selected, it is also possible to move the skeleton joints, which are represented as colored dots at the joint positions. To move the joints simply drag them to a new position.

Edit body local tool

The local curve tool allows you to make fine scale local changes to the curve. To move a curve, simply click on it and move the mouse to drag it to a new position. Only curve positions very close to the mouse will be affected. When this tool is selected, a slider will appear that controls the size of the region over which the local change is affected.

Drag tool

The drag tool can be used anywhere in the image -- it is used to locally deform the shape of the image by clicking and dragging the mouse. A circle surrounding the cursor allows you to visualize the area which will be dragged. When this tool is selected, sliders appear on the right-hand panel that control both the area over which the change is made and the strength of the change.

Expand tool

The expand tool can also be used anywhere in the image and causes a local expansion or dilation within the circular cursor region when the mouse is held down. When this tool is selected, sliders appear on the right-hand panel that control both the size of the cursor and the strength of the effect.

Contract tool

The contract tool can also be used anywhere in the image and causes a local contraction or shrinking within the circular cursor region when the mouse is held down. When this tool is selected, sliders appear on the right-hand panel that control both the size of the cursor and the strength of the effect.

Repair / revert tools

The repair tool fixes problems with the shape of the image by making the shape changes locally smooth within the circular window. Occasionally, movement of the sliders, or use of the other shape tools will cause tears, discontinuities, or unrealistic shape changes. Applying the repair tool by holding the mouse down over the desired area, will gradually fix these problems. When this tool is selected, sliders appear on the right-hand panel that control both the size of the cursor and the strength of the effect.

If the SHIFT button is held down, the repair tool switches to the revert tool. This has the effect of locally restoring the shape of the image to its original state. As well as meaning that the shape changes are locally smooth, it also returns objects to their original position.

Fix bulges / pinches tool

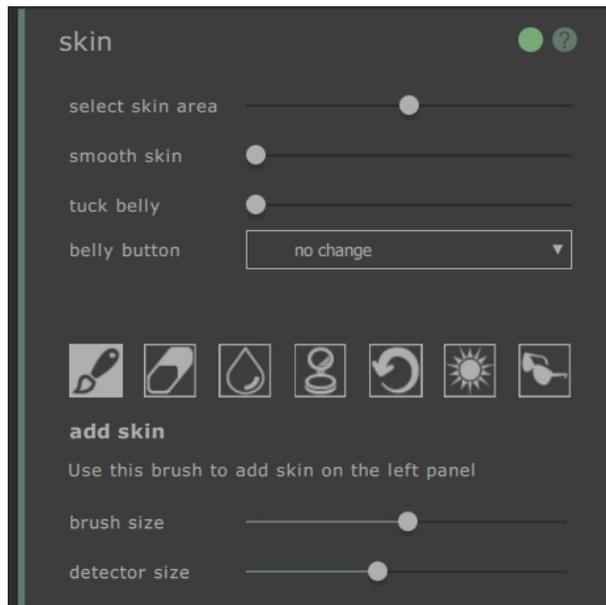
The fix bulges / pinches tool is a very specific tool for sorting out problems in the shape that are at a finer scale than the curve tools can deal with. Typically, it would be used to reduce bulges at the hips, or creases due to fat or a tight bikini strap. To operate the tool, move the cursor over one of the existing curves. The region under consideration is blown up and the shape is visualized before and after the change. Pressing and holding the mouse button causes the shape change to be made. Essentially, the local shape of the contour in the image is estimated and warped towards the smoother (but usually more desirable) curves that were drawn in the markup change.

3.4.4 Skin tools

The skin tools section provides a number of tools for editing the skin of the person in the image and tighten the stomach region by either moving sliders, or by directly manipulating the image. This only applies to the body -- to manipulate skin on the face, use the face section.

The skin section allows you to manipulate the skin texture and tighten the stomach region. This only applies to the body -- to manipulate skin on the face, use the face section.

Markup canvas



The skin section contains the following controls:

Header bar	<p>Click to select the skin section.</p> <p>Lets you collapse the skin section.</p> <p>Click again to expand the skin section.</p>
On/Off button	<p>Lets you turn the skin changes on or off.</p> <p>To reset the skin changes, use this button to turn them off and then make new changes by using the controls.</p> <p>This also turns on or off the skin slider section.</p>
Help button	<p>The help button triggers the context sensitive help system which helps explain the controls in this section.</p>
Select skin area	<p>Moving this slider increases or decreases the amount of skin selected on the markup canvas.</p>
Smooth skin	<p>This slider smooths the region of skin selected on the markup canvas.</p>
Tummy Tuck	<p>This slider replaces the stomach region with a more toned version.</p>
Belly Button	<p>The Belly Button drop down menu allows the replacement of the current Belly Button with various different options. The position of the new Belly Button can be manipulated by a control on the markup canvas.</p>

Skin Tools

Below the skin sliders are a set of tools for selecting and editing the skin.

Tools	<p>Each tool makes different types of changes to the skin.</p> <p>Click on the slider icon to select it.</p> <p>Press the TAB button repeatedly to cycle through the tools.</p>
Current tool	<p>The current tool is highlighted and the name is shown below the tool icons.</p> <p>A brief description of the tool is also shown.</p>
Tool sliders	<p>For some tools, sliders will appear under the tool icons that control the size and strength of the tool.</p> <p>To reset the sliders, double click on them.</p>

The tools are as follows:

add skin	<p>When this tool is selected, and the mouse is moved over the left image, a cursor consisting of two concentric circles appears. When you paint on the canvas, skin is selected by finding any areas in the larger circle that match the colors in the smaller circle. A preview of the area that will be selected is updated directly. When this tool is selected two sliders appear underneath, that control the size of the concentric circles. Holding shift while this tool is selected switches to the remove skin tool.</p>
remove skin	<p>This tool has the opposite effect of the add skin tool -- instead of adding to the selected skin region, it decreases the selected skin region. As with the add skin tool, two sliders appear under the tool which control the concentric circles in the cursor. Holding shift while this tool is selected switches to the add skin tool.</p>
smooth skin	<p>The smooth skin tool allows you to locally smooth an area in the image. It is applied by clicking and dragging directly on the right-hand image. The size of the area over which the effect is applied and the strength of the effect are controlled by two sliders which appear when this tool is selected. The tool will work even on regions which have not been selected as skin, and the region you smooth will be added to the skin mask.</p>
remove blemishes	<p>The remove blemishes tool is used to remove spots, moles, tattoos and other local features on the skin. It makes an estimation from the edge of the circular cursor. The size of the region and the strength of effect can be adjusted using sliders that appears under the tool when it is selected.</p>
restore	<p>The restore tool reverts the skin in the circular cursor back to the original state. The size of the affected region and the strength of effect can be adjusted using sliders that appear under the tool when it is selected.</p>
brighten skin	<p>The lighten tool locally brightens the image when the user clicks on the right-hand canvas. This could be used to decrease shadows which might make a region look</p>

	flatter. The size of the affected region and the strength of effect can be adjusted using sliders that appear under the tool when it is selected.
darken skin	The darken tool locally darkens the image when the user clicks on the right-hand canvas. The size of the affected region and the strength of effect can be adjusted using sliders that appear under the tool when it is selected.

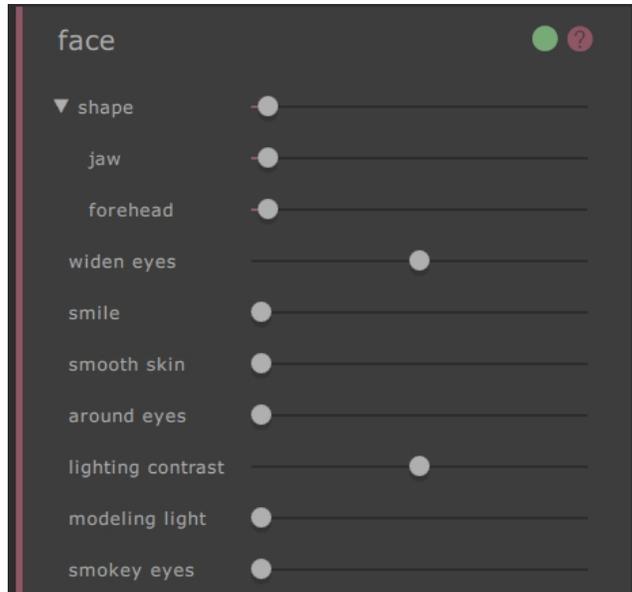
[Keyboard Shortcuts](#)

[Decrease tool size (where applicable)
]	Increase tool size (where applicable)
9	Decrease tool strength (where applicable)
0	Increase tool strength (where applicable)
Tab	Moves to next tool
Shift	When held switches to alternate tool -- edit skin to remove skin and vice-versa, brighten to darken and vice-versa

3.4.5 Face tools

The face section is used to make changes to the subject's face. When you click on this section, the view will zoom into the face region and a second markup canvas opens on the left-hand side.

Markup canvas



The skin section contains the following controls:

Header bar	<p>Click the face section.</p> <p>Lets you collapse the face section.</p> <p>Click again to expand the face section.</p>
------------	--------------------------------------------------------------------------------------------------------------------------

On/Off button	<p>Lets you turn the face changes on or off.</p> <p>To reset the face changes, use this button to turn them off and then make new changes using the controls to begin again.</p>
Help button	<p>The help button triggers the context sensitive help system which helps explain the controls in this section.</p>
Sliders	<p>Each slider allows you to change the face in a different way.</p> <p>To move the slider, click on the handle and drag to the left or right.</p> <p>To reset the slider, double click on it.</p>
Expand sliders button	<p>Opens up a new section or subsection of sliders.</p>
Collapse sliders button	<p>Collapse a section or subsection of sliders.</p>

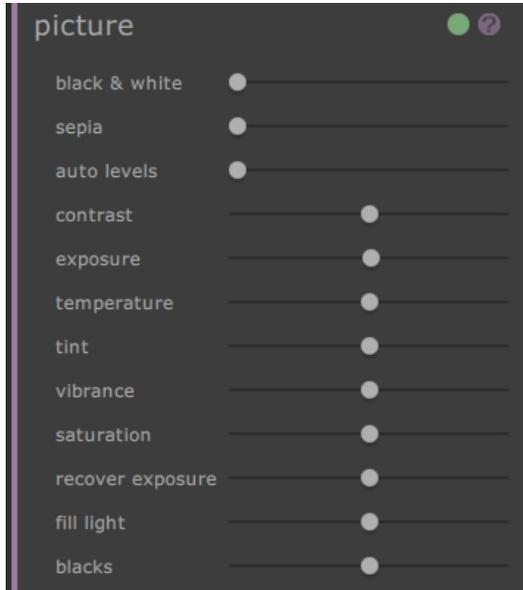
Controls

Shape	This slider makes overall changes to the shape of the face.
Jaw	This slider makes changes to the jaw shape.
Forehead	This slider makes changes to the forehead shape.
Widen eyes	The widen eyes slider increases the size of the eyes.
Smile	The smile slider makes small changes at the corners of the mouth to increase the degree to which the person is smiling.
Smooth Skin	The smooth skin slider smooths the skin over the entire face.
Around Eyes	This slider smooths the skin around the eyes of the subject to remove bags and wrinkles.
Lighting Contrast	The lighting contrast slider changes the lighting contrast.
Modeling Light	Relights in a way that makes the subject more attractive.
Smokey Eyes	Subtle smokey eyes.

Note that the companion product [PortraitPro](#) is specialized to making face changes and contains many more controls for changing the shape and appearance of facial portrait photos.

3.4.6 Picture tools

These controls affect the whole image and allow you to adjust the overall look of the picture, controlling things like the contrast and color temperature.



The picture section contains the following controls:

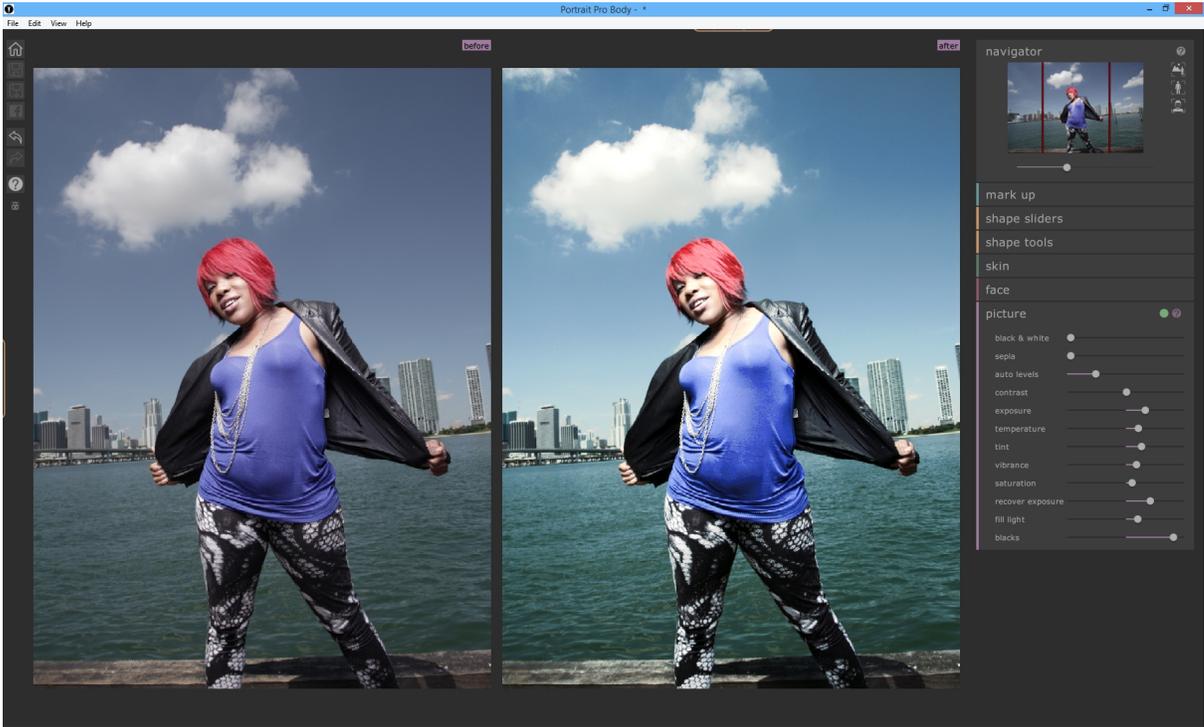
Header bar	<p>Click the picture section.</p> <p>Lets you collapse the picture section.</p> <p>Click again to expand the picture section.</p>
On/Off button	<p>Lets you turn the picture changes on or off.</p> <p>To reset the picture changes, use this button to turn them off and then make new changes using the controls to begin again.</p>
Help button	<p>The help button triggers the context sensitive help system which helps explain the controls in this section.</p>
Sliders	<p>Each slider allows you to change the picture in a different way.</p> <p>To move the slider, click on the handle and drag to the left or right.</p> <p>To reset the slider, double click on it.</p>

Sliders

Black and White	Takes the picture from color to Black and White and anywhere in between.
Sepia	Takes the picture from color to Sepia and anywhere in between.

Auto Levels	Automatically sets the levels so that the darkest thing in the picture is black and the brightest thing is white.
Contrast	Increases or decreases the contrast of the whole image in such a way so as to bring out the detail but leave the average brightness and color of the image unchanged.
Exposure	Adjusts the overall exposure (brightness) of the whole image.
Temperature	Adjusts the color of the whole image to remove any temperature (red-blue) color cast.
Tint	Adjusts the color of the whole image to remove any tint (green-purple) color cast.
Vibrance	Adjusts the overall vibrance of the whole image. Increasing the vibrance will make the colors in the picture more intense. Decreasing the vibrance will make the colors less intense (more gray).
Saturation	Adjusts the overall color saturation (color intensity) of the whole image. Vibrance and Saturation are similar effects, the difference is that vibrance has less effect than saturation on colors that are less intense. Neither slider affects areas that are black, white or gray.
Recover exposure	If part of a picture is very over exposed, it will recover some of the detail in the over exposed areas.
Fill light	Fills the shadows with light.
Blacks	Makes the blacks blacker.

Example



3.5 Plug-in Installation Guide

Studio Edition Only

[Installing the PortraitPro Body Photoshop Plug-in](#)

In the Studio editions of PortraitPro Body, you have the option to use PortraitPro Body as a [plug-in](#)¹⁷¹ from Photoshop and other compatible photo editing suites.

This option is available to install on the Installation Complete screen of the Studio editions.

To begin the plug-in installation, click **Finish** on the Installation Complete screen with the **Launch Photoshop Plug-in Installer** check-box checked.

The installer will be signed by Anthropics Technology Ltd. Select **Continue** to progress to the installer.

The language select screen will appear. Select your language and click **OK** to continue.

The Welcome Screen will appear, click **Next >** to move onto the next screen.

The **Select Install Location** screen lets you select the programs you want the plug-in to be installed into. The installer will automatically detect installed software that is compatible with the plug-in and display it. Check the detected software boxes to install the plug-in for that program. You can also manually select the installation path by checking the **Choose Install Path Manually** box, which will allow you to install the plug-in to a specific folder. Once you have selected the options you require, click **Next >** to progress to the next screen.

If you selected **Choose Install Path Manually** in the **Select Install Location** screen, you will be taken to the **Plug-in Destination Folder** screen. You will be able to select the folder of any supported program that the plug-in has not automatically detected. Click **Browse** and select the plug-in folder of the program that you would like the PortraitPro plug-in installed to. Then click **Next >**.

On this screen you are prompted to select the version of the plug-in you want to be installed. The version should match the program you are installing the plug-in into. For 32-bit applications, select the 32-bit plug-in and the 64-bit plug-in for 64-bit applications. When you have made your selection, click **Next >**.

Clicking **Install** on this screen will install the PortraitPro Body plug-in into the chosen programs.

If you install Photoshop after PortraitPro Body and wish to add the Plug-in, you can run the Photoshop Plug-in Installer for PortraitPro Body, which will be either directly available from the Start Menu, or can be found by choosing Windows Q and searching for it. Alternatively, you can manually run the executable which is usually found at C:\Program Files\PortraitProBody\PhotoshopPluginInstaller.exe.

[Re-installing plug-ins](#)

If you did not install the plug-ins when PortraitPro Body was installed, perhaps because you did not have the other application already installed at that time, you can install the plug-in later.

To do this, run the installer for PortraitPro Body again.

[Troubleshooting](#)

If the PortraitPro Body plug-in does not appear in Photoshop (or other compatible application), it may not have installed correctly. This can be caused by the plug-in being installed into the wrong folder.

To fix this, you need to find the correct folder for the plug-in to be installed into. Usually, the plug-in install location is "C:\Program Files\<APPLICATION-NAME>\Plug-ins" for example, "**C:\Program Files\Adobe Photoshop CS5\Plug-ins**".

3.6 Third Party Credits

PortraitPro Body uses a number of third-party libraries, which are acknowledged here. We offer our thanks to the authors for providing these valuable resources.

[dcraw](#)

RAW image reading is provided by [dcraw](#).

Copyright 1997-2012 by Dave Coffin, dcoffin a cybercom o net

[tiffib](#)

TIFF image reading and writing is provided by [libtiff](#).

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[jpeglib](#)

JPEG image reading and writing is provided by [jpeglib](#).

This software is based in part on the work of the Independent JPEG Group.

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[pnglib](#)

PNG image reading and writing is provided by [pnglib](#).

[zlib](#)

Zlib compression support is provided by [zlib](#).

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[Adobe DNG SDK](#)

DNG reading is provided by the Adobe DNG SDK.

Lossless JPEG code adapted from:

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Adobe XMP SDK

The Adobe XMP SDK is used by the Adobe DNG SDK

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lcms library

ICC color profile handling is provided by [lcms](#).

Little CMS

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OpenCV

Automatic feature finding makes use of the [OpenCV](#) library.

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Machine Learning Framework

A machine learning framework is provided by Darwin.

DARWIN: A FRAMEWORK FOR MACHINE LEARNING RESEARCH AND DEVELOPMENT

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Boost

General classes are provided by [boost](#).

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Delaunay Triangulation

A Delaunay triangulation function is provided by Ken Clarkson, AT&T.

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PURPOSE .

3.7 Supported File Types

PortraitPro Body can read and write the following types of files:

Type	Extension	Description
JPEG	.jpg; .jpeg	Image file type that uses lossy compression
TIFF	.tif; .tiff	Image file type that is uncompressed or uses loss-less compression Note: TIFF files containing images that have 16 bits per color sample (48 bits per pixel) are only supported in the Studio edition.
PNG	.png	Image file that uses loss-less compression
PRB	.prb	Proprietary file type used by PortraitPro Body to store a session

Studio Edition

In addition, PortraitPro Body Studio supports reading the following camera RAW files:

Manufacturer	Type
Adobe	.dng
ARRI	.ari
Canon	.crw; .cr2
Epson	.erf
Fuji	.raf
Imacon	.fff
Kodak	.tif; .kdc; .dcr
Mamiya	.mef; .mos
Minolta	.mrw
Nikon	.nef
Olympus	.orf

Panasonic	.raw; .rw2
Pentax	.ptx; .pef
Phase One	.tif; .iiq
Red	.r3d
QuickTake	.qtk
Sigma	.x3f
Sony	.arw; .srf; .sr2

3.8 Keyboard Shortcuts

PortraitPro Body provides the following keyboard shortcuts at the various stages of the application.

Menu Commands

CTRL+O	File > Open command
CTRL+S	File > Save Project command
CTRL+W	File > Close command
CTRL+I	File > Export image command
CTRL+Z	Edit > Undo command
CTRL+Y	Edit > Redo command
CTRL+A	Edit > Animate command

Start Screen

CTRL+O	Brings up File Open dialog to let you select the file to open
--------	---------------------------------------------------------------

All modes

+	Zoom in
-	Zoom out
CTRL	Temporarily move to panning mode
1	Zoom to image
2	Zoom to body
3	Zoom to face

Editing modes

RETURN	Flip to original when held
ENTER	Flip to original when held
TAB	Move to next brush
[Make brush smaller
]	Make brush larger
9	Make brush strength smaller
0	Make brush strength larger
SHIFT	Temporarily switch to alternate tool

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