User's notes for Paintstorm Studio

Paintstorm Studio is a relatively new artist's program with a great and growing combination of capabilities. It recently graduated to version 2, Over the time since I created a version of this document last year and now, it has really blossomed. The program keeps adding significant function and, hopefully, added a significant audience by making it available on the iPad.

These are user notes, not in any sense formal documentation. They represent my own limited experience. Yours will vary. What's here reflects my experience as of the time it was written; the portion on creating a set of brushes dates to early 2016 and parts have been added from time to time since then. Some of this may be out of date. It may also not be accurate in the sense that my explanation doesn't exactly match how a given function really works (or is supposed to).

On the other hand, what's new here is hopefully up to date (version 2.02 – it has updated since I started again). Unfortunately, I haven't had as much time for this as I've had in the past. I have no experience with Adobe Photoshop, the standard that everyone seems to compare to, so I can't use it as a comparison and what may be obvious to you, isn't to me. I have however tried to understand how things work and in some cases searched for how it is done in Photoshop when I can't figure it out– there are similarities and differences but if in doubt then the Photoshop way may help. Hopefully, if you haven't had Photoshop experience, I can save you a bit of trial and error. I'd like to think you may not have to invest in Photoshop at all.

What follows applies, in the most part, to both the Windows and iPad versions. I have no experience with Mac's. There are a few things different between the platforms and the use of buttons with the iPad has its pluses and minuses. All the brush creation etc. was done with the Windows version.

One of the aspects of that experience is that, as might be expected with software that introduces new capabilities on a regular basis, things can go wrong. On Windows, Paintstorm appears to have a very good approach to saving your configuration data – it's all in the "Documents\Paintstorm Studio" directory on your primary drive. It doesn't hurt to back this directory up now and then, particularly if you've introduced your own elements (forms, textures, etc.) into your environment. No doubt the Mac version is similar in this respect.
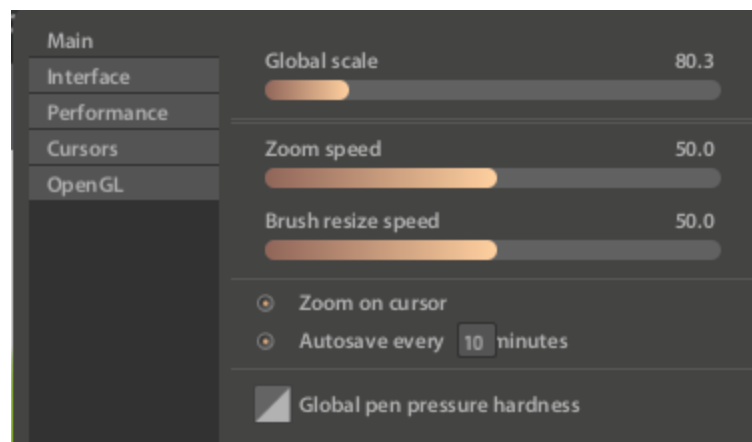
A good source for direction and questions with on Paintstorm are the help (seems to be growing) and forum sections at www.paintstormstudio.com.

The User Interface

Suffice it to say it is incredibly flexible – probably the most customizable interface out there. The videos on Youtube are very helpful but you do have to watch carefully. You start out with six different Workspace views and three Keyboard settings; you can create custom user interfaces (under the Other option). It's not a bad idea to create an interface you like since you may find yourself wanting to restore it now and then (via that custom UI).

Depending on the device geometry you have, you may want to look at the "Options" under the File selection. Here the "Global Scale" bar gives you the ability to scale the panels to where it makes sense for you. Some panels (for example the gradients) might be a little small when you work with them. You can reset the scale easily at any time. You probably want to browse through the other subpanels to see if you'd like to make other changes. One of the new features is using the GPU in Windows with various brushes. Some brushes look slightly different using a GPU and for small brushes it probably isn't worth the effort.

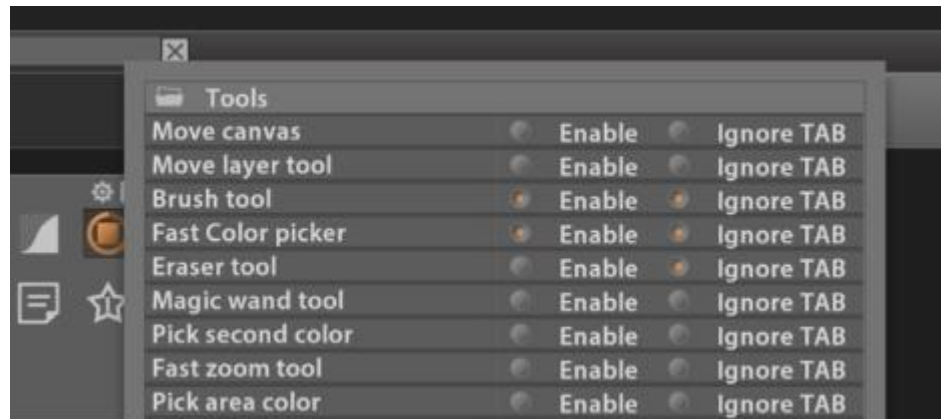If this is your first use of Paintstorm, I strongly recommend you also use the "Other" selection of the File section to create your own custom UI (via the Save custom UI) even if it is only a copy of one of the provided ones. Take one of the supplied ones and save it – then you won't end up messing something up – I've found once you start moving things around it's hard to get them back to where they were originally. It's highly likely that as you experiment with the UI you're going to do something you'll regret and not be able to figure out how to put it back to the way you started – my case with docking and undocking. Flexibility is a blessing and a curse.

Almost every aspect of the UI is scalable in one way or another. A particularly nice feature if you have limited space for drawing is the ability to have the various panels (undocked) shrink out of the way while you're drawing and pop back up to normal size. At the top of each panel there is a gear. Opening it, you have a set options as to how panels will appear while you aren't focused on them. If you want to have them available but not so space consuming, set the scale to less than 100. You may also want them to stay smaller so uncheck the "Normal scale on select" and they won't pop out at you.
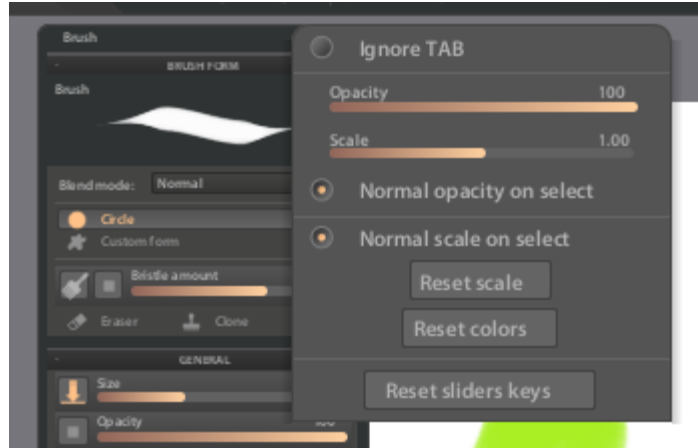
The interface on the iPad is basically the same as on Windows. However, because there is no keyboard support at this time, the equivalent of keys is a set of buttons. The buttons (Hotkeys) available are controlled using the "Define Hotkeys" under the File selection. Under Windows when you open the menu you will see the key combination associated with a given function (for example, "Move Canvas" with a "Space").

If you open that menu on the iPad you will see the various functions listed with an option to Enable them. If you Enable a given Hotkey you will create a button on the interface, typically with a representation of what it does in it. Don't make the mistake of assuming a button for Space is the same as a button for Move Canvas – you want the Move Canvas button.

These buttons, when pressed, serve as the equivalent of a Hotkey. They can clutter up the interface and you will want to move them around and possibly size them so they don't interfere with your drawing. The "Ignore TAB" option means they will remain visible when you hide panels to get more of the drawing area.
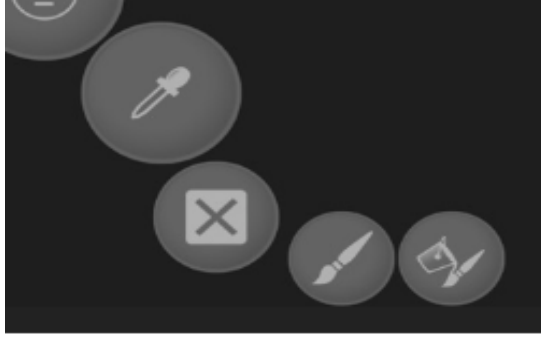
Here, for example, are some buttons. You move them by holding down two fingers and dragging. The first finger goes on the button and the second in the direction you wish to move it. You can increase or decrease the button size by moving the fingers further apart or closer together. While there are defaults, you might want to experiment a little to see what works best for you.

It's worth your time to play around with the user interface moving the different panels around and checking the various options for each (the little "gear" icon at the top of each). Panels can be hidden, shrunk down to a bar, and resized – which often changes their look. In some cases there is also a gear at the bottom of a panel which brings up other options for that panel. Since the iPad doesn't have a right click option, that gear will provide the equivalent set of options.

Some comments on the various interface elements. One of the nice things about Paintstorm is that it uses the familiar File, Edit, etc. bar at the top of the screen – even on the iPad where the metaphor doesn't seem common. The View dropdown lists the various panels that can be displayed. The panels themselves can be variously docked and undocked. For me I've pretty much removed the docked elements and let them float where they can be resized and collapsed giving you more space. Typically the Tool panel will be open. Selecting a tool then results in the controls, if any, associated with the tool being displayed immediately below the File ribbon. While some of the options on the top ribbon can be found within the panels using the right click others like the filters are available only on it.

Gradients

I moved this up, partly because it's what I've added recently and partly because it is one of the components of brush design and if you can understand it here you hopefully can make better use of it there. Gradients are interesting in Paintstorm. You can create your own relatively easily but at least to me it's not at all obvious the various linkages and how the editor works. There is an additional, related, gradient editor in the Smart Color Correction filter; it appears to share gradients with the basic editor but works a bit differently.

The use in brushes is related to the capabilities of the larger gradient tool itself. To get started, click on the gradient tool which will bring up a tool option panel at the top of the screen. In it you'll see a swatch for the current gradient. If you then click on the swatch it will bring up the gradient editor. You now have the capability of four forms of gradient using the gradient tool – linear, circular, linear from the center out and linear around a point.

The gradient itself is defined by a panel that comes up when you click on the gradient swatch.
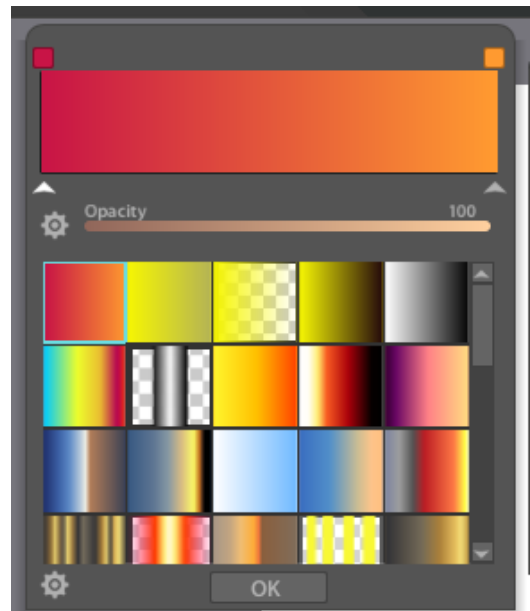
The top part of the panel shows a color bar with a number of small squares showing the color used at that point in the bar. In between you'll see the transition. On the bottom you will see an opacity setting (in this case set to 100%) at the point of the square and, underneath, a slight highlighting of the caret pointing to the color it is set to adjust.

The small square color can be reset by making a change in the Color panel or by using the color sampling tool (an eyedropper will appear in the body of the gradient as well). This is the simple case. On some gradients, you may see little 1 and/or 2's the squares. This is not the default behavior if you create a new gradient – they won't be there.
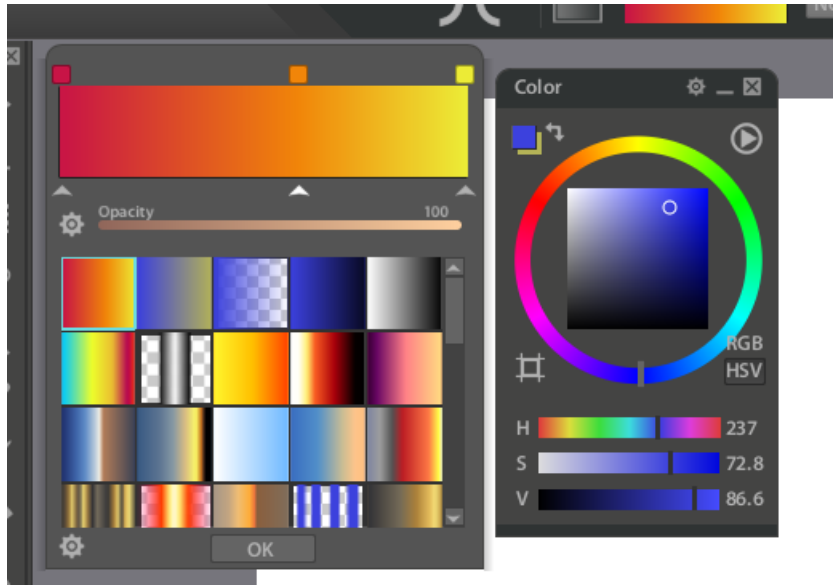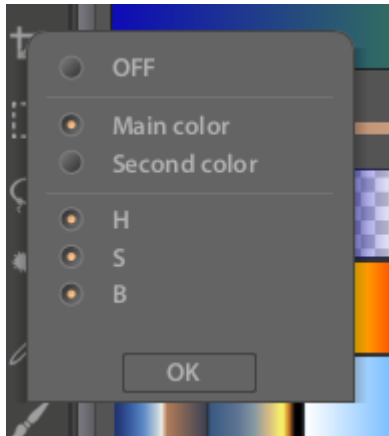
There is a linkage between the Color panel and the gradient panel when the 1 and 2's are involved. If you change something in one panel it will change in others that have 1 and 2's. Exactly how the linkage works isn't totally clear to me. The numbers are set by using the gear next to the Opacity setting. If there is nothing above the square, there will be no number. If there is a 1 then this is the Main color. A 2 means it's the second color. The HSB presumably deals with with using various components of the color model and beyond my level of expertise.

The color panel looks to be tied to the second through fourth gradient in the list, regardless of what you are doing with the gradient you are editing.

The color on the color wheel is tied to the 1 and the swap to 2. If, on the color wheel, you swap colors then the gradient swaps 1 and 2. You may also see that, if the brush panel is open with Color displayed at the same time, the gradient swatch will also shift to the global (for the gradient tool) value.

The other thing is that other gradients in the list (there are something like 50) that use the main and second colors (have 1's and 2's in them), automatically shift if you change the values for 1 and/or 2.
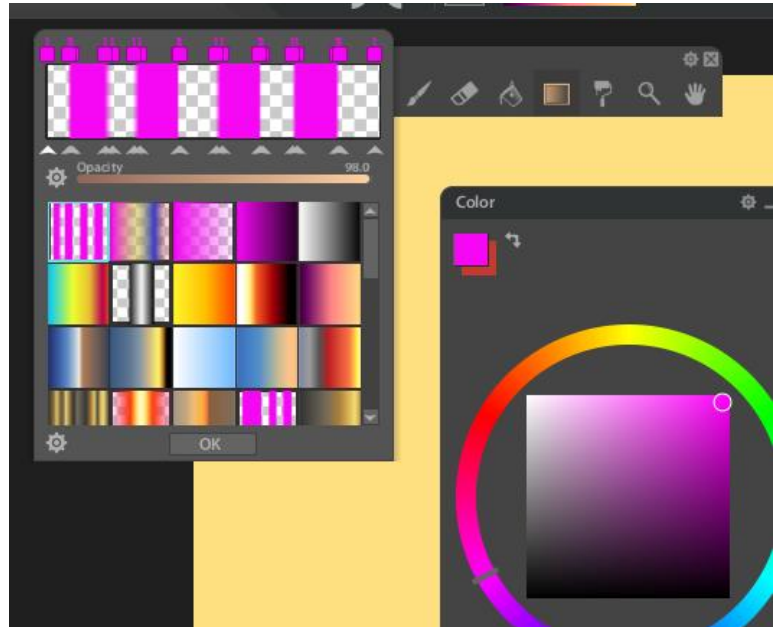
Using the original swatch above, setting the opacity to zero you end up with this.

You still have a tinge of the original starting point because the interpolation between the starting point (0 opacity) and end point (100 opacity) brings it back in.

If you've added the 1 and 2 type linkage, shifting colors in the color wheel will automatically adjust to whatever colors have been picked.

Now the fun begins. I'll call the combination of the color patch above and the caret below a caret going forward. A new caret is created when you click above the swatch to create a new patch. When you do you can pick a color. You can now move the caret around by dragging it (below) back and forth. The caret highlighted below that is active is slightly highlighted (brighter).

You can make as many color variations (and set opacity for each) as you wish. You can change colors by clicking on the caret you want to change. Once made however, to delete a caret you click on It and drag down – once again not obvious but it seems that's how it works in Photoshop. In the smart color correction gradient panel a convenient delete icon does it. You can however use the pick color function (by clicking on the little square above the bar) to pick another color. You can create an intermediate point by clicking below the bar between the color. You can create another point between two carets that will be an interpolation of the two values.

If you drag two carets together they will overlay each other and there will be a sharp boundary between the two colors. That's how the pink stripes in the image with 1's were apparently made. You create multiple carets and set the intermediate spaces to zero opacity and then drag that caret over. Kind of neat but it wasn't obvious to me. The carets on the left and right side, in my experience, are special. While you can drag carets across each other in most places, you can't drag another caret over the leftmost or rightmost caret. If you want to add a

caret on either side, you first have to drag the left or right caret towards the center and then create a new caret to the right or left.

The gear at the bottom of the panel allows you at this point, you click the gear on the gradient panel and select "Create New Gradient", you will have a new gradient you can use. The easiest way to make a new gradient is to set the focus (the gradient with a highlight around it in the panel) to the first panel and use the gear to "Reset to default" which, in my case at least, brings up the following reddish to orange. (If you have the focus on another it will take you back to that to whatever it was originally). There is a starting and ending point (only two). I do notice that is seems easier to see the gradient panel – which cannot be moved – on the iPad.
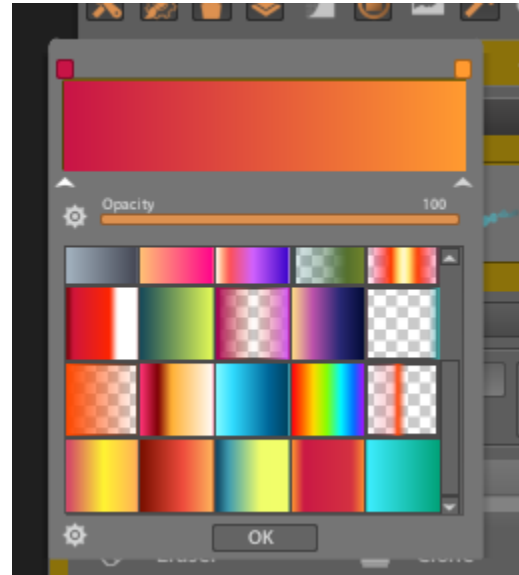
In any case this is a reasonable starting point. I've still got a lot to learn about the gradient process.

Now of course is how do you use the gradients?

The easiest way to see is to simply create a blank layer and try and see what happens. The gradients are drawn with a starting and ending cross, starting where you first click on the drawing and ending when you pick up. The gradient is spread using the left side of the swatch and ending on the right hand side. If you draw a short line you'll get a little of the left hand side and a lot of the right across the canvas. If you draw a long line you'll get a pattern that will look pretty much like the swatch spread across. The gradient is spread at right angles to the direction of your starting and ending point. One of the interesting things about the gradient tool is that you can choose the mode (Add, Multiply, etc.) that the gradient will be drawn with. It can create some very interesting effects used this way. Another nice use is as a layer mask if you want to achieve kind of a shading effect.
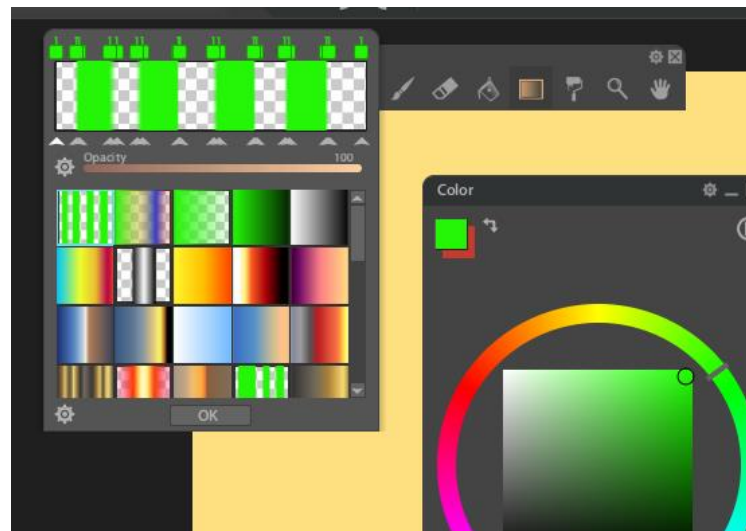
The Brush Engine

The Brush Panel

The Brush engine in Paintstorm is, for lack of a better word, amazing.

It makes more sense to me than that in other programs I've experienced. By sense, I mean that it provides a wide variety of capabilities in a consistent way. Other programs seem to have more of an evolutionary feel; they provide a given capability but they seem to need a totally different kind of engine for a given brush type so you need to learn a separate set of rules in dealing with each. In other words, add-ons rather than thought through at the start. That makes sense; art/painting software has come a long way from the early days when hardware and software were not as capable. It is almost impossible to consider the number of possible combinations and permutations Paintstorm makes available for brushes yet there are a finite number of dimensions in doing so.

When you select the Brush tool and have its panel viewed (the View dropdown), you'll see something like this. It's likely you won't be able to open all the subpanels and still fit it in, even in full screen mode – there are that many options. I won't go into detail on all the various parameters and in fact many of the controls within a set of controls has its own set of controls that can be associated with various capabilities of the stylus you use (Wacom being the most extensive) and linked to the brush controls associated with the brush engine. Look at the online help to see examples of their use.

Most of the tools have an auxiliary set of controls associated with them. For the Brush tool they look like this consisting, in this case, of undo, redo, and options for guides (see below).
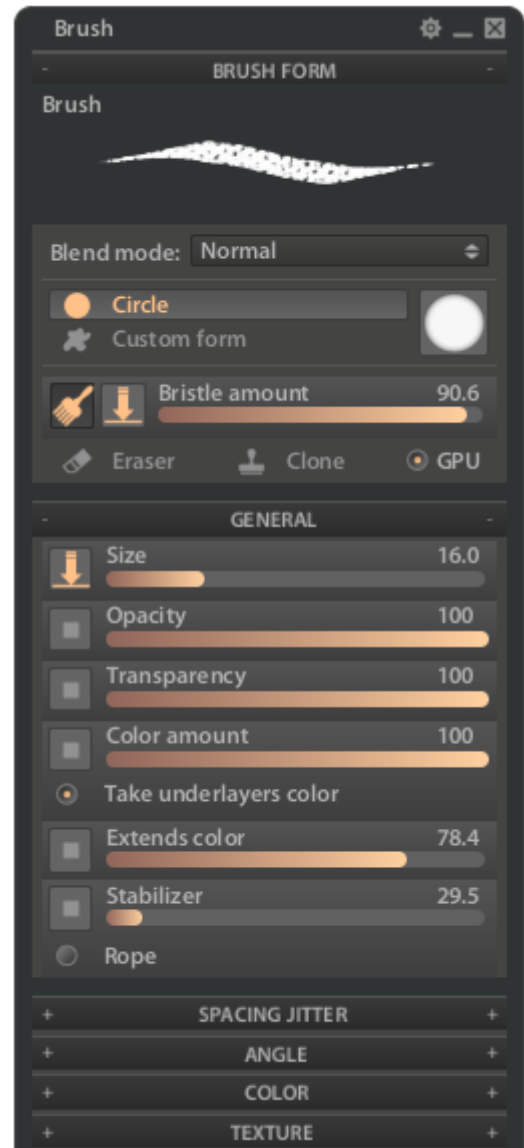
For many of the various parametric controls there are bars that variously range – in some cases over a wide range, in others from 1 to 100. In addition to those bars (and for some of them, like size, you can set both a high and low value for some by dragging one side of the bar or another back and forth), they can also be associated with things like the stylus or mouse capabilities. For example, the snapshot shows brush size being linked to pen pressure – minimum size with low pressure and large with high. The pressure curve is pictured at the right showing how the pen should react to pressure. So think of it – first we can specify the range of stroke size, that the brush is pressure sensitive, and that the amount of pressure will be (within the capabilities of the stylus – a mouse is always 100%) governed by a curve – in this case not quite linear. If you press on the curve box it will bring up yet again another list of possible curves, including inverting the pressure curve, and you can customize them as well.

It is possible, by the way, that depending on your platform, you can create a brush that won't work as expected cross platform. In my case I had a brush that was controlled by tilt on the iPad – but in Windows I don't have that (pressure only – non Wacom) so I had to adjust and obviously didn't get quite the same result. The sample brushes provided with Paintstorm have examples of how all these parameters impact the result. You can get an idea of what the stroke will look like by looking at the brush picture at the top of the panel. Suffice it to say, it really is flexible.

In the Brush panel, below the Brush Form summarizing what the brush stroke will look like, is a set of two options that control the dab (or here called "Form") used as the brush is applied. The first is a Circle type which, when selected, discloses what become two options for how that form will appear in the brush. The first option on the Circle shows how the circle will appear. Clicking on the circle form brings up a series of graphs that can be selected from, or you can modify the graphs (in the Custom folder) to your liking. The graphs are a visual representation of pressure applied to the circular form. The second option allows you to use "custom forms". Much of what follows explores the use of those forms. Below that is "Bristle amount" which adds a bristle effect to the brush stroke. Then below that is an option for use in Erase mode, a Clone mode (see below), and in version 2 a "GPU" mode which can speed up the drawing process in some cases using a graphics card. You might want to experiment to see whether the GPU mode makes a difference for you.
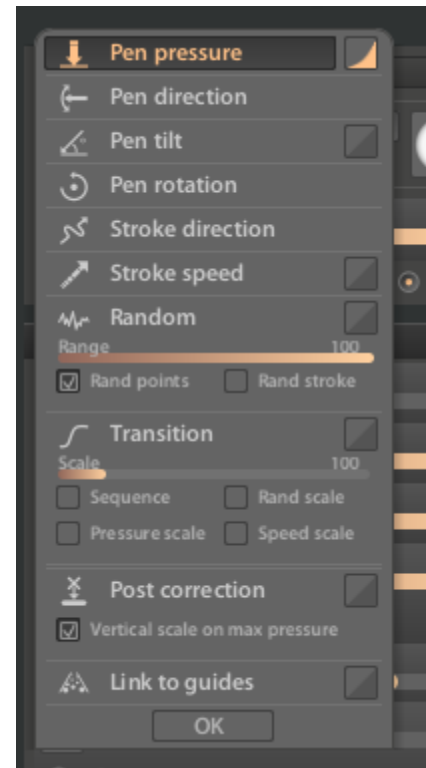
Creating a set of Custom Brushes

This was my original experiment – which I managed to get through successfully. I'll go through the steps for creating the brushes, starting from the beginning. Along with these notes, I've provided a set of brushes that may or may not be useful to you.

To the extent possible, I suggest that you create your own brushes categories rather than modify those provided. Then, no matter how Paintstorm functionality changes, or changes are made in the initial setup, you can keep them independent of that first install and import them when you want them. When you create a brush, you are potentially creating a whole series of dependencies (forms, textures, etc.) that rely on your configuration at the time you create it. For example, the brush may rely on the form(s) used to create a dab, gradients, and textures. The forms and textures exist in folders which may be the default or ones you create. While you can create and delete folders, if you want to keep your add-ons elsewhere you need to do that via import and export. The folders, of themselves, cannot be exported.

Getting Started

The first step is to create a new brush category. You can create brushes in the supplied categories but I think it makes sense to make your own – particularly if you're going to be doing experimenting. You also won't mess up the supplied defaults.

This is the default panel for brushes. In particular, at the bottom midway there are three little icons. The first – which resembles a page with a fold is the "new brush" (actually it means "new" in general where you see it) icon. When you click it you will create a "new" brush which will duplicate whatever your current brush is (highlighted) at the bottom of the list in the current category. So if "Demo 3" were highlighted as my current brush in the "Main Brushes" category, I'd get a duplicate of "Demo 3" immediately below, only in this case labeled "Brush". If I switched the brush window to my new brush category, "Demo 3" would be duplicated, as "Brush", in my new category.

The second little icon is the trash can which will delete the current highlighted brush. The third, a "gear", brings up a long list of options, including one to create a new Category. That's where we'll start.

We click on the "Create New Category" item and we're brought to a new version of the Brushes named "Untitled Category" with no brushes in it. Now if you click on the "new brush" icon at the bottom of the new panel you create a duplicate of whatever brush you were currently using.
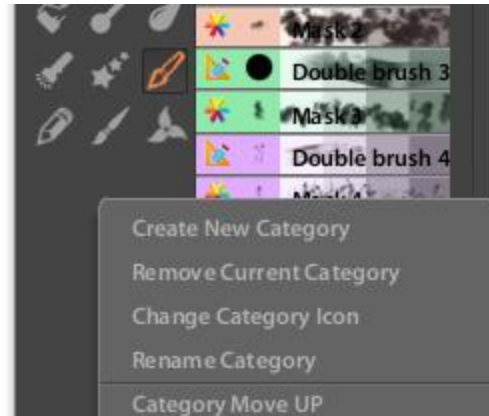
You also want to change the category name so it's not confused with supplied categories. That is done using the Rename Category from the gear selection list. When you select, you'll see a popup asking you for a new name. Supply one and you'll be pretty well on your way. Eventually, if you want to export (back up) this category it will be exported with this name (and imported perhaps to the iPad).
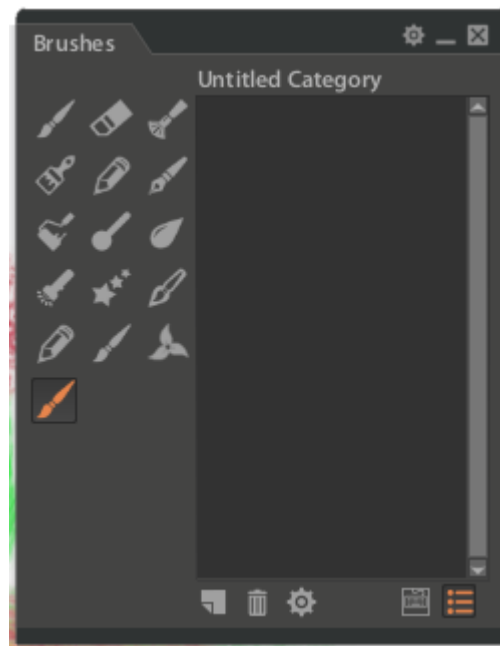
At this point I'd recommend going back to the Main Brushes category and bringing the "Brush" (first on the list) into your new category. You do this by highlighting it in the Main Brushes, then clicking on your new brush category, and pressing the new brush icon. A copy of the "default" or basic brush is then available for whatever kind of manipulation you want to make.

You can also change the brush category icon since, by default, you get the "paint brush" and you might want to make it look a little different. Once again you use the gear and select the Change Icon. You'll get a list of the supplied icons and sure enough, you want to press the gear offered and import your new icon.

I don't know the rules for icons but I do know that it expects a .png file and it must be rectangular. In the illustrated case, I picked a squiggle that I'd had made with a previous application. So you end up with something like this.
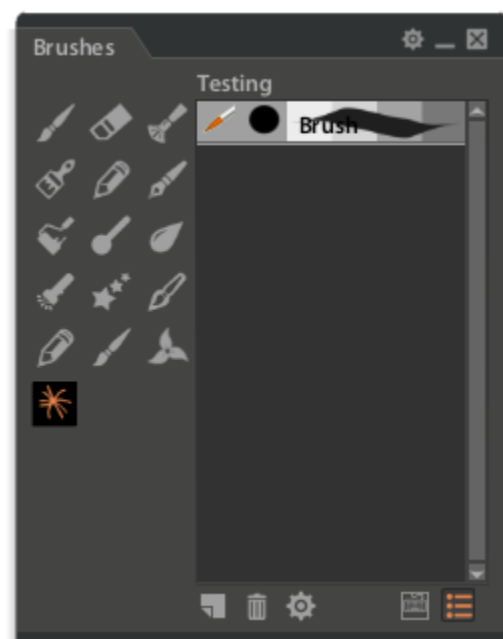
Now we're in a position to create some new brushes. It's fair to say that the sky is the limit. So I'll go through some examples.

First thing is to highlight the brush in your new category and make sure it's where you want to start. If it is, then click on the new brush item in your new category to create a new (duplicate) of the base. Note that this way you can keep your "default" without messing with it if you decide your experiments aren't to your liking.

You should also understand that, once you've created this copy it is a "new brush" – that is it has no default value as such, so if you change it, it won't really store the values associated with the brush until you "Save as Default Brush" under the gear options menu. Your new brush is fluid until you do so.

The Forms window

I want to focus on two areas that in themselves provide a great deal of flexibility. Some of this is because I've worked with other painting software and have an inventory of shapes and textures that I wanted to try with Paintstorm.

The two aspects of the brush engine I want to explore are the "Brush Form" and "Texture". The brush form is potentially very complex (using a selection of dab images which themselves can be part of a set of dabs). These forms are managed internally so you can't simply bring in a set of forms by putting them in a directory in the Paintstorm configuration folders.

Texture is very interesting to me since I see it as a very important capability (I'm more interested in "how" rather than "what" in the final product). Most programs in my experience associate a texture with the canvas the paint is applied to. Paintstorm ties (potentially) the texture to the brush where it acts as a type of mask. There are pluses and minuses to this approach. This may mean, if you want a consistent texture associated with a painting, then every brush used should an association with the same texture – or none. In other words, if you use textures, you may very well want to create a separate brush category to contain the brushes that use that texture.

Working with the Brush Form

The Brush Form section of the Brush Panel includes a wide variety of options. I'm going to look at the "Custom Form" option. There are arguably an infinite number of combinations of other parameters in the larger brush panel (and subpanels) that can produce different effects based on this form but this is a good place to start.

If you click on the little icon next to the Custom Form in the Brush Form panel, it will bring up a set of folders containing "dab" forms. A large number are already
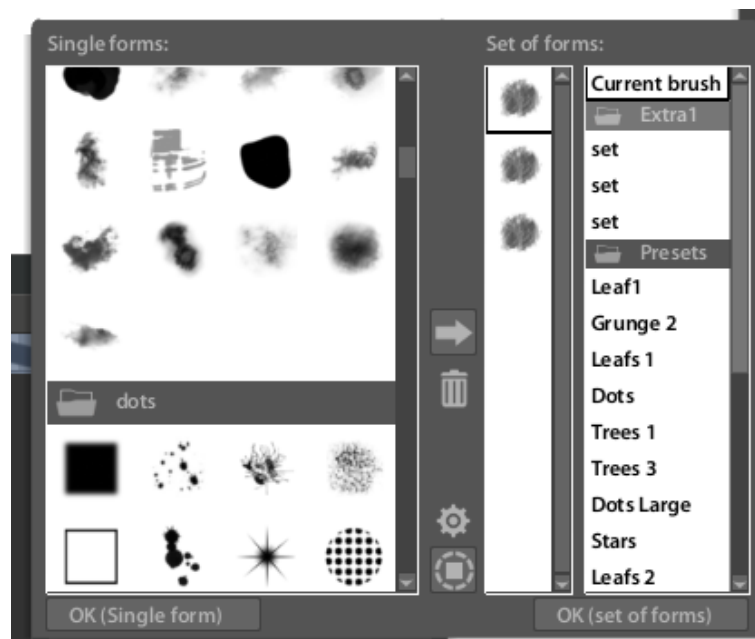
provided but in this case I'm going to add my own.

You have various ways to create a new form for your brushes. You can create them within Paintstorm itself, import them in an ABR format (not I believe, some formats from newer versions of Photoshop) or bring them in one at a time a .png using the import form dialog. Since bringing an ABR file is the easiest, I'll go through it first.

There are many places you can get .abr files, so as an example I downloaded the Sponge2 set of ABR brushes from Texturemate.com – also a good source for textures in general. The name of the ABR file (before the .abr extension) will become the name of a folder within the Forms set of folders so if you have a long name you might want to abbreviate it before you import. Once you have done the import, a new folder will appear with the images in the .abr file. You can then select them, individually or by building a set, for brushes.

Perhaps a bit out of order, to set the brush form, you must click on the OK(single form) or OK(set of forms). If you simply highlight a selection, then you won't actually make the change to the new form (or set). If you've set the custom form properly it will now appear in the small icon window and you'll see what a stroke will look like in the brush form window.

When you click on the gear icon, you'll see the following options.

Selecting the Import option will bring up a file menu allowing to select wherever you have stored you .abr file.
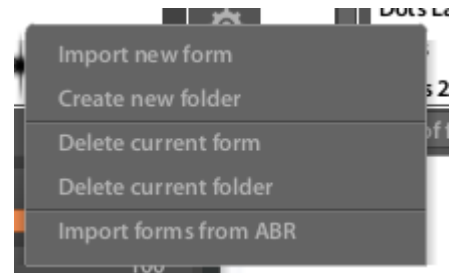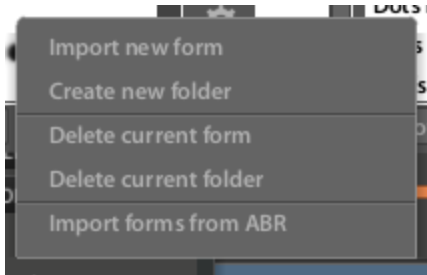
At this point it's good to note, a bit, how this all appears to work within Paintstorm. When you do an import, paintstorm does it's own coversion and places them in a folder in the Paintstorm Studio folder within the Documents folder on the PC. Paintstorm has it's own numbering system for keeping track of how the various components of the brush are tied together so, after the import, if you go to that folder to see what's there, you'll find a number of .png images with numeric names. If for example, you create a brush using one of those images, Paintstorm retains that in the brush definition. If for some reason you delete a form, or folder of forms, then Paintstorm will ask if you really want to do this since the brush will potentially be broken. If you delete the form then a custom form will be picked up elsewhere (see below).

In any case, importing from .abr is easy and quick assuming you have access to ones you want. Apparently there are different generations of .abr files so if the ones you want were created with, probably more current, versions of Photoshop you may have to find ways to convert them to older forms.
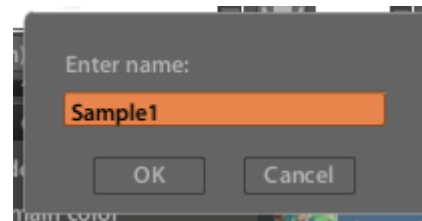
While doing an .abr import will create a folder in the forms list, at least for me, it makes sense to create your own folder – again not fooling with the defaults provided with the program.

A second way to create new forms is to import .png images one at a time. In this case, I am creating this set under the "Sample1" folder.
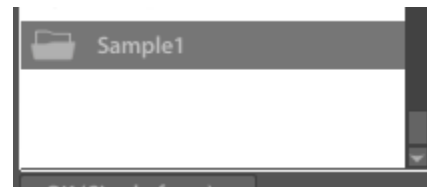
First create a Sample1 folder.

Import new form
Create new folder
Delete current form
Delete current folder
Import forms from ABR

The folder will then appear in the alphabetical order of folders.

Enter name:
Sample1
OK   Cancel

Position yourself to that folder which should show as open.

Sample1

Now it's a matter of importing whatever .png images you want. There is a size limit imposed this way (apparently .abr images don't have the same limitation). The .png's must be 1024x1024 pixels or smaller.

You then can go to wherever you have your images and start the selection process. You may well have to resize your images before the import. You will, probably, also want to make them solid black since it is the value (or alpha) that is used on the .png (value of 0 is black). If you have grey shades you in effect are using a form of mask.

Import new form
Create new folder
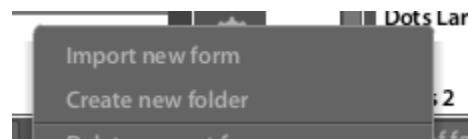
In this case I resized an image for Paintstorm that has twelve arms like a clock. The image will be brought in when I click on Open. I should now have the first new form in my Sample1 folder. If it appears elsewhere you haven't established positioning in the new folder. A sure way to do that is via the Capture method below and then take this approach..
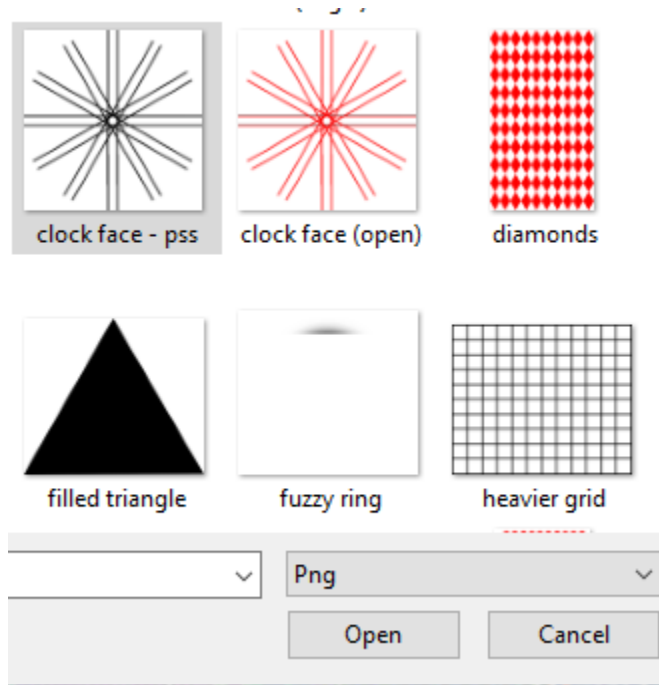
One way to resize or otherwise change an existing .png is to open it in Paintstorm itself and use the Image resizing option, saving it and then importing it as a form.

clock face - pss   clock face (open)   diamonds

filled triangle   fuzzy ring   heavier grid

Png
Open   Cancel

It should look like this. You can then select this form to see if you're getting the impression you expected. Selecting this form with your current brush means you will start drawing with this form. If you turn Feature on which makes it a "hairy" brush, for me at least, this can be an interesting brush to use as cover.

You can continue to add forms in this way until you have a set that interests you and meets your needs. I've added another few forms that aren't in the supplied set and then take the next step(s).

As of this writing, in my experience, if you wish to insert additional forms into your new folder, you must, prior to importing, select the first form in that folder to be used by your brush. You then import your new form. If you don't do this your form will end up stored in the first folder (alphabetically) of your forms library.
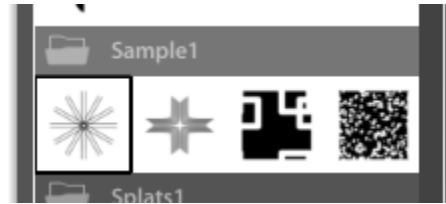
At this point it's important to understand that brushes in a set you create are tied to the forms used by them. If you save a brush in your new category that depends on a new form you created, you've created a dependency that can be broken if you delete the form. In my experience, when you delete a form, the brush form will revert to the first form found in your first folder in your forms library.

There is a third way – using the Capture feature associated with the selection tools – to create a form, or edit an existing form. The various options on selection give you quite a number of options but I won't discuss them here.
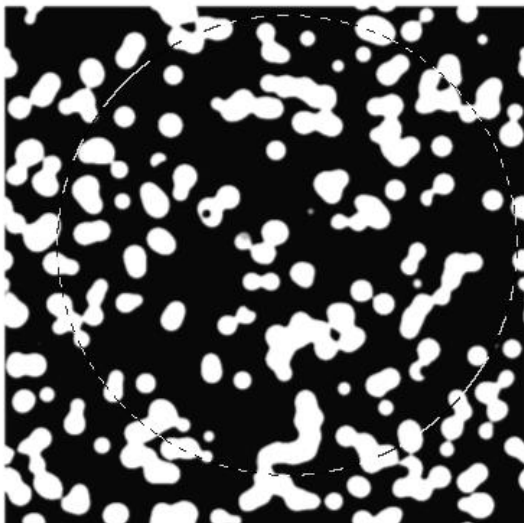
When you make a selection, in my example I took a circular section of the last form (spotted rectangle) in my Sample1 set.
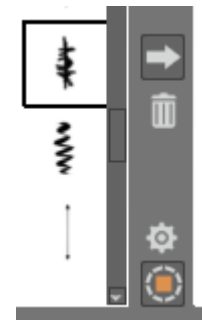
If you click on the "Capture Form" icon, you will be presented with a dialog that will allow you to save that form in the folder you select. In this case the Sample1 but you can select any other folder. There is an option to "Normalize" but if you uncheck it, it won't make much of a difference in how the image is stored – as far as I can see.

You can of course manipulate any form you create using this technique and then capturing the altered image. It really is a very flexible way to add capabilities.

As of this writing there is no mechanism to import or export folders of forms, just one at a time. Those functions are tied to brush categories so, if you intend to use these capabilities, you have to consider how you're going to deal with keeping track of them for purposes of recovery. See below on import/export of brushes.

A final note on the forms panel, there is a little box icon (select?) under the gear that will light up when you click on it and bring up another panel that allows you to variously flip the form in different ways.

 If you use this capability it will apply your setting to whatever form(s) you select until you click it again and reset it.

I probably haven't had enough experience with gradients to discern what checking the "effect on radial gradient" makes a difference in.

Sets of Forms

Another of the features of the custom forms panel is that you can create a set of forms that can be used in any number of ways. The process is similar to what's been used for single form folders. In this case you need to (in Windows) right click in the panel listing the various sets of forms. You can then create a new folder, named as you like. I haven't been able to figure out how to do this on the iPad version.
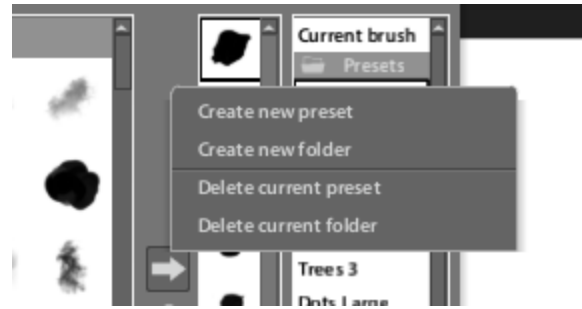
In that new folder you will find a new preset named "set". As of this writing there is no way to rename it so if you keep creating different presets they will all be named "set" and you'll have to keep track of them visually.

You add and delete forms within a set using arrow and trash can icons highlighting the form you wish to add to a set and clicking on the arrow and highlighting the form you wish to delete in the set of forms and clicking on the trash can. You can include forms from different form folders in a set. You may want to consider the consequences of mixing supplied and your own forms.

Working with Brush Texture

After the form discussion, this doesn't need to be as elaborate. You have the ability to import textures in a way similar to importing forms. Clicking the little gear at the bottom of the texture selection dialog gives you the following. You can create a new folder and then place new textures within it.

Once again, as of this writing, if you want to place a texture in your new folder, you must have the brush you're working with using the first item in the folder you are working on in order to place it in your new folder. If you do not then it will be placed in the folder with the lowest alphabetic name – probably the "Default" folder which you, also probably, don't want it in because you might find broken brushes in the event of a reinstall.
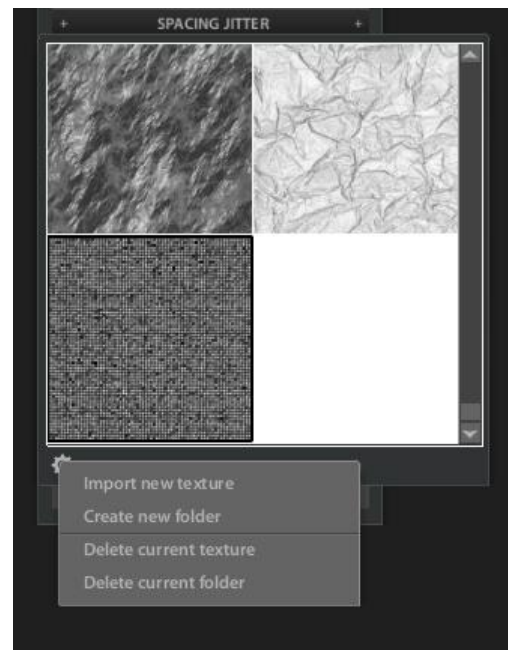
The dialog is very similar to that for forms – you want a .png image, preferably seamless depending on how the texture is used. As of this writing there is no equivalent of "import ABR" that will bring in a folder of textures so if you want to build textures, you do it a .png at a time. Aside from many sources of texture, I happen to use Filter Forge.

Making a Brush Category Set

One of my objectives in creating this document was to be able to build a brush category to share and in doing so add forms and textures that might be useful to others – as well as encourage others to do the same. So now let's go through the steps in doing so.

I create a new brush category called "Collection1" and make a copy of the first brush in the "Main Brushes" category in it. I make sure that I had that first brush set to the default values (via "load default brush") since it's all too easy to find yourself using a variant.

This is my starting point. I then make a second copy of that brush which becomes my starting point for bringing in different forms and textures. I'm not bringing gradients, in part on the assumption that they be something individuals might want to create themselves, in part because I'm not sure how closely they are bound to a brush. And I'm not adding sets of forms since that is a different level of complexity.

I want to make sure that I have a brush that captures each form I want to add and each texture but doesn't cause Paintstorm to have to bring in other resources. I've got about a dozen forms and a dozen textures and I'm adding a few more for variety (20 of each), so while the brushes probably won't make sense to use "as is", you'll end up with the ability to create your own variants by the hundreds.

As an aside the forms and textures are my creations rather than copied from other sources so there is no ownership issue if such can be said for things like this. Most of the textures are seamless.

To bring in textures, I create a new folder, also called "Collection1" and begin the import process, carefully noting that on each import I have the first texture in Collection1 highlighted (to add the first into an empty folder is a bit tricky but by opening closing etc. I manage to get my positioning set rather than have my new texture show up in the Default texture folder). If I don't have that texture set, on import my textures will go into the wrong folder. Since the idea here is to build up a library of textures and not to actually use them in brush settings, I change my second brush to use the textures and set a large brush size to get an idea of what they look like. Carefully resetting and adding I build up my collection of textures. I'm still using the second brush I created.

I will note that in order to use some of these textures, which weren't created for Paintstorm initially, you probably will have to vary some of the texture parameters (for example, set the texture mode to Subtract).

Next, I'll bring in forms, some of which I had before (all less than 1024x124 pixels), others that I create using the capture approach described above. I start with the capture approach to create some very basic shapes – bars and ovals. The advantage here is that when I capture a form I can specify which form folder it goes into. Getting an imported file into an empty folder is problematic but once I've established positioning it works fine. I try to include a variety of geometric shapes that I didn't see in the defaults and made a number of forms using other forms in the set using the capture function.

At this point, I exit Paintstorm. Why? Because all this work gets saved in Paintstorm's directories when you exit, not on the fly. When I come back in my forms and textures are where I expect them to be and because I

named the folders Collection1 they now appear after the "cloudy" folder that comes with the installation and before the "Default" texture folder. You may want to consider your folder names in that light.

I'm still on the second brush and to make things a bit simpler, I'll delete it and recreate it from the first brush. Then it's a matter of creating brushes matched with textures.

It takes a while and I am renaming each brush to be "sort of" related to the form type and texture currently associated with it. I've done a few different things, mostly adjusting size and spacing, since many of these forms are geometric, and size because you can see the texture better.

I also make sure that each new brush has been set to the default if you change it and want to go back to where you started. Finally, I add my splat icon for the brush category. I can, but am not, changing the little picture associated with each brush because I'm not sure what I'd choose for these hybrids.

I save again and restart. Once you restart, you'll probably find that the forms and textures that show up aren't in the same order as when you created them. I believe this is due to the internal numbering scheme Paintstorm uses – they'll be there but you may have to go look for them. This of course doesn't impact brushes created using these objects since it is part of the internals.

Now the ultimate test, I export my "Collection1" Brush Category to iCloud and see what happens when I import into the iPad version of Paintstorm. It works! (When I first did this the category icon ends up as a dark square so I pick from the available ones but recently it looks like that's been addressed).

Notes on "Size"
Since I fool around with shapes more than anything else, I wanted to understand the size parameter associated with a brush. As of version 2.00 (for me at least on Windows), the size ranges from 1 to 1000. But the slider isn't linear – it seems to be a multiplication factor. You can't go to zero, one is the minimum. Eyeballing the slider, about 25% is 32, 50% is 125, 75% is 400 and 100% is 1000. If you create a canvas of 1000 x 1000 pixels you find that, at 1000, a square shape set at 1000 appears to fill about 45% of the canvas, set at 750 it fills a quadrant. A very handy new feature is the ability to set the maximum size to a specific number of pixels by clicking on the number above the slider and entering it from the keyboard.

The size of the image is set by the slider, not the size of the original .png or .abr. If you look in the Paintstorm Studio directories (/Brush/Brforms/Folder Name) you see that most of the defaults are 32x32 or 128x128 although some are rectangular. In my custom brushes they are pretty much all over the map. So somewhere there's an algorithm that tries to make sense out of varying dimensions in a way that centers and scales the relevant .png to make the Size parameter make sense. Net, Size is intended to make the brush dab between

1 and 1000 pixels across. There has to be some limit of course and I guess 1000 is it for Windows. On my iPad Pro it is 800 – probably reflecting the constraints of memory.

I'm leaving in the paragraphs below because I think they may still be useful information, however I haven't repeated these exercises with the new sizing in version 2.00. I suspect that they are still reasonable when adjusting for the differences in sizes.

Since I brought in a number of textures, I was also interested in the way texture size works. As it happens, the vertical and horizontal stripe textures provided have 10 bars in them. So I created a 1000x1000 pixel file and simply drew a large stroke across it setting the texture scale as close as I could get to 1000. I ended up with 10 bars. Set it at 500ish and got 20, 2000 and got 5. So I think it's a reasonable assumption that there is a similar scaling involved. Now the .png behind the stripes is 1500x1500. I tried another texture (the tiles) which is a 600x600 image with 12 rows across. On the same 1000x1000 file, I got 12 rows using the scale of 1000 setting. So the size of the underlying .png is adjusted for.

Notes on Spacing/Jitter

Another area where size matters is in the spacing between dabs (no features involved here). This is with "Fixation" unchecked. Also "Both Axis" and "Size connection" unchecked.

Using a circle with size of 101 (as close as I could get) and my 1000x1000 pixel file, varying the spacing scale from 0 to 20 gave at least close to what I would expect. At 0, its essentially one on top of the other. At 20, the circles are separate and you get close to 10 distinct circles in a line drawn across the image. At 10, you get 20ish with about a 50% overlap. Depending on what you're trying to do this may be relevant in your brush size setting. (I don't know what Fixation is for but with it checked you get a much more widely space effect.)

The effect of Scatter scaling isn't that obvious for small values in how it works but I did notice one kind of cool thing. As you make the scatter parameter larger, the cursor outline (outer ring since the inner ring represents the form used itself) enlarges to give you an idea of the range within which your scattered form will appear.

The brush form image gives you a good idea of what varying scatter density will mean. High values mean a lot of stamps but it doesn't impact the form size used nor the range of scatter.
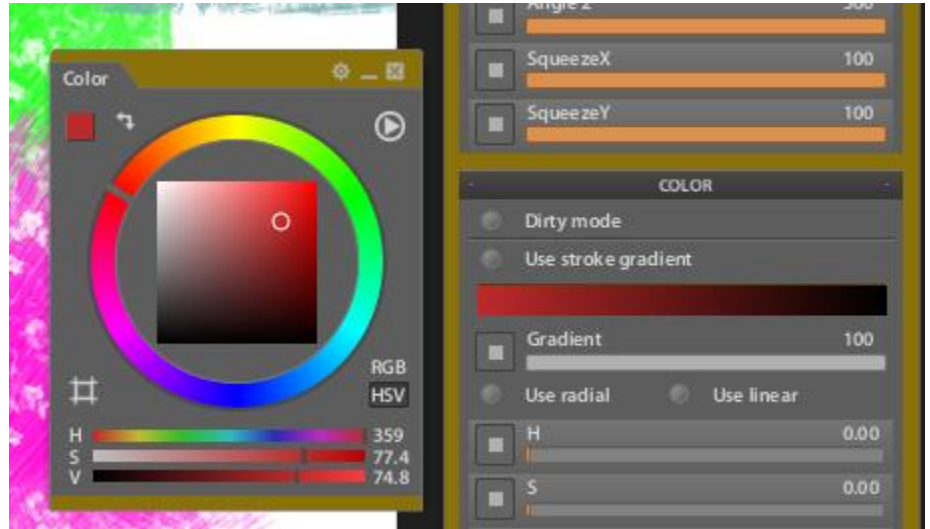
I know that if you check "Both Axis" you'll get scatter along the horizontal in addition to the vertical dimension. The "Size connection" no doubt ties the amount of scatter to the size parameter but I haven't yet explored it.

Other Notes

I'll discuss blending modes below (briefly) but one other feature of the brush is the ability to use it in different blend modes. Usually, it seems, blend modes are tied to layers but Paintstorm allows you to achieve the same effect as blending from a higher layer with using a brush. This can make for some interesting results.

Gradients Notes

You can associate a gradient with a brush, selecting the gradient from the list of available ones. I've also found that some brushes have gradients that don't show up in the selection list of gradients available to the gradient tool. Curious. If you check the "use stroke gradient" then you have to say how you want it applied. You do that by clicking the Gradient square and selecting the criteria you want to apply (pressure, random, etc.). You can use the same selection bar to control the range within the gradient that you want to sample from (say from 20 to 80 to take only the 60% of the middle of the gradient). Alternately you can check "use radial" to in effect use a circular gradient or "use linear" to spread the gradient across the brush stroke.

Other Notes

By accident in my brush creation experiment, somehow at some point I had managed to set Stabilizer in the General brush attributes to 100 (it defaults to 29.5). Once I tried those brushes on the iPad it became clear that even with the iPad Pro 12.9's processor(s) that something was wrong. So, now, in general, I set the Stabilizer to the default or less regardless of where I'm at. I'm sure it would help if I were doing something serious but it is something to consider for speed of stroke.

Double Brushes

There is a separate brush category called Double Brushes. The set now includes a variety of textured brushes that I don't believe were there before. For the brushes with the double label you notice a pattern. That is "brush x" and "mask x" – which means they are paired. The first brush is connected to the second of the pair, used as a mask. To better explore how the two are linked and what the various combination options mean, I created a new brush category. The easiest way to start exploring is to load the new category with two of the default brushes and rename one Base and the other Mask (although it doesn't always have to mask). This is an image after adjustment – you can see the form used in each and a small view of the brush stroke as if it would be seen if not tied to the other.

A double brush has a linkage – which may be two way; my experiment didn't involve linking outside of these two. I did it this way to allow me to see the impact of various changes without accidentally messing up other brush's settings. I don't always remember to "reset to default brush".

I also chose shapes that were (relatively) solid. By default the double brush is used as a mask. Since this function is part of the texture adjustments I think at least one of its intended uses is to provide a more dynamic texturing effect.

These show the relevant settings for the base brush and mask brush. The two have slightly different spacing and the masking is off. So now let's see what we get when we adjust the various parameters as we make strokes.

I'm painting on a layer above the base to show the impact of color and with a mouse so pressure isn't a factor and I think, for the most part at least, I've eliminated most of the other adjustments that can influence the stroke.
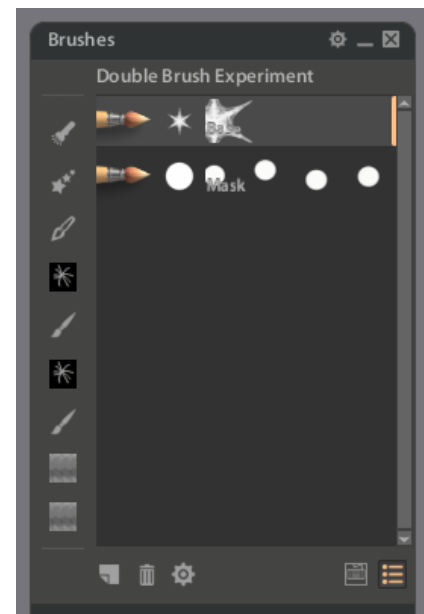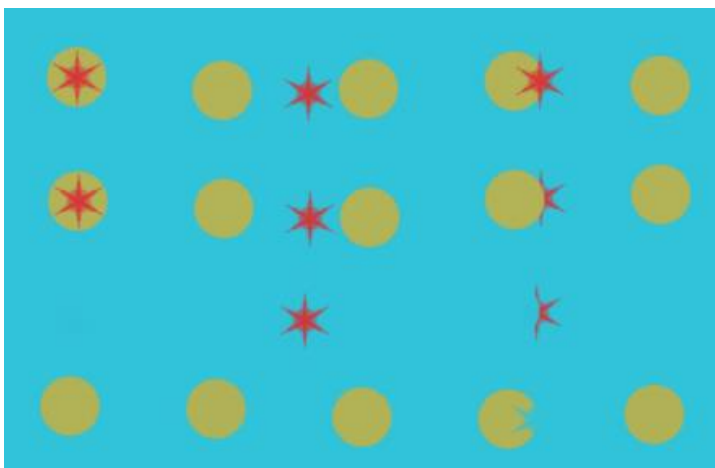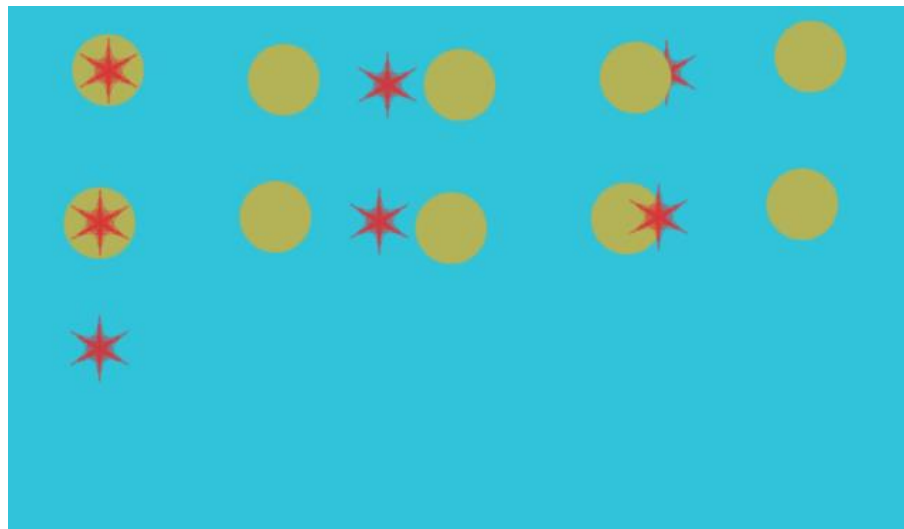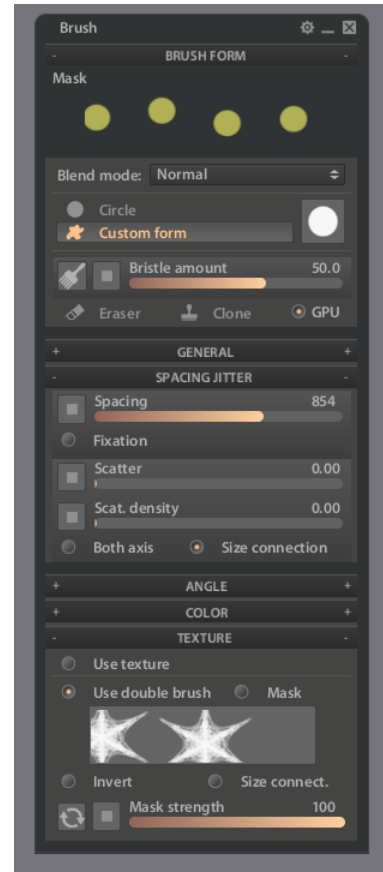

The top stroke is using Base as the primary tied to Mask (mask unchecked). The next stroke is using Mask as the primary and Base as the mask (mask unchecked).

Left Brush Panel:

Brush ⚙ _ ☒

BRUSH FORM

Base

Blend mode: Normal ⬍

○ Circle
✱ Custom form

Bristle amount   50.0

Eraser   Clone   ⦿ GPU

GENERAL

SPACING JITTER

Spacing   1419
○ Fixation
Scatter   0.00
Scat. density   0.00
⦿ Both axis   ○ Size connection

ANGLE

COLOR

TEXTURE

○ Use texture
⦿ Use double brush   ○ Mask

○ Invert   ○ Size connect.
Mask strength   100

Middle text:

So the first thing you notice is that they are very similar although in one each case the mask is on top (except for the first touch – at least here). The third stroke is using Base as primary and mask is checked in Mask. Only one start shows up – the rest are masked by the larger circles (solids). The fourth stroke – which you can't see is with Mask as primary and Base as secondary with masked check. Presumably that's because the spacing is such that, in effect, you don't have any overlap of the circles and the stars (it is the case if you change the various sizings to see).

Now if you check "invert" and do the same experiment you get something like this. Slightly different – again the relative sizing can make a difference.

Right Brush Panel:

Brush ⚙ _ ☒

BRUSH FORM

Mask

Blend mode: Normal ⬍

○ Circle
✱ Custom form

Bristle amount   50.0

Eraser   Clone   ⦿ GPU

GENERAL

SPACING JITTER

Spacing   854
○ Fixation
Scatter   0.00
Scat. density   0.00
○ Both axis   ⦿ Size connection

ANGLE

COLOR

TEXTURE

○ Use texture
⦿ Use double brush   ○ Mask

○ Invert   ○ Size connect.
Mask strength   100

I had the sizing the same for this example. Enlarging the star gives the first line. Then clicking on the little cycle icon at the bottom I checked size synchronization and got the second.

So the synchronization is tied to the size of the mask, not the size of the base. The "size connection" in the double brush window is tied to the size in the general panel for the double brush, not to the size of the base brush. Double brushes can obviously get complicated.
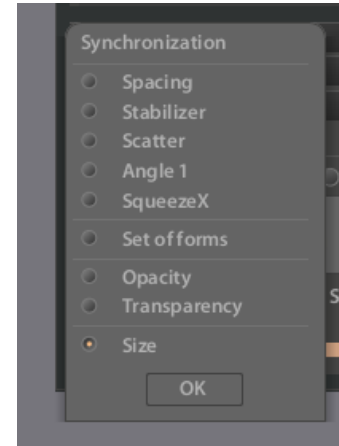
Cloning

Any brush can be used as a cloning brush and there are three modes available. Each mode copies whatever is under the reference point, established by the eyedrop tool (Alt for Windows). The eyedrop tool makes sense in that with cloning you're selecting a color from an existing image. The reference point is a very small + sign which can be difficult or almost impossible to discern on a dark part of the layer (it is invariably black) and it may or may not move as you use the cloning brush. In the duplicate mode, it isn't visible because it isn't a factor in what you see.

In Classic mode, cloning begins at a point established where you next set down the stylus after setting the reference point, using many of the current settings on the brush used to clone – other than the settings in the color block. It also will use the blend mode setting. That makes it a pretty flexible tool. The difference in modes is the reference point. The Classic mode keeps the same reference point relative to the stylus as it picks up and paints.

Straight mode is quite different. First make sure when you pick a reference point with the color picker that you have the show color bar highlighted. That way you'll get an idea of where you're cloning from. Now when you make a stroke, you'll be painting at the new location with whatever was at the reference point. One use would be to make a copy of a given area elsewhere on the same layer – or you use all layers.

The third mode is Duplicate – basically the brush takes on the image of whatever is below it and uses it to paint with. So for example, if you select an area that the brush size covers which has a variety of colors – sure enough you're painting with that image.

One obvious use manipulating all or parts of a photo or other image that you are using as a base to start from. While Paintstorm is a drawing program, many of the more recent extensions make it suitable for some of the things one sees as Photoshop manipulations.

Scripts

It may seem like I'm wandering (I am) but since I found using this the best way to understand the guides discussion which follows I'll briefly stop here and talk about the Script function. I believe my use was not the intended use but I did learn something.

Scripts have their own panels – a record and a play version. The play version is simple enough. Press the little red button and recording will begin. In my case I wanted to make a single stroke on a new canvas to try and understand how the various symmetry options worked. I think the icons in the bottom for load and save are fairly self evident. The orange square at the bottom stops the recording.

A single stroke on a blank canvas generates a six action script – something of a surprise. Actually the only thing I wanted was the last stroke action for my testing. It may not work the same in all cases but in this case the various actions were: Color, Change Brush, Reset brush to start settings, Toggle guides, Toggle mirror, and finally Stroke.

As far as I can determine there is no way to skip a step or do any other kind of editing within the script but you can move back and forth within it using the play and forward backward controls at the bottom. In my case I only wanted to play the last (stroke) action repeatedly. I also have found that this is one way to see how a brush image changes if you vary the brush or its settings – doesn't work that simply on all brushes, presumably because the scripts have additional actions.

The help available online discusses how to use this in a more directed way towards creating large paintings and capturing what was done – my use is probably the trivial use of this function.
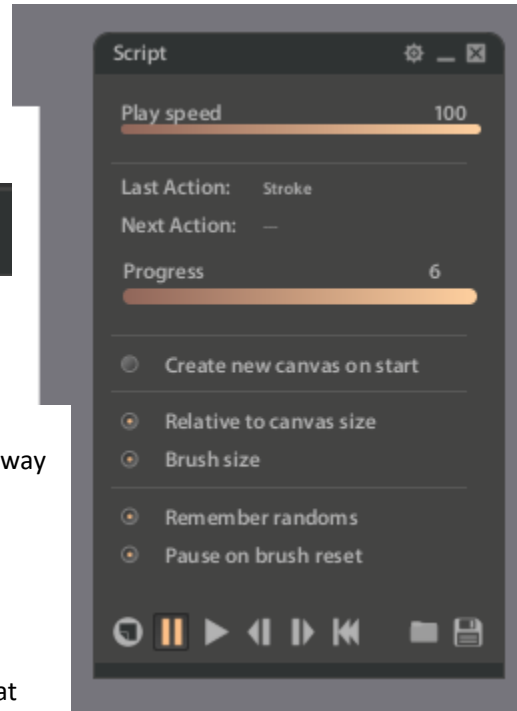
Using Guides

Paintstorm provides number of "Guides" for helping with various tasks. With them you can (relatively) create things like symmetric shapes, simplify the creation of drawings with perspective, and use a ruler to draw a family of straight lines. A guide has multiple control points. In this, the simplest case, the slightly darker square is the center of the guide and clicking on it allows you to move it on the canvas. The second, lighter square can be clicked on to rotate as well as move out and in. This control point also, in some cases, is tied to the "link to guides" function of brushes.
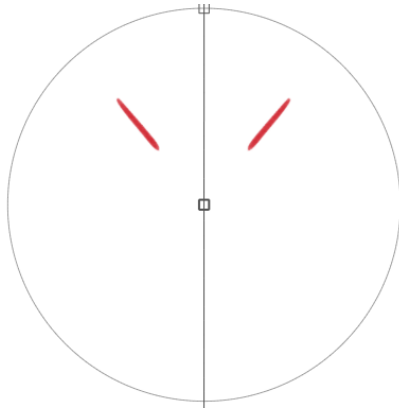
Mirroring

The Mirror function is invoked by using the first (reflection) icon.
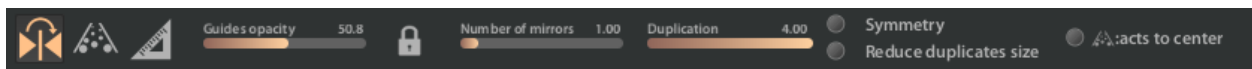
The first bar simply controls how visible the guides are (the guide colors will shift as they cross different levels of brightness). The guide itself consists of, at a minimum, of a line with two small squares on it. The darker

square will be the center for the symmetry operation. The second square rotates around that center as a guide. The center is typically easy to keep track of but the square that allows rotation may be obscured – one reason to move it in or out is to keep better track of where it's at. If you have "acts to center" checked there will be a circular guide as well.

At its simplest (no extra mirrors, duplications). If you make a stroke in Symmetry mode, you'll get a result like that on the left. The stroke will be mirrored using the line guide for its reference. If you rotate the line, stroke mirroring will follow.

If however you don't have Symmetry checked you'll get a mirroring at 180 degrees from your stroke. At least for me once you start extending strokes and adding duplicates etc. it gets pretty complicated to anticipate what you're going to get.
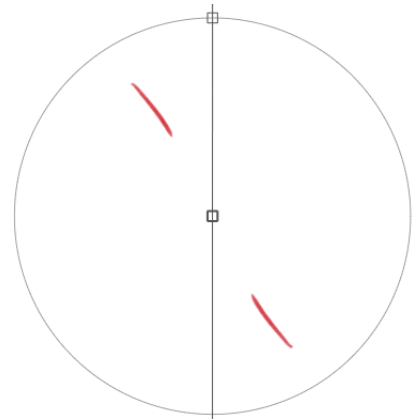

You can have from one to ten mirrors. The more mirrors the more axis lines. The number of duplicates can range from 0 to 4. A duplicate is a repeat of a given stroke repeated from the original inwards to the center from one to four times. The green has 0 duplicates, the blue 4. Depending on the brush, you may wish to check "Reduce duplicates size" and the stroke will be duplicated at a smaller size moving toward the center.
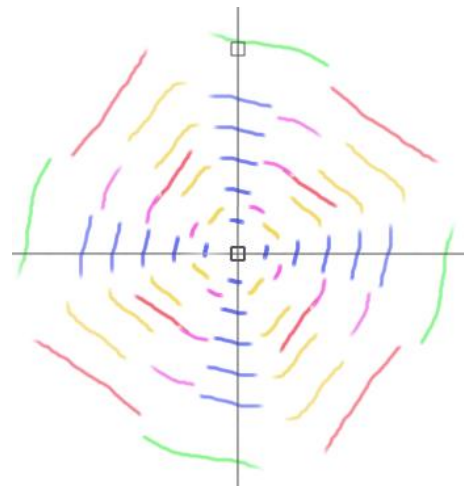
Having "acts as center" has to do with tying brush actions to the guides (see below). You can combine the symmetry guide with the ruler guide, also below.

Landscape Guide

The next guide gives you sort of a perspective look, controlled by the four points, the distance from the central point to the lower control (in this image) controlling the angle to the
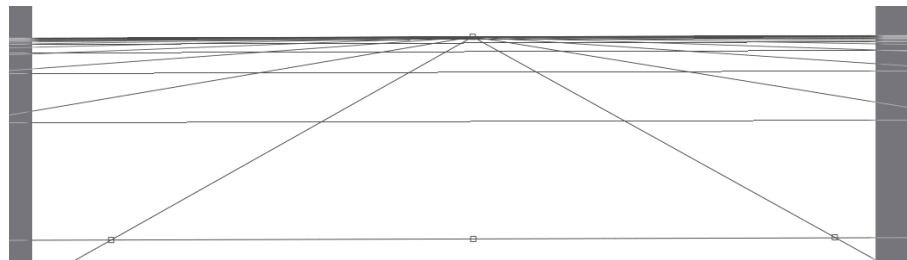
horizon. The two lower control points allow you to rotate the horizon. You may need to zoom out to see the outlier control points depending on your canvas dimensions. They can be used to rotate the horizon as well.

Of itself, simply showing this grid doesn't do anything to the painting process itself. The use in this way seems to be tied to its use with brushes via setting one or more parameters to use it. The most likely would be brush size and color adjustment works as well. The default for most brushes when you check that option is to have the stokes go from big at distance to small at the center although you can easily set it the other way around. However you can cause guide to act as a form of ruler by using the "Snap to Guide" option – for some reason included in the Other dropdown on the top ribbon.

Rulers

The simplest guide in this category simply gives you a line with the two control points (center and outlier). By default (Ruler) you can only draw straight lines at the angle of the ruler. With the Ellipse you get a circle. If you manipulate the control point on the line of the circle you will enlarge or shrink the circle. If you manipulate the control point not on the line (on the arc itself) you can make it more or less elliptical. You can only now draw circles and ellipses around the center of the ruler.

There are rulers for two and three point perspective – subjects beyond the scope of this document other than to say that strokes made will align with the various control points in use.

A feature of rulers is that they provide a point where characteristics of a brush can be linked to the ruler as a guide. For example, with an ellipse as a ruler, both stroke size and color (by gradient) can be tied to the point on the radius of the ruler.

Or this, with a line ruler.
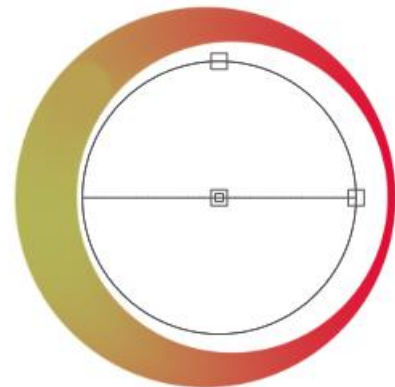
And you can link symmetry to rulers to the rulers. This is the ellipse example..
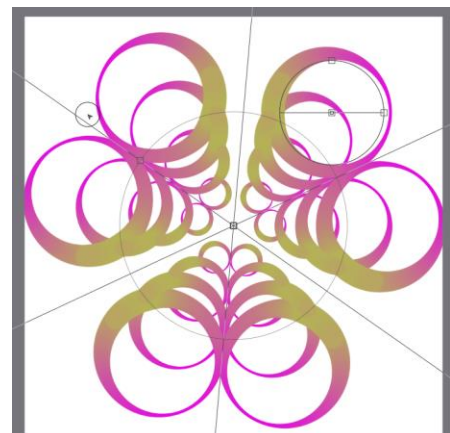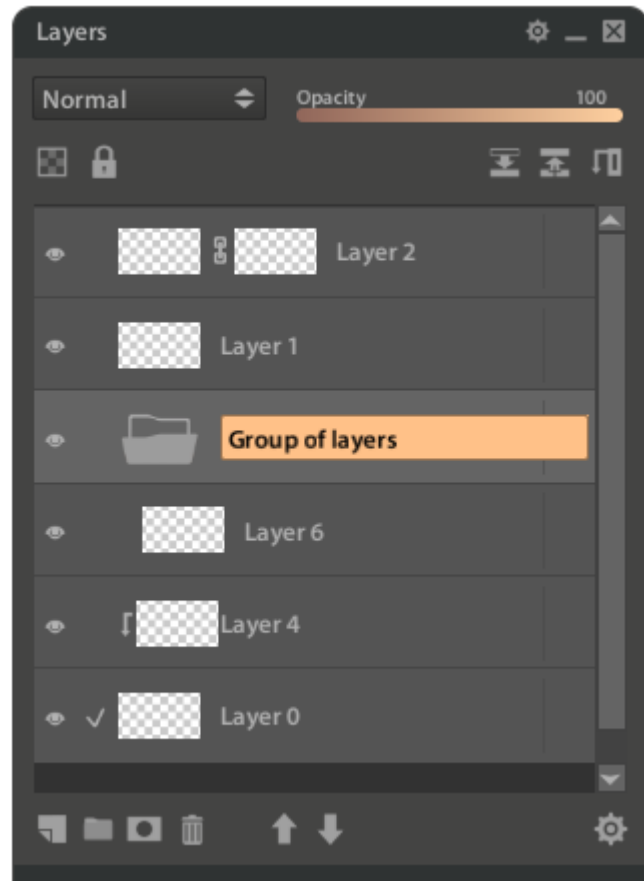
Layers

Layers are a fundamental of digital artwork. It seems professionals may have hundreds of them in a particular drawing. One of the major improvements in Paintstorm since I first wrote notes is in the capabilities of the layer panel. I'm putting this ahead of the discussion of editing "objects" because it took me quite a while to figure out how Paintstorm handles copy/cut and paste – and it makes sense to consider an object tied to a separate layer. For that exercise, an object is a selected area on an existing layer. But first let's look at layers.

I won't go into all the details but this example contains pretty much the types of layers available, including the ability to have a group with a set of layers within it. It also shows both a layer mask (the two linked side by side) and a clipping mask (with the arrow pointing down). The layer with the check box in it is the "reference layer" – used when working with some functions (clone for example)

This seems an appropriate time to talk about "the alpha channel". On the color panel you may well select the RGB option – three channels, red, green, and blue. But there's another dimension there – going from 0 to 255 – that range is something I think is called the alpha channel, dark (0) to light (255). In HSV form (which I typically use), black corresponds to V of 0 regardless of H and S; white is V of 100 and H and S of 0. Paintstorm always starts with a white base layer. The alpha value is important in masking. It is not the same as opacity or transparency.

To learn more about how they all work together, blending modes, etc. it's time to do a bit of research on how Photoshop works – left to the reader. Simply, Normal means pretty much what you see is what you get. The modes from Darken to Darker Color darken what you see. The modes from Lighten to Lighter Color do the opposite – make what you see lighter. Overlay through Divide perform various types of mathematics, highlighting or diminishing the effects of one or more aspects of the two layers involved in the blending. So it seems to me a matter of experimentation. Although one soon learns, in general when you use blending modes with layers, if you merge layers at some point then the effects of the blends are no longer present because the blending is the result of mathematical gyrations involving the color values between the layers – if the layers are combined there's nothing to blend.

I clicked on the little gear at the bottom right and this came up). A subset of the options here are available under the Layer dropdown on the top ribbon.

These are all the various functions you can perform on layers. Safe to say a fair number. I think most of them are pretty much self-explanatory, except perhaps the ones for selection – which ties into my cut and paste issues. You can create selections of multiple layers for your cut/copy operation in addition to being able to perform the operation on a single layer. So, in that instance the entire layer is an object as well.

I won't go into all the various functions available as many are probably obvious. Most involve only one or two layers. I haven't played with folders enough to talk about how the various options work when they are involved. Clear layer has recently been added

Layer Selection

As best I can determine, using the Selection option (or Selection +) is the equivalent to Select All under the Selection dropdown on the top ribbon. I haven't figured out how to deal with Selection -. Presumably these options are a shortcut for layer level operations.

You can select multiple layers using (in Windows at least), using the Shift and Ctrl keys – one use is in the Smart Color Correction context. Layers can come into and out of groups by dragging them above or below the respective folder layer.

Masks

There are two types of "masks" that can be used with layers. The first is a "layer mask" (Layer 2 above). There is, by default, a linkage symbol between the basic image and the mask. When the mask is created, in effect you have two layers – side by side – with the second (mask) highlighted (off blue in my experience).

The purpose of the layer mask is fairly simple – it impacts what can be seen of the layer the mask is applied to. If you paint on the mask (gradients as well) – regardless of where you're at on the color wheel – the mask will be created based on the combination of transparency and opacity of your paint. In effect, you are painting the alpha channel and the opacity of the stroke (gradient etc.) sets the value from 0 to 100. Wherever you paint the combination will show whatever is beneath the layer being masked – white if that happens to be the base layer. (or whatever is on lower layers). You can, for example, texture a lower layer by inserting a layer above it and painting with a textured brush over it using it as a mask – again regardless of color since only opacity is involved.
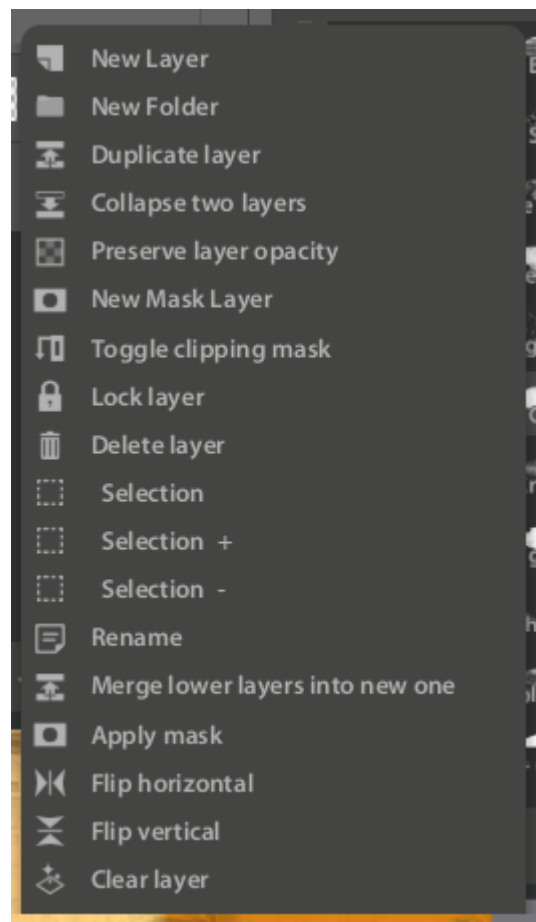
The mask itself, as of this writing, doesn't show up quite as expected in the layer panel – it's condensed into the top half of the frame. And what looks to be dark in that small panel will show up as whatever is below it in the layer stack.

If you click on the original image on the layer, the highlight (off blue) will move to that image. You can now paint on it and, depending on the linkage (on or off), the mask will impact how you can paint. If the linkage is on then actions you take on the base image will be impacted by the mask – if the mask is linked your paint will be applied as if the mask is there. If the link is off then your paint will appear on the base image – but still controlled by the mask.

Masks aren't inherited if you duplicate the layer. If you want to get rid of a mask, duplicate the layer and delete the original. At least for me, you can't collapse layers with masks on them. A layer with a mask on it can't, probably logically, be used as a clipping layer (see below). If you want to make the mask permanent then Apply Layer Mask is the thing to do.

The second type of mask is a "clipping" mask. To me it seems a bit difficult to understand. It is an interaction between the potentially a stack of clippings (you can have more than one – presumably a folder would be appropriate) and a reference layer that the clips apply to. Probably why there is a little downward arrow pointing to that layer. IF there is something on the layer below (color doesn't matter, it's the "alpha" aspect) and IF there is something on the clipping layer, then show the value on the clip rather than on the layer below (the lower layer (Layer 0 above) determines when something on the clip layer (Layer 4 above) is shown. IF you don't use the value from the clipping layer because that layer (Layer 4) has nothing on it use the value from the lower layer (Layer 0). You can collapse a set of clipping layers. If you duplicate a clipping mask layer the clipping will not be inherited.

Preserve Layer Opacity

This is a type of masking as well. Only in this case it means that you can only paint over areas of the layer that already has some form of paint on them – in effect the same as having a layer mask equivalent to where you've been. Whereas a layer with a layer mask on it can't be duplicated, if you duplicate a layer with preserved opacity it is inherited by the new layer.

Other Layer Notes

A layer related feature of the canvas is that if you do a right click on a point (Windows) on the canvas, you can see a list of the layers that are contributing to what you see visually. That's a new feature that I can see would be very helpful if you're really into layering.
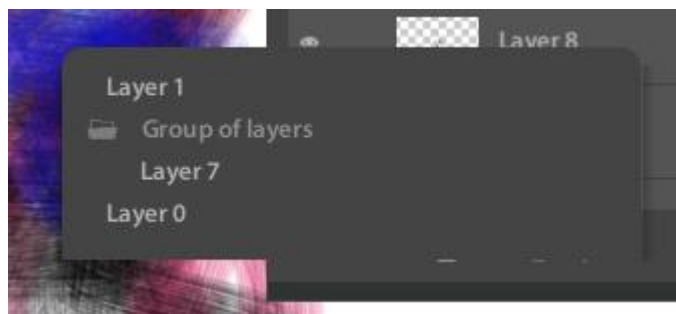
That's it for layers right now.

Selection Options

While I intended to explain some Edit options, it became apparent that I needed to go through the process of selection first. There are a number of ways you can select all or portions of a layer – three are tools and under the Selection dropdown in the top ribbon an interesting option called Color Range.

Selection by Shape

The first tool (shown either as a square or circle) allows you to make selections based on those shapes – actually rectangles and ellipses although you can turn them into squares and circles using the controls that are part of the tool.

The controls are, respectively, undo and redo, click to select rectangular or circle selection, + to add different selections, - to subtract from existing selections, "capture form" potentially to use elsewhere (one option is brush form), select a rectangular area surrounding the selection(s), and finally cancel. If you click on the square with brackets around it you have an option perform a free transform on that rectangle. (See below).

Selection by Lasso

The second tool (a round or angled lasso) works similarly and may make more sense for complex objects to be selected. With either one you draw around the area to be selected either continuously or using a series of points. With either of the lasso tools you are selecting the entire area within the completed path.

Selection by Magic Wand (and Fill)

The last tool is the "Magic Wand" which selects area based on hue and value (H and V). It's controls are considerably more complex. A little online research shows that this is the equivalent of the Photoshop magic wand tool. Pixels are selected based on the value of the pixel that the wand is touched on. If an adjoining pixel is within a given tolerance (the slider) of that pixel then it is selected so a higher tolerance will select more pixels. If it's close to zero then it's likely little will be selected. The gap sliders control how areas in proximity to the area selected may be selected as well if they are close enough to be potentially part of what you want to capture. The Gaps effects measure applies a circle around the point where you press the wand so that, depending on where you place it, it may or may not have an impact on what gets selected. The "inc" slider can widen the area the wand would normally select by a few pixels so that what is selected is slightly larger than the area with the selected pixels in it. The Fill tool has the same set of controls in selecting which areas to fill.
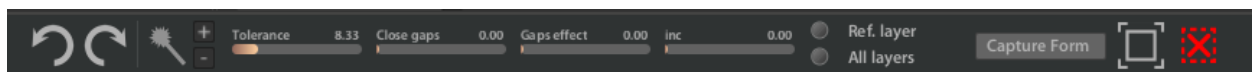
The final selection mechanism is found under the Selection dropdown itself – by Color Range.

Color Range Selection

The color range selection tool operates only on an entire layer, and unlike the magic wand, will select all instances of a given color on that layer rather than as one might have to do using the magic wand with the + activated. If you have an image with lots of the same color but in discontiguous areas, using this tool that you want to change this tool is the obvious choice. For this tool, "B" is substituted for "V" – for brightness. My (limited) experience is that you can play around with the sliders to see how your selection will vary. The higher the Hardness the more particular the color selection criteria for similarity will be – make it low and other areas will drift in. The little color sampler eyedrap will sample the color you wish to pick. For each pick a color sample swatch will show on the lower left of the image of what was selected. If you wish to remove that section, click on the swatch and it will no longer be part of the selection.

Once you have the selection you want, you then have the option to invert it – that is take everything BUT the selection as a new selection. A Select All option takes everything on the layer and usually is tied to something like a Free Transform (an Edit dropdown option). There is an option to remove the marching ants around a selection in Hide Selection.

Although the + and – must not be active to do it, you can also move the selected areas on the layer – you can see this because of the little scissors that appear by the selection. This is not the same as the copy/cut/paste operation. It simply allows you to move the selection and does not change what is in the clipboard.

Edit Menu Options

You have a list of options under the Edit menu and, in particular, a new one called "Seamless Mode". The undo and redo doubtless need no further explanation.

Copy, Cut and Paste

It shouldn't have, I guess, but it has taken me a while to figure out how the Copy and Paste operations work – probably because it works this way in Photoshop but it certainly isn't how it works in a lot of other software. In Paintstorm, you can select the area you wish to Cut or Copy using one of the selection methods above. Once you have a selection, if you select cut the selection will be immediately removed and copied to the clipboard where it will be kept until the next cut/copy operation. If you then do a paste operation what you cut will be pasted on a new layer at the location of the selection where you can manipulate it using other tools.

Let's say you want to make a copy of an area on a layer – a classic copy. You select the area of interest and do a copy operation (the traditional Ctrl-c). That area has been copied to the clipboard. The area you copied has the little scissors on it. As noted above, you can move that selection around on the canvas to where you want it and deselect. If you then paste (Ctrl-v) what you copied to the clipboard will now show up on a layer above the one you are working on. If you then collapse the two layers (Ctrl-e) you now have both the original selection and the relocated selection on the same layer. Your original selection is on the clipboard until you do another copy.

If you select copy the selection will be outlined with a little scissors by it. The copied selection, if you select the move tool,
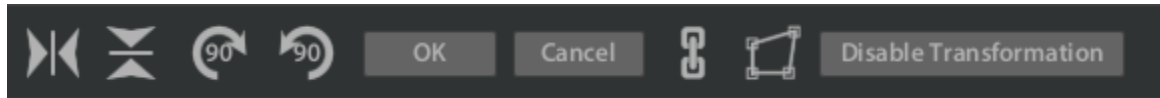
can then be moved to another point on the same layer (leaving a hole so arguably more of a move than a copy) rather than create a new layer with the selection on it. if you paste it, will create a new layer with that selection on it. Whatever is copied (cut) is still on the clipboard. If you paste it, a new layer will be created with the selection on it. In my case the copied object will show up in the upper left whereas with a cut object it will show up in the new layer.

When making selections, if you do multiple pastes, what you selected will tend to end up in the upper left hand corner of the layer rather than where you had originally pasted it so you may need to account for that.

Free Transform

This is a particularly powerful tool. It can operate on a layer or selections within a layer. One common use is to rescale an image – for example a photograph that might be the basis for a drawing.

Paintstorm can have multiple files open at one time, although only one can be visible at a time, and you may want to bring in something from one file onto another. You do that by selecting on one file and pasting it to the target. The controls are the same as noted above under selection.

The tool draws a rectangular outline around the area selected and provides nine points at the edges and median points on each side as well as center. You then drag at the various control points (hard to capture unfortunately). If the trapezoid is highlighted then you can distort the rectangle as well. The Disable Transformation is new in 2.02 and there is a video available that shows how this can be used – a very nice addition.

Seamless Mode

Actually I'm pretty happy with this new addition. One of Paintstorm's real strengths, in my mind, is how it deals with textures in brushes since it doesn't have a "canvas" dimension to it. Now it's very easy to create seamless textures (which usually look better for traditional media) within Paintstorm itself. An easy example. If you've visited hangmoon.deviant.com (the author's personal site there) – and if you haven't you should – then you've seen some of his backgrounds – for example a grid of squares around a background. How do you get a grid of squares? Using seamless mode it's pretty easy. Start with a new file, say 512x512. Enter Seamless mode. You'll see controls at the top and I'd recommend checking "Show Frame". Now you've got an outline. Pick a brush (for no texture the default will do and set its size to be approximately half the width of what you'd like the border to be.
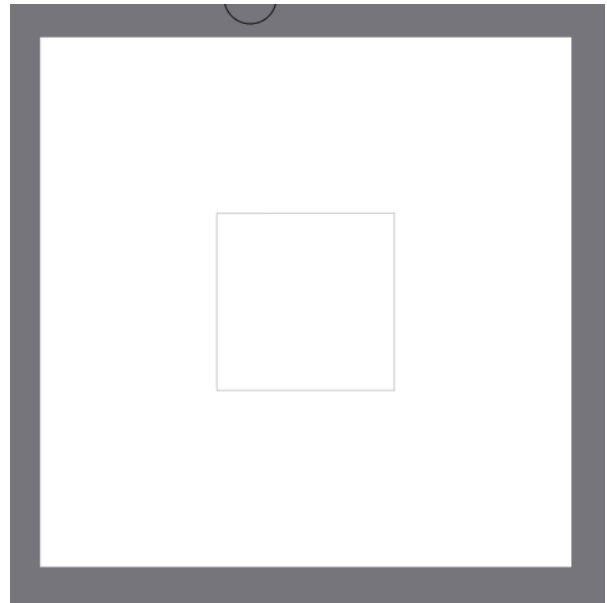
Now click in one corner of the frame to establish a starting point. Then hold down the shift key to make a straight line up to the next corner above (assuming you started at the lower left).
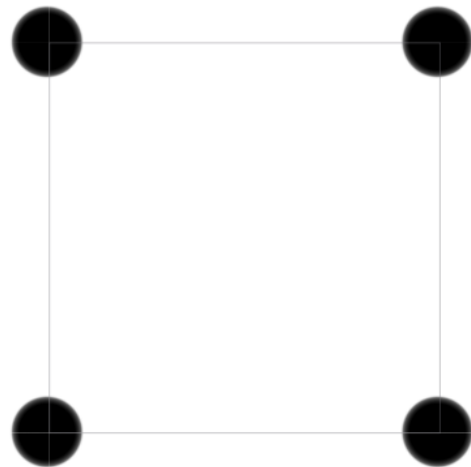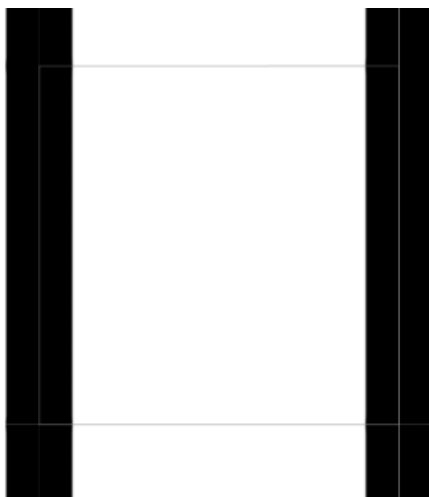
You have now created the vertical part of your grid. Now connect doing the same thing (shift held down) to the center on the other side of the frame.

What results is a square with a border on it that can be used almost like a stencil.
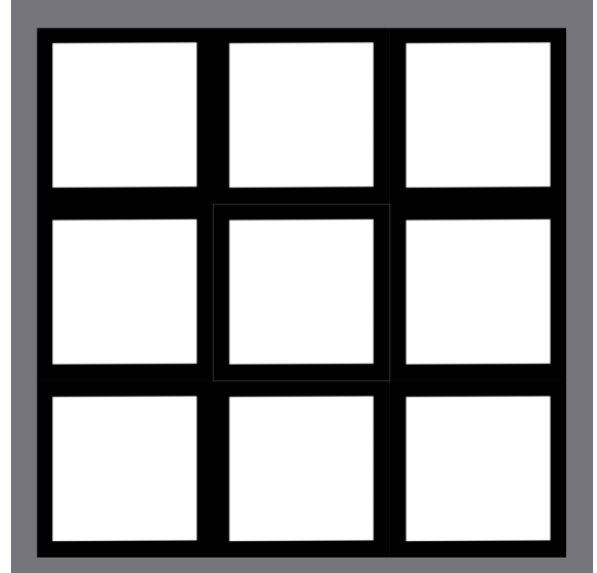
You can exit seamless mode to see if it looks right (I'll admit to not always getting the lines perfectly square doing this). If it's right, save it as a .png which you can subsequently import as a texture.

Here's a resultant example on a layer above a gradient. Seamless mode in combination with the ability to use textures with brushes opens up a lot of possibilities. I think you can also see how this technique could be used with masks.
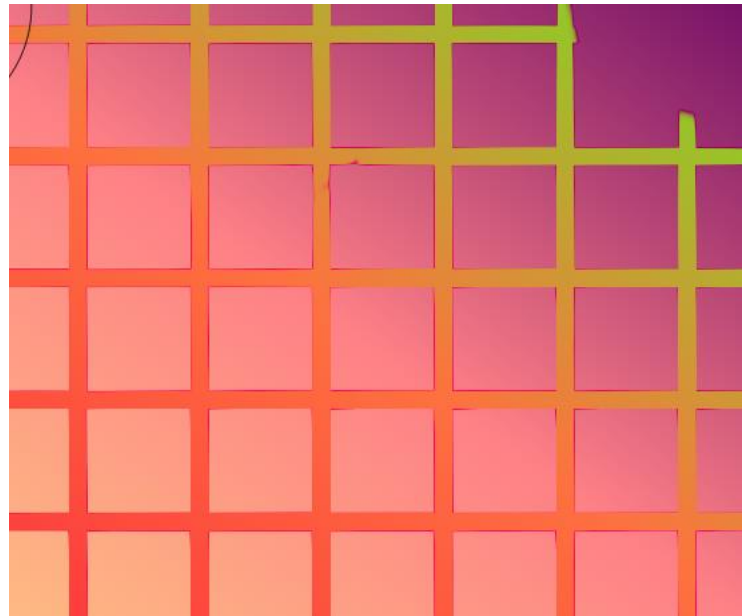
Image Menu Options

The Image menu gives you options to adjust color balance and brightness, alternatively hue and saturation. The easiest way to see what they do is simply use them as they consist of a set of sliders adjusting different factors in color. I suspect they are a simpler form of the Smart Color Correction dialog which is now available. Only the current layer is impacted.

Another option is to resize the canvas – generally larger would seem to make sense since to make it smaller will crop what is already there. If larger you can select what sector of the new canvas you want the previous image to appear on. Finally you can resize the image (which resizes the canvas as well) – both up and down – will predictable results.

Filter Menu Options

You have the option to Blur or Sharpen an image – it applies to the current layer. In each case you're given a strength parameter. You can apply the filter multiple times so it may make the most sense to do it in small increments. One likely use might be to use tools like the magic wand to select areas you want to highlight and then invert the selection to what is left and use the blur tool to emphasize the highlights.

The Warp filter allows you to do just that. There are a variety of parameters you can set. The pattern below shows the how each of the four tools (left to right) change the shape of lines crossing each other when used in a circular motion (top), up and down, and then across.

The canvas was small and strength and hardness large to make the effects easier to see.
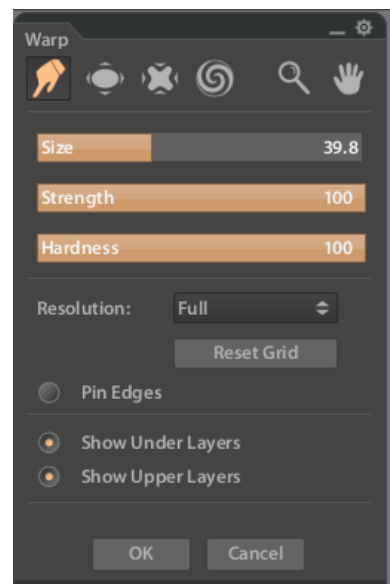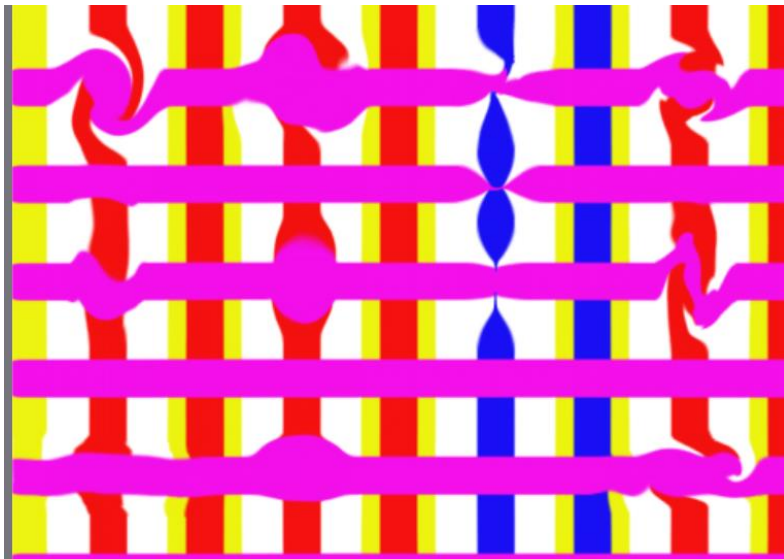
Smart Color Correction

This is particular filter probably deserves its own set of documentation. But it's really a very powerful tool if you know where you're going. I presume this set of capabilities comes from the photo editing world since the use of shadows, midtones and highlights shows up on a number of the subpanels. To illustrate it – rather than really explain it in detail, I picked a colorful image I created some time back.
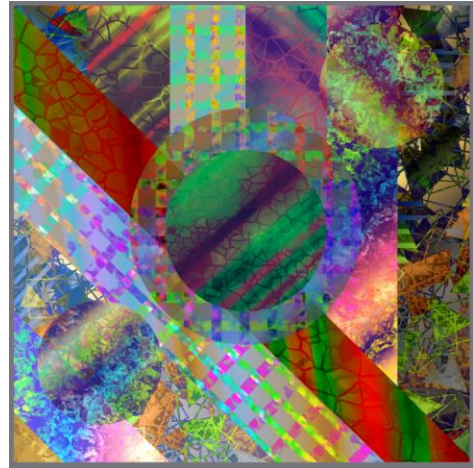
Clicking on the Smart Color Correction filter, you will see your image along with two panels that have linkages between them. The smaller one allows you to set some parameters – in particular you have the choice of blend mode and you can apply the corrections (I'd call the results effects). You can restrict the effects to selected layers (which you can do using the Shift and Ctrl keys on the layers panel) – pretty nice. I haven't experimented enough to see what the resolution impact is.
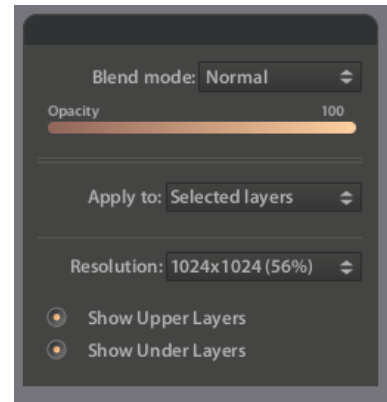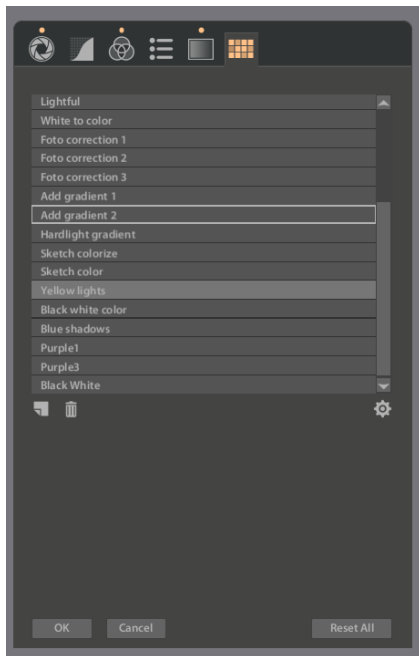

The second, larger, panel, is complex and provides a number of options for corrections/changes. The image that follows was the result of applying the Add gradient 2 correction. The related smaller panel shows that the Blend Mode is Add and opacity set to 29.4 – showing the linkage between the two. You also see three dots above the different tools involved in the correction. If a tool has been adjusted from its default values the dot lights up. You can click on each tool to see how the parameters have been adjusted – each one has its own set of controls (and where the photo adjustment approach shows up). The last panel shows a list of saved presets and you can create your own – for example I created a "Black White" filter than will take all color out – it only uses the second tool.
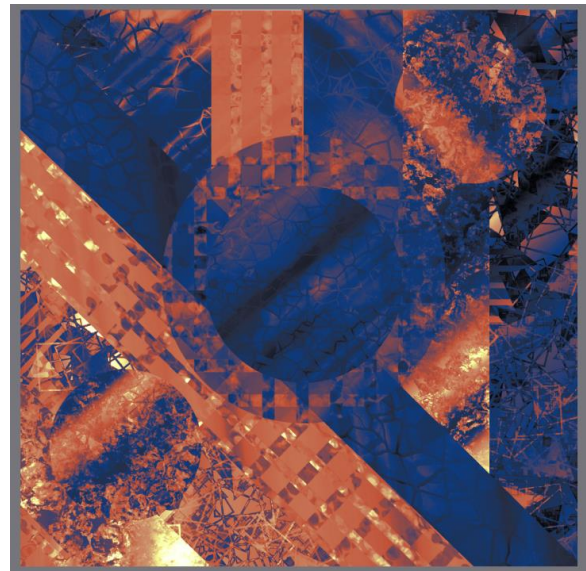
The gradient 2 correction is fairly subtle.

However, for example the Sketch colorize preset is quite different and it only involves the gradient tool being applied.

The possibilities are endless – try inverting or make different channel changes.
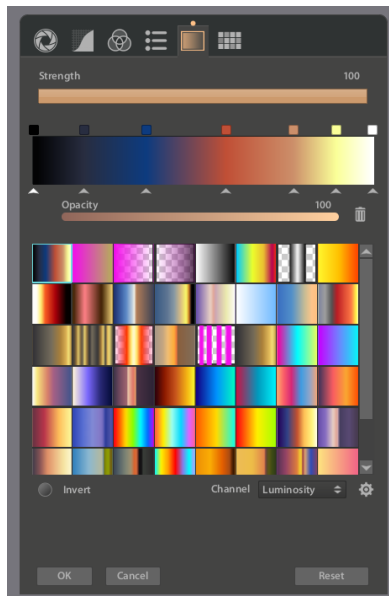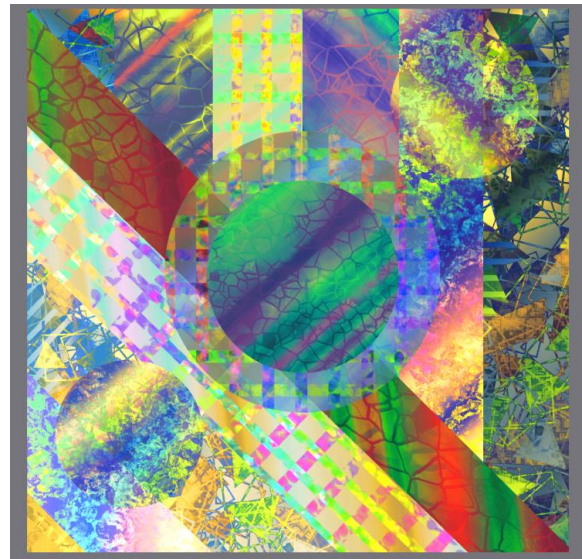
Tthe applied gradient is at the left.

An interesting experiment for the reader is to create a simple layer with a gradient on it (top to bottom or left to right) and then change the various Channel options to see how the gradients in color correction apply.