MEDIACHANCE

Dynamic Auto-Painter

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1   Introduction

Dynamic Auto-Painter (DAP) is a new breed of automatic painter. Just load a photo and DAP will use it to paint image in very short time using one of the many Impressionistic styles. Sounds simple?

What is so interesting about this auto-painter?
Creating painting from photo is not an easy task if we want the result to look like actual painting at any resolution.
A normal software or filter will somehow try to create the feel of a brush strokes on the image, which may resemble a painting from up-close, but when you look at it from normal distance or placed on a web page, it mostly looks like a heavy processed photo.

This is because it doesn't matter if the pixels are smeared with a brush-like texture, they still have the same "photo" feel.

Dynamic Auto-Painter takes an different approach. First, it doesn't re-arrange or process the actual photo pixels at all. Neither it does use filters on the photo itself to create the "feel" of a painting.
The photo is just like a scene in front of a painter. Dynamic Auto-Painter will then paint the image using the photo as a guide while reducing the scene complexity and removing the unimportant details.

The unique property of Dynamic Auto Painter is that a "brush" can be in fact anything: from impressionist paint strokes to pictures of vegetables which then allows you to create completely new art forms. (Well not completely new in this case, Giuseppe Arcimboldo had already done the vegetables and fruits nearly 500 years ago)

It doesn't just stop there, Dynamic Auto Painter can be used with a custom templates 26 allowing you to create your own unique paint style.

2 Where to use it

DAP can be used in designers work flow for many purposes.

- change a photography into a painting
- use it to spice up 3D rendering, sketch or CAD output
- re-process an existing painting into a brand new style

In addition, thanks to the unique way DAP works, we get new benefits:

- we don't have to worry about the input image resolution, DAP can work its way even from thumbnails. A web sized images are perfectly good source.
- the result will looks like a painting even if resized down to a thumbnail size
- it doesn't use the image pixels, so noise or any other digital image phenomenon doesn't play role
- we can process images that would otherwise be a lost cases - extremely noisy images, small resolutions from old camera or video captures etc...

3 Quick Start

The first introduction to the DAP can be a very quick affair:
- Load Photo
- Select Preset
- Click Start
- Watch it to paint

Before you start however here are very few tips:

Good photo is a perfect start
Don't expect that an uninspiring photo will turn out into a great painting. As a painter looks for a good scene so should you with your digital camera.

Patience
Be patient, the image starts to be painted with large brushes progressing towards finer details.
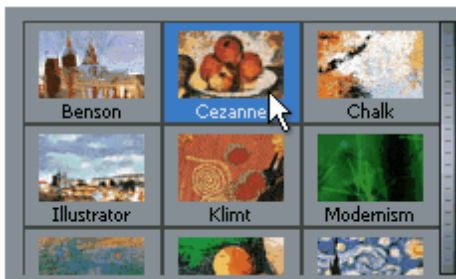
Simple Steps:

Load Photo
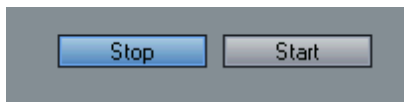You can use the build in browser or simply use the menu File-Open Image.

Show Image Browser

Select Preset
Click on one of the Presets:

To start the painting
Press the Start Button

What to change
Presets are made of various settings. It is of course not necessary to start adjusting them all.
But few things are good to know for the quick start:

POI
Point of interests. The Painter will paint all over the canvas by itself, placing more and more details.
However if you want to have it focus on particular area, just click on it with mouse during painting and
hold the mouse buttons for while.

Extend the time of Painting
The Preset has set its default number of strokes which is set very conservatively. If your painting is still
in need of more details you can simply extend the time by clicking the **Continuous** check box. You can
do this even during painting.
This way the painting will not stop by itself, it will continue forever placing smaller and smaller details.
You can then stop it by clicking Stop button when enough details are set.

Some paintings require many thousands of strokes if they have lot's of details.

Tip: For quick extension of the time, it is better to use the Continuous setting than changing the number
of Strokes. The number of strokes is used by the preset and with other settings it specify for example
the time ratio for using large and detail brushes etc. Changing number of strokes may also change the
character of painting style.

3.1   Image Browser

 Image Browser
This is used to load the image into Dynamic Auto Painter
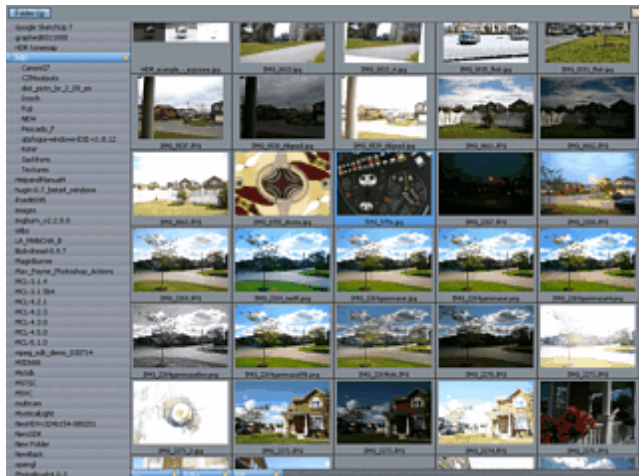
You can scroll the browser by clicking anywhere on it and dragging the mouse. This is a great time-saver especially if you use tablet and pen.
To open image, double click on it.

Add to Favorites
You can add a folder into favorites by clicking on its star.

It will be added to the bottom of the screen.

Remove from Favorites
Click on the Favorite star on the bottom of the screen to remove the folder from Favorites.

3.2   Painter Preset

On the top of the window you can see the painters templates (presets).

This preset window can be scrolled by clicking anywhere inside and dragging the mouse up or down.
(This is a great way if you use tablet and pen)
When you click on a preset its data will be loaded to the sliders and edit boxes below.

Here is description of the meanings:

Palette

Palette Sets the character of the painting same way as a painter would favor some of the tubes of paint more than another. The palette is described in more details later.

Expressive/Realistic color mixing
This setting further adjust the Expressiveness or Realism of the color palette. An Expressive settings will mostly work with colors straight "from the tube" as typical in impressionistic an expressionistic work. Realism setting will first mix the palette colors to obtain more subtle shades as used in realism or classicism.
Settings this control more towards Expressive side will therefore give much stronger feel of the result being a painting and as such could be recognized even on thumbnail size. This usually works best for landscapes and such.
Adding realism to the palette on the other hand will also add a realism to the output image which may lead the image to retain certain photographic feel especially when resized down. This is usually good for portraits or other images where we desire higher amount of color shades.
You can change this setting during painting.

Dry/Wet color
This settings set the color physical properties. Dry or solid color will clearly place the brush stroke on the canvas. Wet color will partially blend the brush stroke with the previous colors.

Brush Strokes
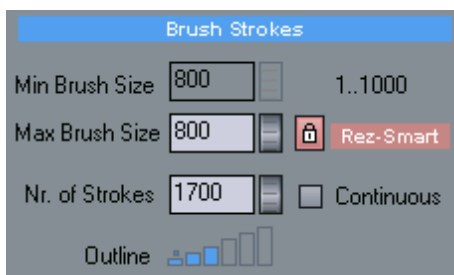
Min/Max brush size - this determines the size variation of the brushes used. A large variation is possible for smooth brushes, but it may create graining with heavy paint templates.

Lock Button - locks the ratio of min/max so it can be all controlled by one slider.
Rez-Smart flag - this shows when Rez-Smart template is used. Rez-Smart template uses different brushes for underpaint and for detail.

Nr. Of Strokes - number of strokes for the template. The time of using detail brushes is also derived from this setting. If you increase number of strokes then also number of large strokes will be increased - which may not be the desired effect. It is easier to use the Continuous button when the painting will

continue until you press Stop.

Continuous - Set Continuous mode where the painting run for the number of strokes, but then it doesn't stop and continue with the last set of brushes until you press stop. Some paintings require longer time to bring out all the details and this is the best way to do it.

Note: More details the input image has the longer it takes to paint them.

Outline - the detail brushes will follow outline of the objects - this sets the strength of it. Some styles do benefit from this and it is usually set by the preset.

Outline Sketch - In the extreme value of Outline (the larger rectangle highlighted red) the detail brushes will start partially removing the features painted with larger brushes, producing a sketch-like image. (Different presets behave differently, but try it on Cezanne preset)

Canvas
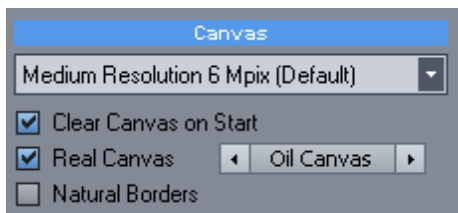
Resolution selection - the resolution of the output canvas. Note that higher resolution also means the brush strokes will be smaller and it will take longer time to achieve full painting. Higher resolution is good for printing on speciality paper.

Clear canvas - this will clear canvas each time you press start. If unchecked you can actually do multiple over paintings with different values or even different preset..
Real Canvas - the image will be painted on a real-like canvas. You can choose from two - oil canvas and watercolor paper. The presets will usually select the best canvas.
Natural Borders - some styles, like watercolor or illustration are normally presented on a paper with visible paper borders, unlike an oil painting where the edges are hidden under the frame. This often emphasize the illustration qualities of the image. The size of the borders can be adjusted in the Advanced settings tab.

**Image with Natural Borders OFF and ON**

Dynamic Painter
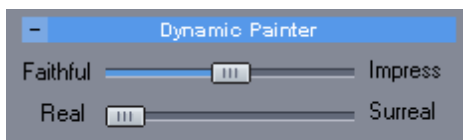
Faithful/Impress - The slider moved towards Impress will add more Impressionistic effect (various variations of colors) and in faithful will try to mimic the photo closely. Best is in the middle.

Real/Surreal - The slider determines a reality of the forms on the painting. When in Real (left) position the shapes (like a flower for example) will remain same shape as on photo, when in Surreal position the shapes of objects will get surreal skewed forms.
This is best to use with styles and subjects that natively work well with surrealism, for example a sunflower with VanGogh style would benefit form surreal setting as it will emphasize the VanGogh style by breaking the symmetrical shapes of the original flower.
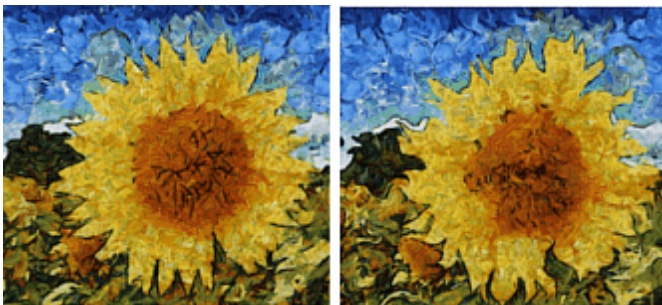
Use it sparsely on scenes from nature, like trees, flowers etc. Using it on man made objects like buildings etc will give you back an image that would be more suitable for surrealism. On portraits this may lead to caricature.

Detail and Quality
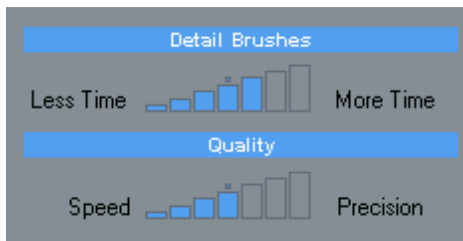
Detail Brushes Time - The time painter will paint with detail brushes. Also differs between Rez-Smart and normal templates.
With Rez-Smart this sets how long the detail brush will be used (from the number of strokes). In its extreme settings only the large or only the small brushes will be used.

For non Rez-smart brushes this determines the level of detail brush division.

Quality:
Sets the speed vs. precission. With higher quality the painter will try to position the brush stroke as precisely as it can. Lower quality also dramatically increase the speed. Some styles do not suffer from reduced quality at all.

3.3   Palette

Palette Sets the character of the painting same way as a painter would favor some of the tubes of paint more than another.
Note: An experienced painter doesn't buy whole spectrum of color tubes, he usually handpick his favorite set and use it over and over

All templates have its default palette that more closely follows each of the real painter style. There could be additional palettes that enhance each of the style for different type of source images.

Impression/Impression+
A special case is Impression and Impression+ palette that can supply almost any color if needed and they can simulate palette of pre-defined paintings.
A good way to use this palette is to apply it on a well lit or quality images.
Impression palette will enhance the definition of hues but will keep the brush stroke intensity
Impression+ palette will enhance the hues and suppress the own brush stroke intensity
Grayscale palette will paint in grayscale - good for simulation of pen techniques.

Color Impressions
A part of Impression/Impression+ palette, but it can also be used with any other palette by clicking on the arrow next to the palette selector.
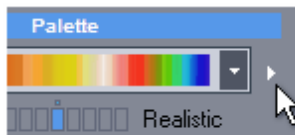

The Color Impressions will extract palette from any predefined painting or from any user loaded painting.

Simply click on any predefined painting or to remove the Color Impression, click on the first image. The new palette will be used from the selected impression (painting) and it will change the way the result feels.

To add (load from disk) or remove color impression from the table, use the Tools menu.
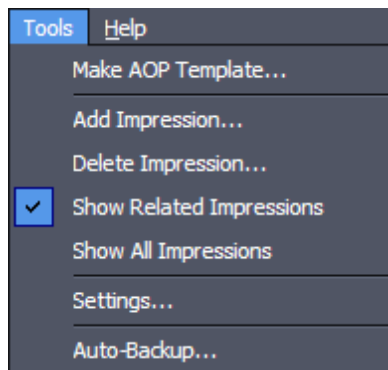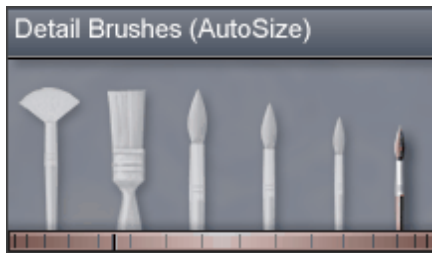

Add Impression - load a painting from the disk to add it to the style related impressions
Delete Impression - delete selected impression
Show Related Impressions - show impressions (paintings) related to this style (or impressions that were added to this style)
Show All Impressions - show all impressions (paintings) regardless of the style.
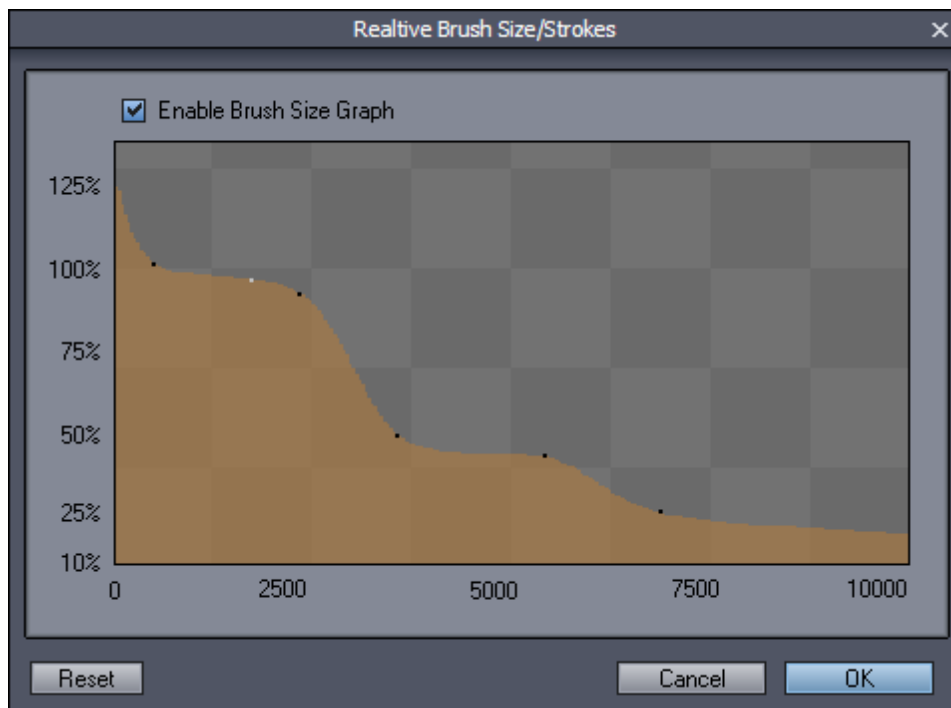
3.4   **AutoSize**

AutoSize settings is a special option that automatically changes the brush size in real time according to a time graph. To access AutoSize, click the Graph button.
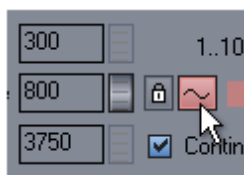
AutoSize can refine the way brushes are selected over time from larger brushes to detailed fine brushes. the scale of the graph is from 0 to 10000 brush strokes.


When the process use autosize, moving the brush size dial manually will cancel the autosize. The dial will change color to gray and the Graph button will switch from red to gray as well.
After the cancel you can start it again by clicking on the AutoSize graph button.

Some presets may have set autosize by default with the corresponding graph.

Note: To remove point from the graph - right click on the point.

3.5 Advanced
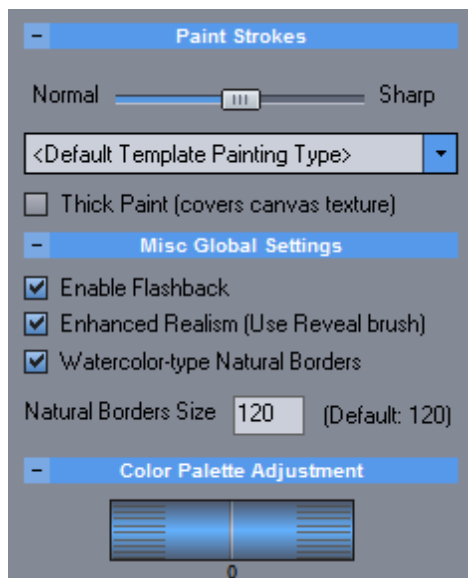
Here are some advanced settings that usually don't need to be adjusted very often.

Sharpness - sharpness of the brush strokes
Painting Type override - override the type of painting as set in the template. This allows to experiment with various types without changing the templates.
Thick Paint - this indicate that the paint will eventually naturally covers the texture of the canvas at various places where there is more of the paint applied. This has very subtle effect, visible only on close inspection of the full size image but helps further to get the feel of real painted media (for oils or heavy paints)

Enable Flashback - Enables Flashback feature.

Enhanced Realism - Uses Dry Reveal Cycle. Disabling it will work with the styles like DAP 1.0

Watercolor type borders
Checked, the natural borders are wide one as typical for watercolor on paper. If unchecked, the natural borders are very thin as typical for oil on canvas. Valid only if Natural Borders on main setting is checked.
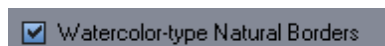
Natural Border Size - the setting for the Natural Border (in pixels).

Color Palette Adjustment
This is a setting to fine-tune the palette and the color feel of the image.
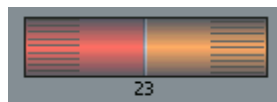
The meaning of this control is to partially shift the colors in the spectrum. For example we want shift the colors so the red colors will transform into more orange - we will dial the red color in left and the desired color on right.

This is used for adjusting a shade of color not completely replacing the colors. Dialing blue color in left and red in right will not make the sky red, it will only replace one "tube" of color with another and the sky will be still painted with the closest color to its original.

3.6   Manual Assist

POI
Point of Interest
The Painter paints all around the canvas adding more and more details everywhere. You may however want it to focus onto a certain part image more than others (for example central object vs background)
Simply click on the canvas where you want more focus hold button for while and move the mouse around the area.
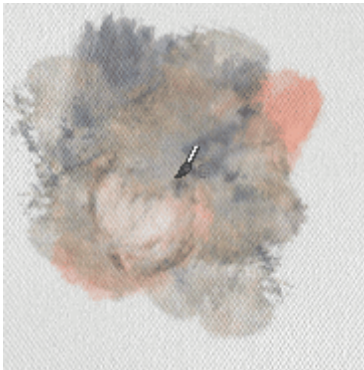

Dry Reveal Assist
During the Dry Reveal cycle you can also assist the painting as with POI where the image under cursor will get more clarity.

Dynamic Brush size
When Painter is running you can dynamically change the relative size of the brushes.

The brush window will display what size of brush the painter is currently using. (Only when painter is running)
The first four brushes are for underpainting and large areas, the last two are for details.
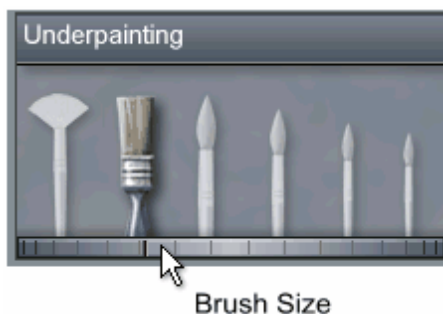
By default the painter changes the size of brushes in the range set by the Min Brush Size and Max

Brush Size. However you can dynamically change it during painting with either the scroll near the Max Brush size or quickly with a dial under the Brush display.

There is special settings that use automatic movement of this control called AutoSize 11.

Tip: A good strategy is to set the Continuous mode and when painter starts using detail brushes use POI to guide it to important areas. When there is still more details needed, use the dial to move the mark about one brush space right (toward smaller brushes) which will decrease the relative size of the brush.

3.7 Pause and Changing Style

Pause

You can pause the painting process by Right-clicking on the image or from the toolbar. While in pause you can still paint by using POI left mouse clicks. This is a great way if you need to add a very special detail without disturbing the rest of the image.

To continue, press the Right mouse button again.

Dry Reveal strength:

During the Dry Reveal cycle you can set up the strength of Dry Reveal brush from the pause when you right click on the image and then move the strength bars under the image.

Change Style during Pause (when not in Dry Reveal cycle)

Some of the settings that were disabled during painting will be enabled during pause. Most importantly you can now change the Style. This will allow you to mix various styles during painting. Please refer also to the Flashback for more tips.

Please note, that some settings will be kept from the master Style, even if they appear to change when selecting new Style (such as Canvas type). Also some simple styles that do not rely on brushes, such as Realism may not have the same effect as if used as master Style (the style you choose during Stop)

Changing Canvas during pause

You may decide to change canvas style during the pause, imprint the texture to image or completely remove the canvas texture.

This is done by changing the real Canvas setting during pause. Please note, the look of switching ON canvas during painting may differ from the look of canvas that has been selected from start.

Imprint texture.

if you Switch OFF the Real Canvas during Pause and then continue painting you will be present with a choice. You may either remove the currently used canvas texture from painting which will make the whole image look flat or Imprint the texture to the painting and continue to paint with flat colors. (As if the new thicker paint covers the canvas texture). Imprinting canvas texture will allow you to mix another texture later (during pause or painting without Clear canvas on Start) and it is different than normal process of painting with a canvas. Imprinting may also change the look of the painting.

3.8 Dynamic Brush Size

Dynamic Brush Size is a detail refinement process during the painting using the Brush size dial.
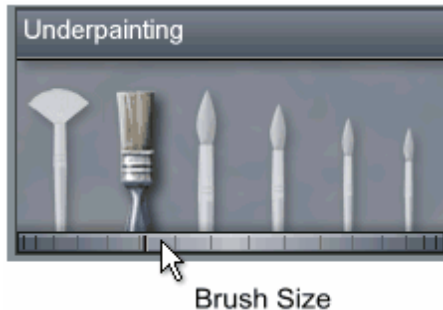
Moving the dial towards the smaller brushes will decrease the relative brush size, generating more fine details.

An usual process for detail refinement:

• Use the preset defaults
• Set Continuous checkbox
• Run the painter
• When the painter reaches the preset number of strokes decrease the brush size with the dial
• Let it run briefly to add small details, eventually using mouse to guide the painter
• Press stop

Letting it run for longer period of time with small relative brushes may diminish the painting-like characteristics.
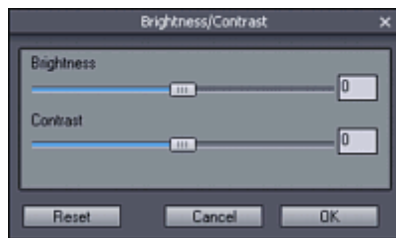
3.9 Adjusting Input

The input image may not be always ready for painting. It may be too dark, too light or had very little contrast. This may not work well with the Auto-painter.
But there is no need to go to an image editing software because we added the most important adjustments right in to the software.
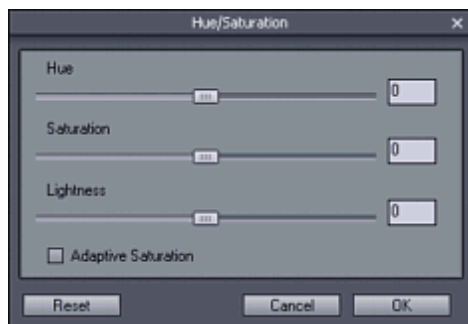
Levels
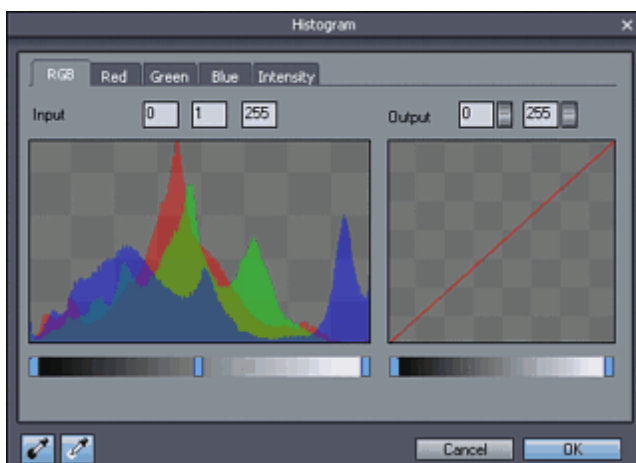
Brightness & Contrast

Hue/Saturation/Lightness

Remove Unwanted Parts
This tool is in menu Mask because it uses painted mask, but it is used for adjusting of the input image.

Remove Unwanted Parts will paint over marked small undesired parts of the image (such as people in background, cars, wires) with a colors from surrounded areas (specified by a rectangle).

Typical steps:

1 - Image with undesired objects, in this case we want to remove the swimming people from backgrounds.
2 - We paint over the swimmers with a brush to cut them out (white) from the image
3 - We need to move/resize the "Replace with" rectangle which should point to the part of image that will be painted over the cut holes. In this case we select a place near with a clean ocean and resize the rectangle so it covers similar tonal range that we need to replace.
4 - Press the Remove Marked Parts and the process will use all colors from the rectangle and paint over the cut holes in a way to best merge it with its surrounding.
5 - The result is ready to be used or we can repeat the steps 2 and 3 to remove more parts (for example the small floaters in background)
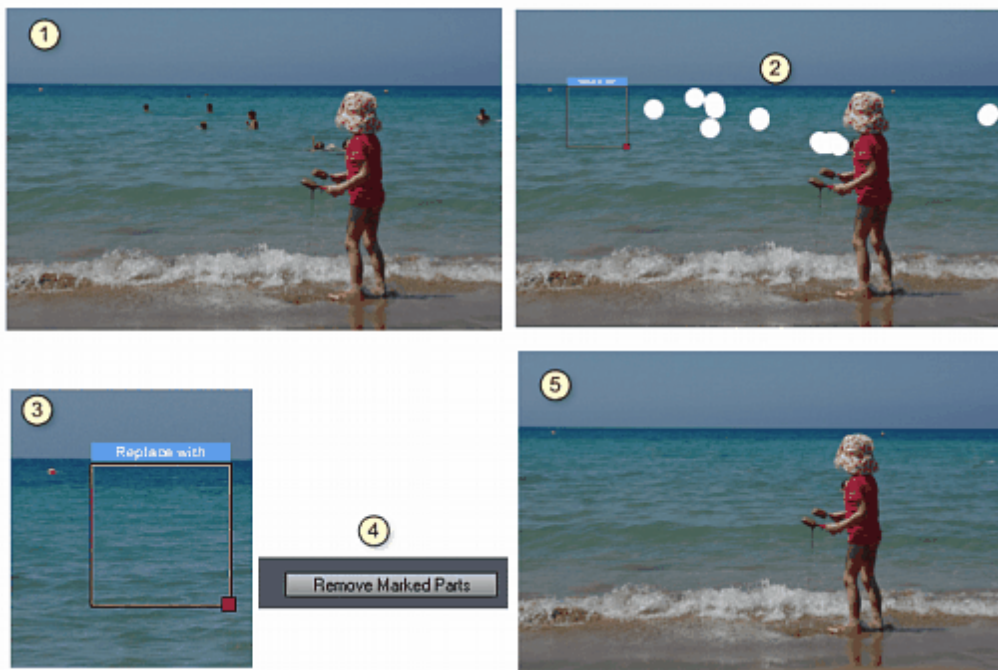

Notes:

-You can repeat this process as many times as you want to remove all unwanted parts
-If the unwanted part cross few different backgrounds it is better to work only on part of it then repeat it with the other part(s)
-The "Replace with" rectangle can be also positioned around the marked areas to get colors from the very near surroundings from all sides
-Result don't have to be perfect, it will be used for painting image where any small details will be lost anyway

3.10 Multiple Over-paintings

Disabling the **Clear Canvas on Start** will allows over paint the image multiple times, not only with different settings but also with different presets.

A good technique would be as follow:

- choose initial style (for example watercolor)
- process the image as normally
- Uncheck Clear Canvas on Start
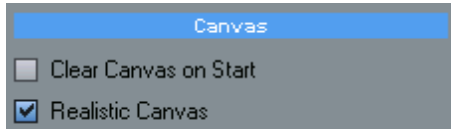
- Choose second preset (for example Starry)
- Set the Detail Brushes to maximum - this will start painting right away with detail brushes skipping the underpaint cycle
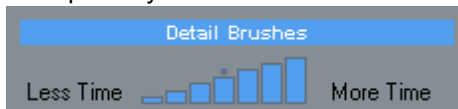
- Process the image, optionally guide the paint strokes where you want them with a mouse

Using Mask
You can use Detail Brush Mask 19 to merge two different styles together. More details in the next chapter.

3.11   Paint Masks

Paint Masks are special tools that can significantly enhance the paint-worthy qualities of the source photo.
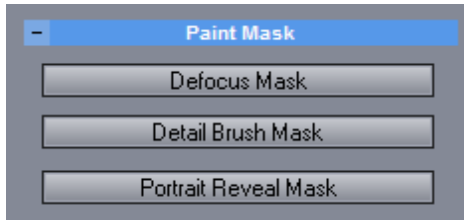

Photo without a mask:
An unedited normal photo usually show too many details in areas outside of interest which can break the illusion of painting or can look disturbing:

Defocus Mask
Defocus Mask will allow you to paint a defocus (blur) mask over disturbing areas of the image.
When a real painter paint a scene he would focus his attention to a central object and remove any unnecessary details that do not bring anything of the value and only steal focus from the main subject.
A photography is on the other hand full of unnecessary details - that is main reason why a random snapshot seldom has any good paint qualities.


Blurring background will dramatically enhance the painting quality of the scene as this would simulate the process of a real painter.

Detail Brush Mask
This mask specify the area where detail brushes will be placed.
During the under-painting the image will be painted equally with large brushes so it will keep the shading

from the scene. The Detail Brush Mask will affect only the second part of the process when painting with detail brushes.
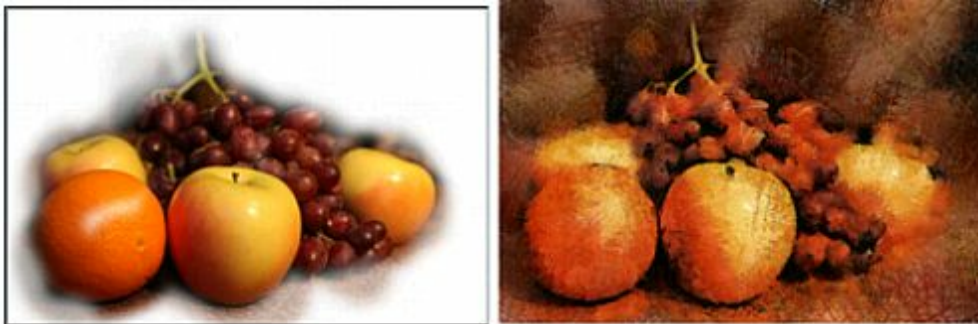
The result of this is different than the Defocus mask. All details from the image will be painted roughly with large brushes, but they will be detail-painted only in designed area.
This emulates the way when a painter would paint the whole canvas with large brushes, but then later focus his attention only on a central subject to bring out the details.

Detail Brush Strength
The Strength of the painted brush also determines how the detail brushes will be applied. Instead of completely removing the details from unwanted part we can set for example partial strength. What this will do is to paint the details semi-transparently which is equal to adding more thinning to the paint.

Apply UnderPaint + Detail
This settings will make the mask valid for all brushes - that is for Under-Paint and Detail as well. This is useful for special experiments like multiple under-painting because none of the brushes will be painted outside.
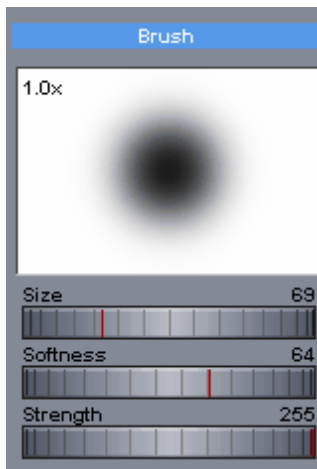
You can combine the Defocus Mask and Detail Brush mask.

Note: There is no need to be very precise in painting the masks.

When any of the Mask is active the button is red:
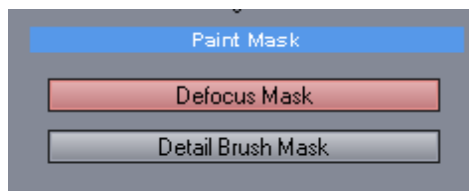
The Brush can be adjusted with the Brush sliders - its Size, Softness and Strength.
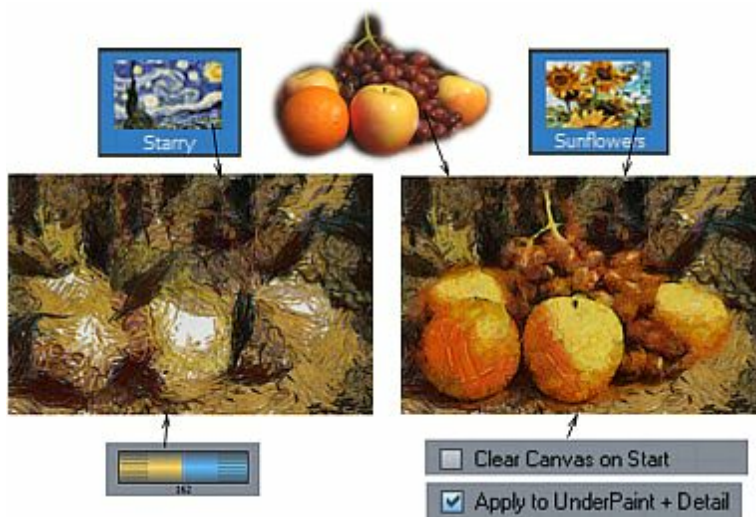
To Remove the Mask:
Open the mask for editing and press Remove Mask in the bottom left corner.

Using Detail Mask for multiple over-painting.
The setting "*Apply to UnderPaint + Detail"* on the *Detail Brush Mask* can be used to merge two different styles and/or colors together. (Don't forgot to switch off Clear Canvas on Start)

Portrait Reveal Mask
A special type of mask is used for Dry Reveal Cycle mostly in portraits (And also for segmentation cycle in few presets). This mask let user specify the face and any other parts of image that needs special attention (jewelry, garments etc...)
Some presets (like Portraitist) require the Portrait Mask to be defined and it will ask for it before painting. Most other presets can work with or without the mask.

Depending on the image and the style we can paint the mask over the face or over the whole figure.

If the image doesn't have portraits or figures (such as still life) and you still require the mask you can paint over the important parts or image (flowers etc...). For landscapes the portrait mask is not desired.
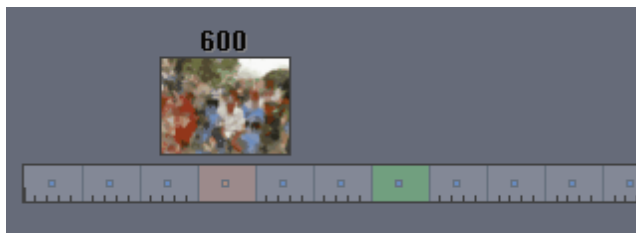
3.12   Flashback

To enable Flashback go to Advanced Tab and set Enable Flashback in the Misc Global Settings.

Flashback will add a timeline to the bottom of the image during painting. This timeline will show flashback points (areas of timeline with a blue dot) that represent a certain state of the painting in time.

During painting you can easily rewind the process back in time to previous state and also alternatively go forward in time to the state that was already painted.
Simply move cursor over timeline and click on state you want to return to.

The green flashback point marks the time of Dry Reveal Brush. If you click on it the painting will return to the state just AFTER the Dry reveal brush is complete. If you click on flashback point in front of the green area the painting will return to the state several strokes before the Dry Reveal Brush and will shortly continue with the Dry Reveal Brush.

The last flashback point (which is in about 6000 strokes) is a recycle point, it will cycle over and over if you left the process running. After such number of strokes there is very little continuous change in the picture so the last flashback point will jump to the currently highest painted strokes, while the point in left of it will jump to the finished 6000 stroke.

Tip:
While it is interesting to use the flashback feature on its own on a single style (such as rewind and use mouse to draw attention to some detail) the more important function is when you pause and select different settings or style to mix during the painting process. This way if the mix doesn't appear pleasing you can simply change the style again (during pause) and rewind to previous state. This way you can not only mix various styles and settings, but do it in various times.

3.13 Plug-ins

Plugins menu will display installed DAP plugins.
You can see available plug-ins on the DAP page:
http://www.mediachance.com/dap/plugins.html

Please note some plugins may be free some are distributed as additional low cost option. You can always try the plugin and get only the ones you like.

3.14 Settings

The Settings can be reached only when no image is loaded in the software - right after the start.

The only settings is to set the Standard Canvas Resolution.
By default it is set to 1600 x 1600.

This is the lowest (standard) canvas size that can be selected from the main interface in the Resolution combo box. All other sizes are various multiplies of this canvas size.

The function of this setting changed from 1.0; Now it is possible to change resolution from the main interface - this setting is here now for legacy purposes and special cases when the resolution selection is not sufficient.

Do not confuse the canvas size with the digital photography size.

A painted canvas uses every pixel in full color while a digital photography uses bayer sensor which is approximation of 4 primary color pixels.
Therefore for digital photography we need a far higher number of pixels. The 1600x1600 canvas could be an equivalent of digital image of 8-10 mega pixels.

The templates are build to give best impression for the canvas size of 1600x1600 pixels.

If you increase the canvas size the painted strokes will become finer on the output and you will need to increase number of stokes accordingly. (For example If you double the size you will need to increase the number of strokes at leas 4 times.)

For all normal results (web/print) there is no benefit in changing the canvas size. This setting is here only for special cases when larger canvas is needed, therefore it always resets back to the optimal 1600x1600 when you exit the software.

Auto-Backup
menu: Tools - Auto-Backup

If set, it will incrementally save output and data settings into a backup folder each time the painting is finished/stopped. In case you are experimenting, you can always go back to the previous version.
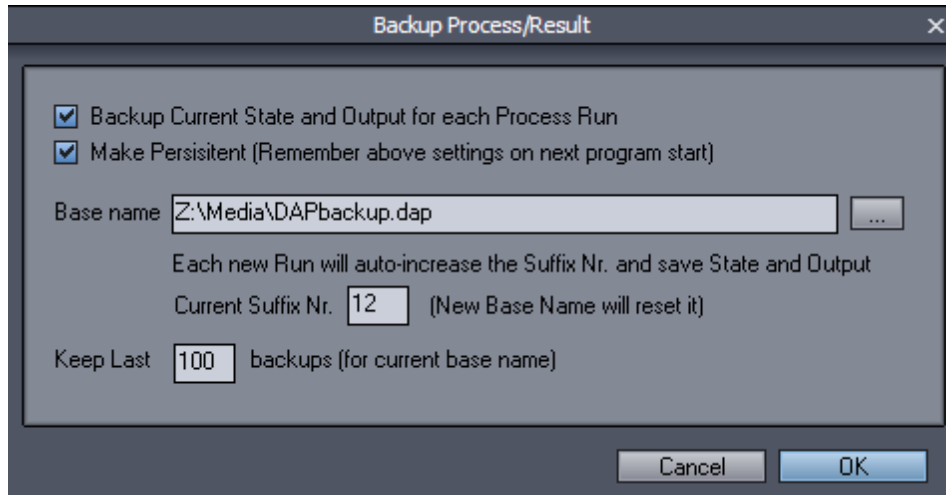
You just need to select base name in a folder for backup and each time the painting is finished/stopped the data (*.dap) and output (*.jpg) will be saved there as for example DAPbackup1, DAPbackup2... etc.. The *.dap files can be loaded back using File-Load State and contains the name of preset and changed settings.
If you use the Make Persistent, this settings will be remembered on next program start. The system will keep the last 100 (or specified) sets of backup for certain base name.
If you want to keep all the previous backups permanently, just set a new base name.
Please note that 100 backups will need at least 200MB and more.

3.15 Templates

This is only for people who like to develop their own Painter custom templates.
The Painters are created with AOP templates. You can create your own template if you wish, and you will use the Make AOP Template command in the Tools Menu.

The AOP templates can both simple and complex, it is a good idea to start from the default values (Reset button).
It is not easy to describe exactly the result of each parameter as they often work together and the result is a complex cumulative addition of the parameters over the time of painting.

The AOP template allows you to build your own custom painter strokes. These strokes needs to be set in a two jpg template files, each must be: 3000x3000 pixels.

The 3000x3000 pixel image is divided into 100 rectangles 300x300 and each can have one brush (You don't have to fill all of them)

Here is example of the two files:
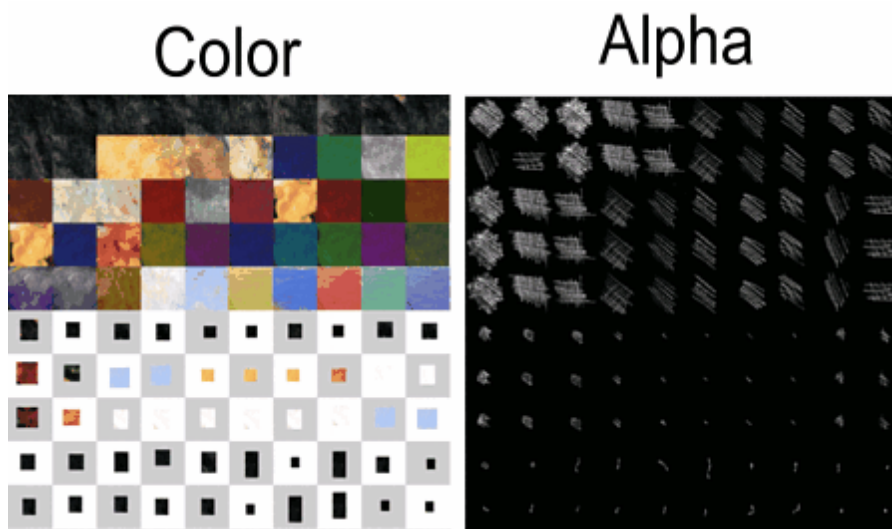
The example above is for Rez-Smart template which means first 50 brushes will be used as an underpaint and next 50 brushes (or less) will be used for details.

In this case we will set the template using Rez-Smart: Underpaint 50, Detail 50

As you guessed, the color can be anything, it doesn't have to be a solid color, it can be a texture, paint stroke or even an object and its corresponding alpha.
This allows for great deal of experimentation.

List of types:
Normal Color Painting - normal brush strokes
Grayscale painting - paint only in grayscale, regardless of palette color
Watercolor - the brush strokes are semitransparent and also blend into paper over time
Expressive Color Style - this style dynamically mixes Expressive and Realistic settings during painting brush strokes. The result is a wider, more colorful palette than Normal Color Painting but also less pronounced details.
Portrait with Simplify (A and B) - a Simplify cycle will be performed before the painting, the style requires Dry reveal mask.
Portrait with Segmentation - a Segmentation cycle will be performed first. It require Dry reveal mask
Simplify and Quit - There will be no ordinary painting done - only the Dry Reveal cycle.

Palette options.
The template can have optional palette styles. Each palette style is an alternative Color template file (the Alpha remains same for all Palettes)
Load alternative color jpg file, set name and press Add New.
AOA - Aoa are alternative templates - instead of just different color - a whole template can be offered as an alternative in the palette option. Creating AOA template is same as creating AOP template, just when saving, select Alternative (embedded) Template.
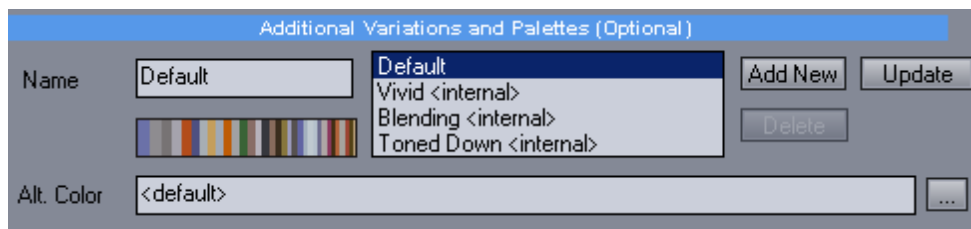
Default Template Values

Those settings mostly mirror the main interface and are used to set default values when user select the template style.
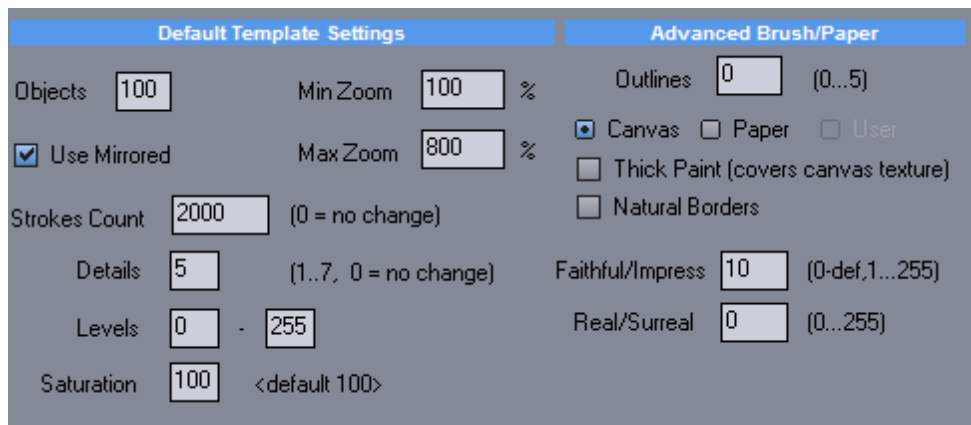

AutoSize 11 can be also set as a default.

Advanced palette Settings

Palette settings determine how the template is mixed with the colors from the actual photo. The Exp-Real sets the default value of the Expressive Realistic slider (ERS). The Offset sets the default offset of this ERS control relative to 0. Together with the slider a higher value determines the image will use more real colors, lower value it will use more expressive template colors. The internal relation of those two parameters are RealColors(0,255) = Offset + (ERS*16);

Dry-Wet will set the default value of the Dry-Wet slider (DWS). The Dry-Wet will determine how the brushes will blend to the canvas. Dry (0) will put the stroke sharply there while Wet(8) will blend part of it. DryWet(0,255) = DWS*32
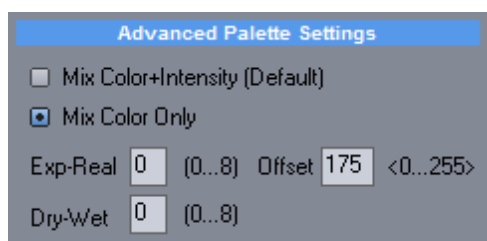
Segmentation and Simplify steps

Those optional steps will be performed very first before any painting. They are switched off by setting 0 in the Detail. Time determines the relative % of the time used for those steps (100% default). Smooth will remove the photographic texture, smaller number will keep more of the texture.

Segmentation will simplify the image where almost nothing will be recognizable. This is used to remove

background and create abstract texture and work with Portrait mask to omit the simplification of portrait figure.
Simplify will omit small photographic details.
Any Type can use those steps by entering Detail > 0, but the Portrait with Simplify/Segmentation types will always use those settings.

Dry Reveal Step
This step is inserted between Underpaint and Detail brush step. It is to reveal the features of the photography using a hair thin dry brushes.

The dry reveal can be used as one of:
- only when a mask is defined, if not defined this step is skipped
- require mask and always ask for it if not defined
- use this step always regardless if mask is defined or not

Omit border - the dry reveal will omit borders and apply only to center of image (0 switch off = whole image, 255 - fully omit borders)
Normal/Lighten/Darken Borders - works with the omit borders above and set if the borders should be lightened or darkened.

Opacity without mask and Opacity with Portrait Mask
First number specify the Dry reveal opacity without mask and the second number specify opacity under the Reveal mask
Overlay and Overlay under Mask - specify overlay of the Dry reveal mask. overlay will darken and make more contrast image

If Mask defined use Opacity outside mask - if the Portrait mask is defined the Dry reveal will be also

applied outside the mask using the first set of numbers. That means the Dry reveal will be partially applied outside mask and more strongly applied inside the mask. If unchecked the Dry reveal will be applied only under the mask

Preserve reveal Layer during Detail Paint/Min-Max
If set the Dry reveal part will be preserved under the mask during detail paint - that means the detail paint will paint less over the masked portrait area and more over the unmasked area (background). The Max specify how strong will be the detail brush outside Portrait mask area and the Min will specify how strong will be painted inside the mask.

Advanced AOP Settings
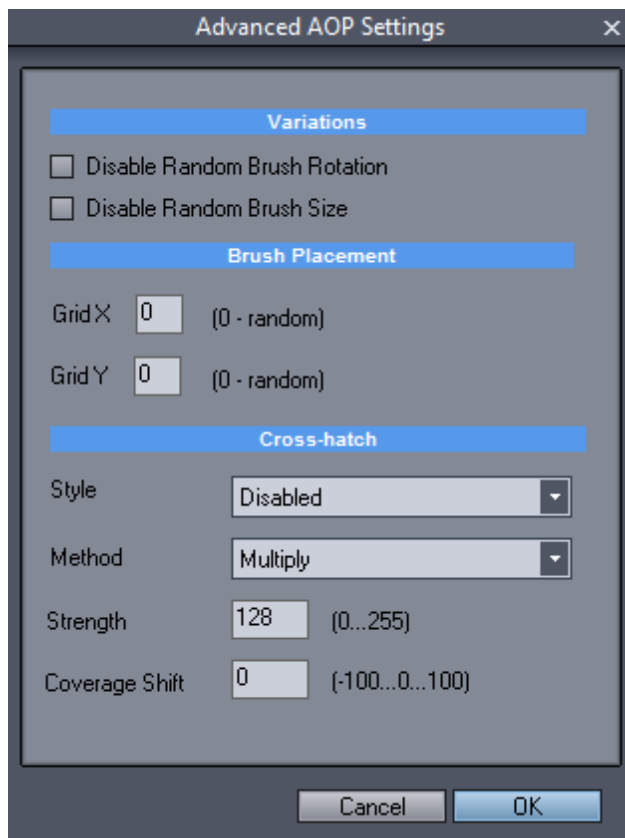
Variations - disable random variations (for example you require your AOP don't rotate the brush strokes)
Brush placement - alternatively you can instruct to place brush strokes only in predefined grid (such as 10 by 10 for example) not randomly.
Cross-hatch
This settings is to add subtle cross-hatch shading to the style.

4   Avoid typical mistakes

Painting is not just a photo with brush strokes instead of pixels. The painter doesn't see the image as a camera would see it but he changes the reality to better fit the art. Also the subject of the painting should be "paint-worthy" not just an ordinary snapshot.

It is therefore important to select or take the photos with a painter in mind and in a spirit of a certain painting style.

To avoid any long discussion, the best is to actually study real paintings and study
- **subjects** painter would choose, it has to be significant to be painted
- **framing,** it refers to the composition how the subject is placed on the canvas, rule of thirds, golden ratio etc.
- **relationship** between the subjects and the surroundings, subjects are not just placed there - they need to tell some story
- **focus** (not necessary a photography focus) think of a spotlight in theaters that is used to highlight the important parts of the scene while keeping the rest from disturbing the spectator. With painting we have many more ways to create such spotlight: using light (shadows/light), with focus (blurred/sharp), with details (rough/detailed)

Tip: Try to avoid any technical issues that are typical photography giveaways (lens flare, barrel distortion etc..).

Example:
The image bellow has all the technical details of a painting (brush strokes, color run etc...) but there is one significant problem with the image that just scream "photography".

The problem is of course the perspective that was created by the camera tilt. A painter would paint an image without introducing a vertical perspective (to keep the buildings and pillars standing straight).
A simple perspective correction in your editing application (like our PhotoBrush) will fix this error.

This is much better, but by critically looking at the composition above, there is still some feel that the image is a "snapshot" with weak intention to correctly compose (frame) the picture. The image, when used as an art, could appreciate different composition like for example the drawing below.
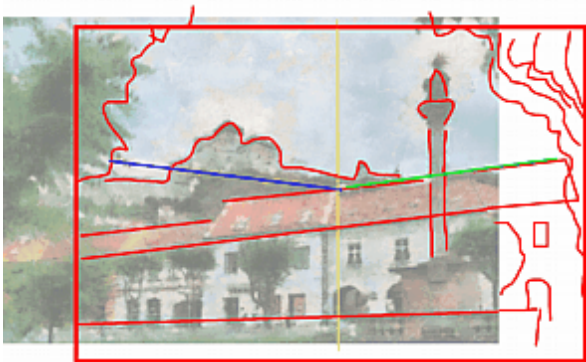
The proper framing and cropping is a technique that photography (and film) share with the fine art and should be part of the basic photographers knowledge.

5   Artist Inspirations

The Dynamic Auto-Painter doesn't copy any artist as this is obviously impossible, but it gets its inspiration from real-world artist by studying their color palettes and types and character of brush strokes.
But the rest is on the user because it equally depends on the type of input image. For example we can set up a nice photo of still life scene and get very respectable result or we can just take a snapshot of some fruits on a table with everything else on it and your kitchen as a background and get a pretty much result that nobody will enjoy.
The painting starts with a scene and it pays to study the work of the artist that were inspiration for Dynamic Photo painter:

Frank Weston Benson (March 24, 1862 - November 15, 1951) was an American Impressionist artist, and a member of the Ten American Painters.

Paul Cézanne (19 January 1839 – 22 October 1906) was a French artist and Post-Impressionist painter whose work laid the foundations of the transition from the 19th century conception of artistic endeavour to a new and radically different world of art in the 20th century. Cézanne can be said to form the bridge between late 19th century Impressionism and the early 20th century's new line of artistic enquiry, Cubism. The line attributed to both Matisse and Picasso that Cézanne "is the father of us all" cannot be easily dismissed.

Claude Monet (also known as Oscar-Claude Monet or Claude Oscar Monet (14 November 1840 – 5 December 1926)[1] was a founder of French impressionist painting, and the most consistent and prolific practitioner of the movement's philosophy of expressing one's perceptions before nature, especially as applied to plein-air landscape painting.[2] The term Impressionism is derived from the title of his painting Impression, Sunrise.

Vincent Willem van Gogh (30 March 1853 – 29 July 1890) was a Dutch Post-Impressionist artist.[1] Some of his paintings are now among the world's best known, most popular and expensive works of art.

Gustav Klimt (July 14, 1862 – February 6, 1918) was an Austrian Symbolist painter and one of the most prominent members of the Vienna Art Nouveau (Vienna Secession) movement. His major works include paintings, murals, sketches, and other art objects, many of which are on display in the Vienna Secession gallery. Klimt's primary subject was the female body,[1] and his works are marked by a frank eroticism--nowhere is this more apparent than in his numerous drawings in pencil.

Jean-Baptiste Camille Corot (July 17, 1796 – February 22, 1875) was a French landscape painter and printmaker in etching. Corot was the leading painter of the Barbizon school of France in the mid-nineteenth century. He is a pivotal figure in landscape painting and his vast output simultaneously references the Neo-Classical tradition and anticipates the plein-air innovations of Impressionism.

Camille Pissarro (July 10, 1830 – November 13, 1903) was a French Impressionist painter. His importance resides not only in his visual contributions to Impressionism and Post-Impressionism, but also in his patriarchal standing among his colleagues, particularly Paul Cézanne and Paul Gauguin.

Giuseppe Arcimboldo (also spelled Arcimboldi; 1527 - July 11, 1593) was an Italian painter best known for creating imaginative portrait heads made entirely of such objects as fruits, vegetables, flowers, fish, and books — that is, he painted representations of these objects on the canvas arranged in such a way that the whole collection of objects formed a recognisable likeness of the portrait subject.

Joaquín Sorolla y Bastida was a Spanish painter, born in Valencia, who excelled in the painting of

portraits, landscapes, and monumental works of social and historical themes. His most typical works are characterized by a dexterous representation of the people and landscape under the sunlight of his native land.

John Singer Sargent (January 12, 1856 – April 14, 1925) was the most successful portrait painter of his era. During his career, he created roughly 900 oil paintings and more than 2,000 watercolors, as well as countless sketches and charcoal drawings. His oeuvre documents worldwide travel, from Venice to the Tyrol, Corfu, the Middle East, Montana, Maine, and Florida.

Hyperrealism is a genre of painting and sculpture resembling a high resolution photograph. Hyperrealism is a fully-fledged school of art and can be considered as an advancement of Photorealism by the methods used to create the resulting photorealistic paintings or sculptures. The term is primarily applied to an independent art movement and art style in the United States and Europe that has recently developed since the early 2000s

*Taken from wikipedia.

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