Custom Vector Brush

Textured Intensity Brush

"Creates a brush stroke based on the opacity values of a raster image"

Notes:

1. There tends to be a lot of trial and error in the design process so it is advantageous to to set up a basic template to experiment with potential brushes. Consider the size of template and brush dimensions.

2. In terms of vector brushes usually the width determines the stroke (stretch or repeat) along a vector line and the height the width of the stroke. This seems obvious but reducing the pixel area to a minimum helps to keep the file size down.

3. Margins around the final raster image(.png) will influence how the brush size functions when painting.

4. Vector brushes can be created using vector elements or existing raster brushes

5. Nozzles are created as 'negatives' or white on black (grey and transparency applied)

6. A two stage process involving nozzle creation (design process) and adjustments to brush dynamics

7. Vector brushes can be created using a several different methods: single vector shape; sequence of vector groups; layered textures; painted with raster brushes or a combination of all methods.

8. Use grids and guides effectively; set up to mirror the dimensions of nozzles. Keep sizes consistent where possible.

9. Leave only a small margin around a nozzle shape. Remove any conflicts between a nozzle and exported slice.

10. Adopt a naming convention for slices and sequentially number them

11. When working with large numbers of brushes use copy and paste in the slice panel to quickly transfer settings between slices. Consider setting up a preset based on settings.

12. Adopt standard width sizes

13. Use transparency and opacity to blend the edge of the brush in X+Y directions using nested groups.

14. Use Layer options to experiment with layered elements . Erase is an excellent non-destructive alternative to performing Boolean operations and is much faster to apply to multiple objects.
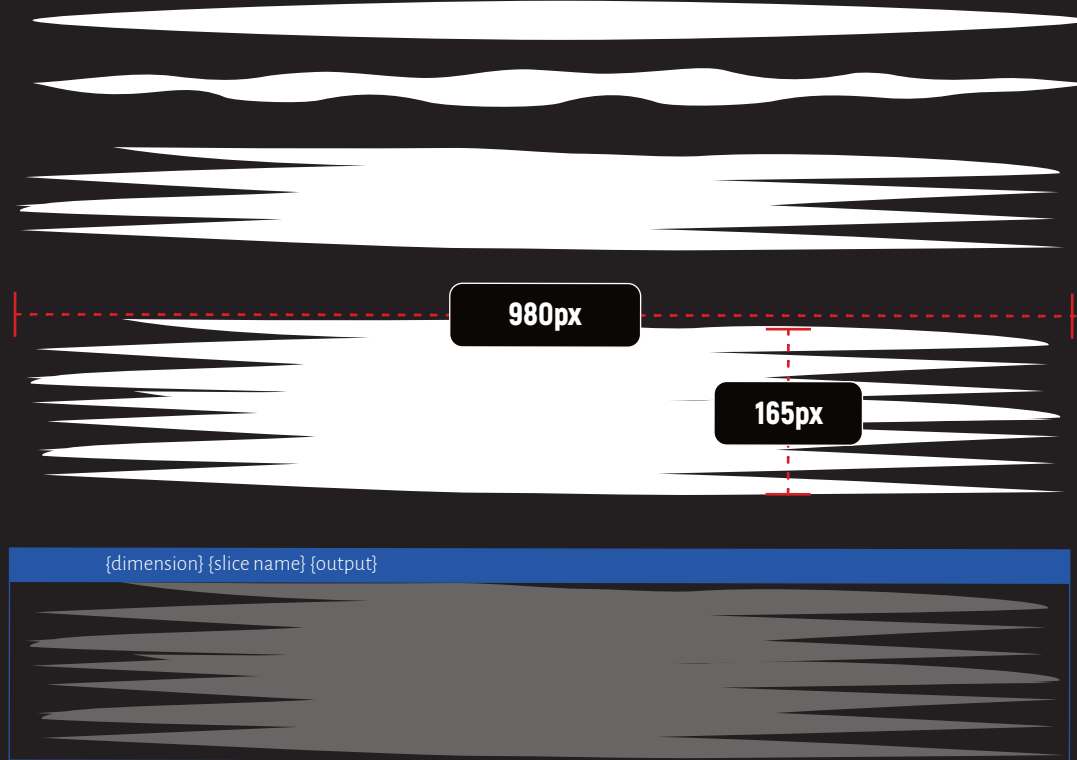
01 Create Vector Brush Nozzle

Fig 1.0: Vector Brush Creation and Export

980px

165px

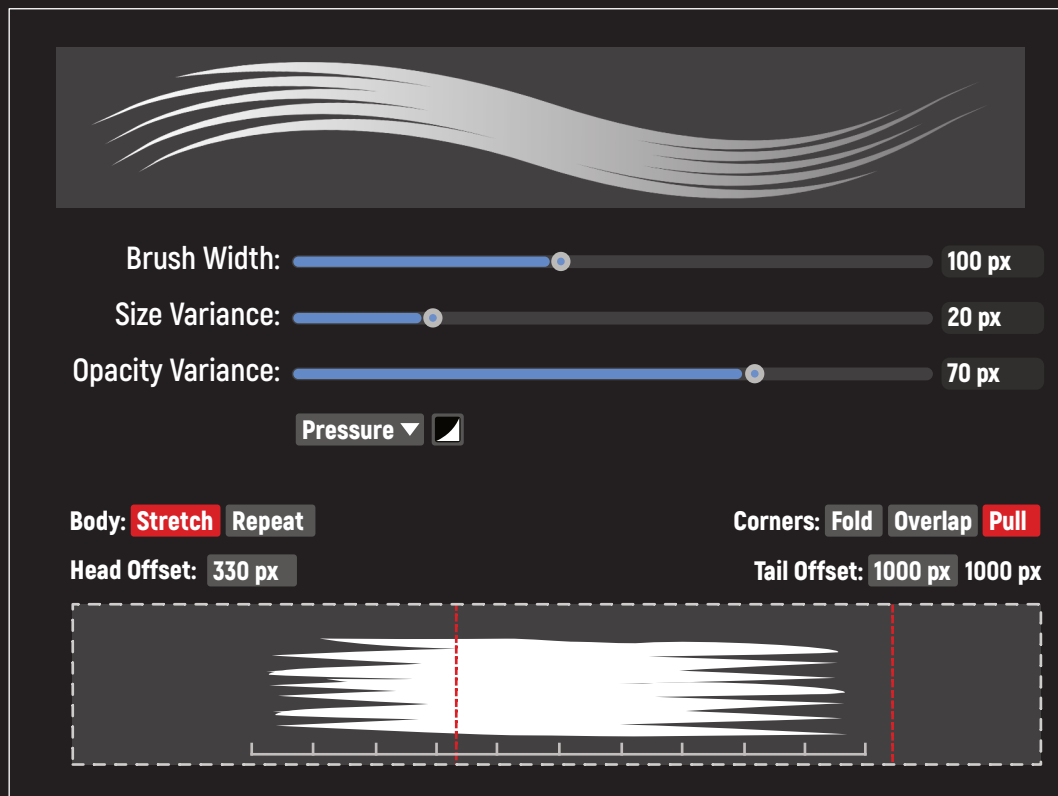{dimension} {slice name} {output}

- Start with something simple, **Draw** a lens shaped vector object using the Pen [P] and Node [A] Tools (as stroke pressure dynamics).
  - Roughen edges with smooth and/or corner nodes.
  - Add spikes.
  - Create grunge edge with additional elements.

- **Add Interest** such as mimicking the effect of natural bristle brushes
  - Add 'bristles' to head/tail of single element
  - Flat linear edges do not usually produce interesting brushes.

- **Combine** Existing Vector elements to build more complex nozzles.
  - Vector file elements not influenced by output when constructing brushes.

Vector Paint:Flat 02

- In **Export** Persona using the Slice Tool [S] create slice/s around the nozzle/s.
  - Output file as PNG-24 and export to required location
  - Experiment with 'Palettised' to get smaller files.
  - Set output for multiple sizes (1x and 0.50x) (half size) to compare brush efficiency.
  - Smaller nozzles can speed up operation of the brush.

02 Vector Brush Dynamics

Brush Width: 100 px
Size Variance: 20 px
Opacity Variance: 70 px

Pressure ▼

Body: **Stretch** Repeat   Corners: Fold Overlap **Pull**
Head Offset: 330 px   Tail Offset: 1000 px 1000 px

Fig 2.0: The Vector Brush Dynamics Panel

- In Designer Persona, select a category and open the Brush Panel Menu selecting '**New Textured Intensity Brush**'.
  - Import the required file (.png)
  - Rename and edit the Brush.

- The **settings** applied to the Vector Paint > Flat Brush 2 are displayed in Fig 2.0 [Vector Brush Dynamics Panel]
  - The default import size is 64px
  - Painting brushes tend to be larger than inking brushes
  - Apply the displayed settings
  - Opacity variance and Pressure settings are controlled by 'Controller' in Context Menu after selecting the Vector Brush Tool [B]
  - Refine settings as required.

INK Tutorial: *Create Vector Brush*

03 Vector Brush: Variations

There are a number of methods that can be used to enhance a basic/standard Vector Brush. Using solid images for vector brushes can result in high contrast/hard edge brushes that are ideal for inking/drawing but not for painting.

Brush Size

With Vector Brushes in particular the dimensions can vary considerably. Widths can be fixed (stretch/repeat); but heights (Stroke) tend to vary according to the nature of the brush.

Generic sizes: 1000 x 120/150/200/300px +0.5x on output

Inking Brushes: (drawing and outlining): 1000 - 120-150px

Painting Brushes: 1000 - 150 - 200px

Texture Brush/Granular Brush: 1000 x 300px
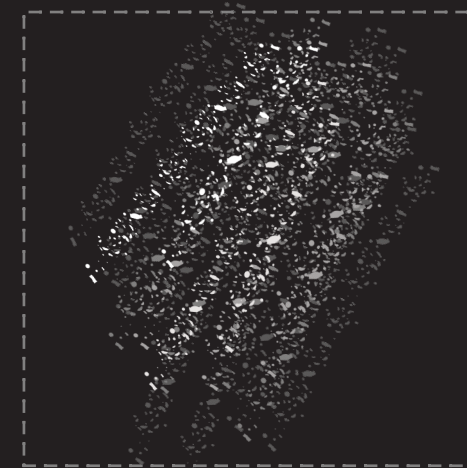
Vector Brush: Inking

Edge Inker 01

Inking brush created using a collection of angular shapes
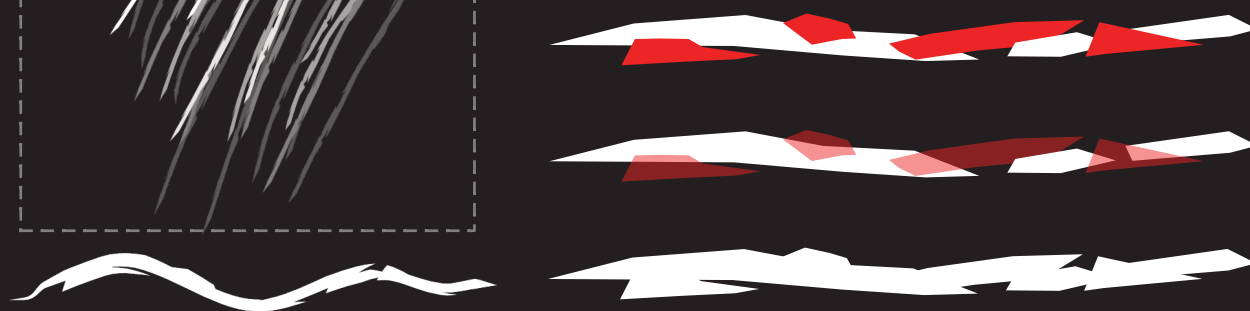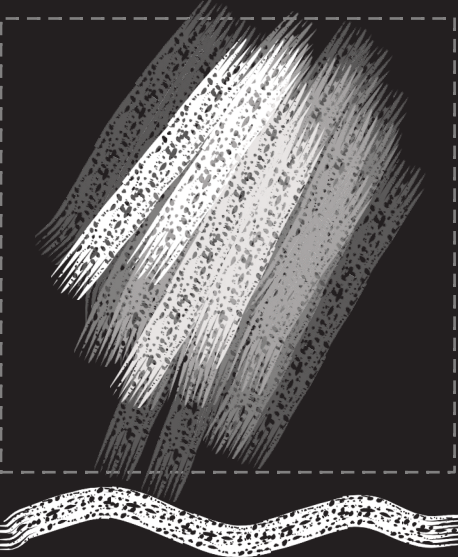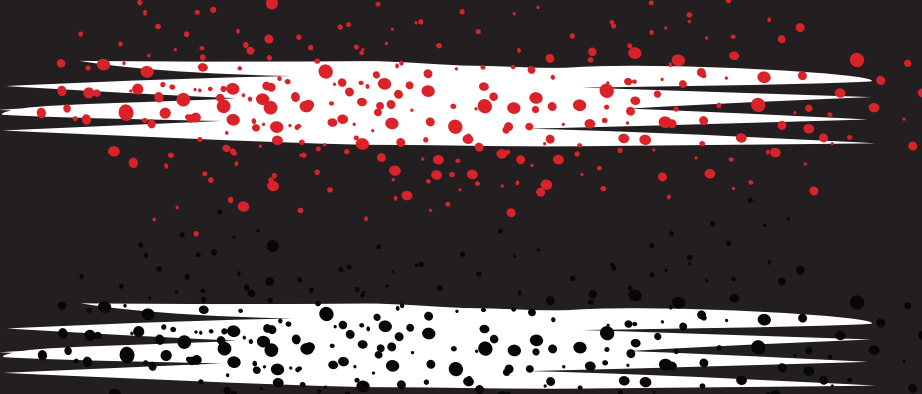
Vector Brush: Texture

Irregular Dots 01

Inking brush created using a collection of angular and round shapes. Scaling and mirroring applied

Vector Brush: Paint

Coarse Textured Bristle 01

Paint Brush created using flat paint brush and dot overlay to add texture to the shape.

Also use Group set to Erase in Layers Panel

Vector Brush: Effects

Hair Tints 01

Effects Brush created using solid shapes set at 60% opacity. An overlay of vector lines with stroke pressure profile and variable opacity.
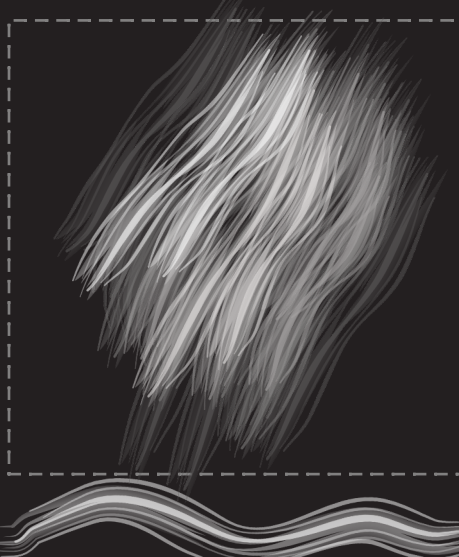
Vector Brush: Patterns

Vegetation Brush

Vector brush build from a single leaf shape element. Greater complexity achieved by using a larger 2000 x n px export slice with manual tapering, pseudo-random rotation and variable leaf sizes. Dark to light layering and a horizontal linear transparency is applied to the group.
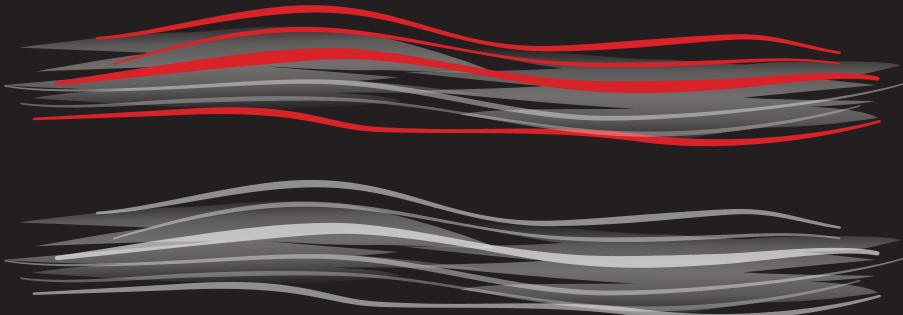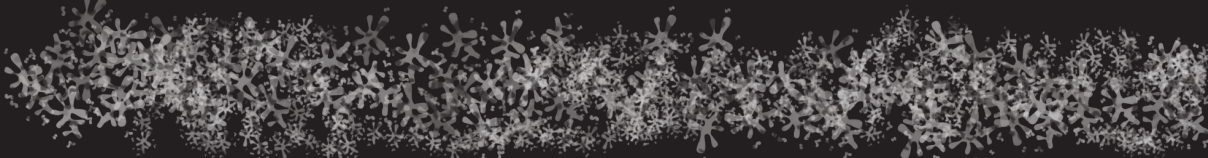
`0%` `50%` `0%`

`Linear Transparency` `Opacity 30%`

Vector Brush: Raster and Vector

Raster Brush

Produce a raster pattern on a pixel layer confined to the area of slice. Set the opacity of the brush to 20% and build up pattern. Repeat process with 75%+ opacity to add the illusion of depth. Creates subtle patterns.

Combine a raster pixel layer with an overlay of vector elements. Process as Raster Brush. Add vector elements as overlay. Adjust colour of grouped elements

INK Tutorial: *Create Vector Brush*
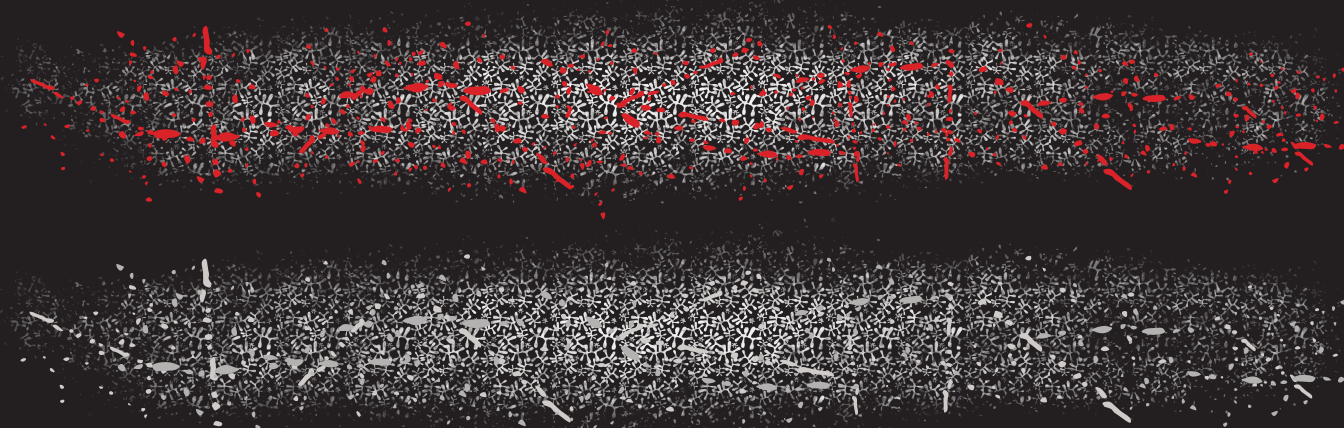
04 Transparency

Create a soft edge vector brush using the transparency tool [Y] and controlling opacity.

| 0% | 50% | 0% |

Linear Transparency **Opacity 30%**

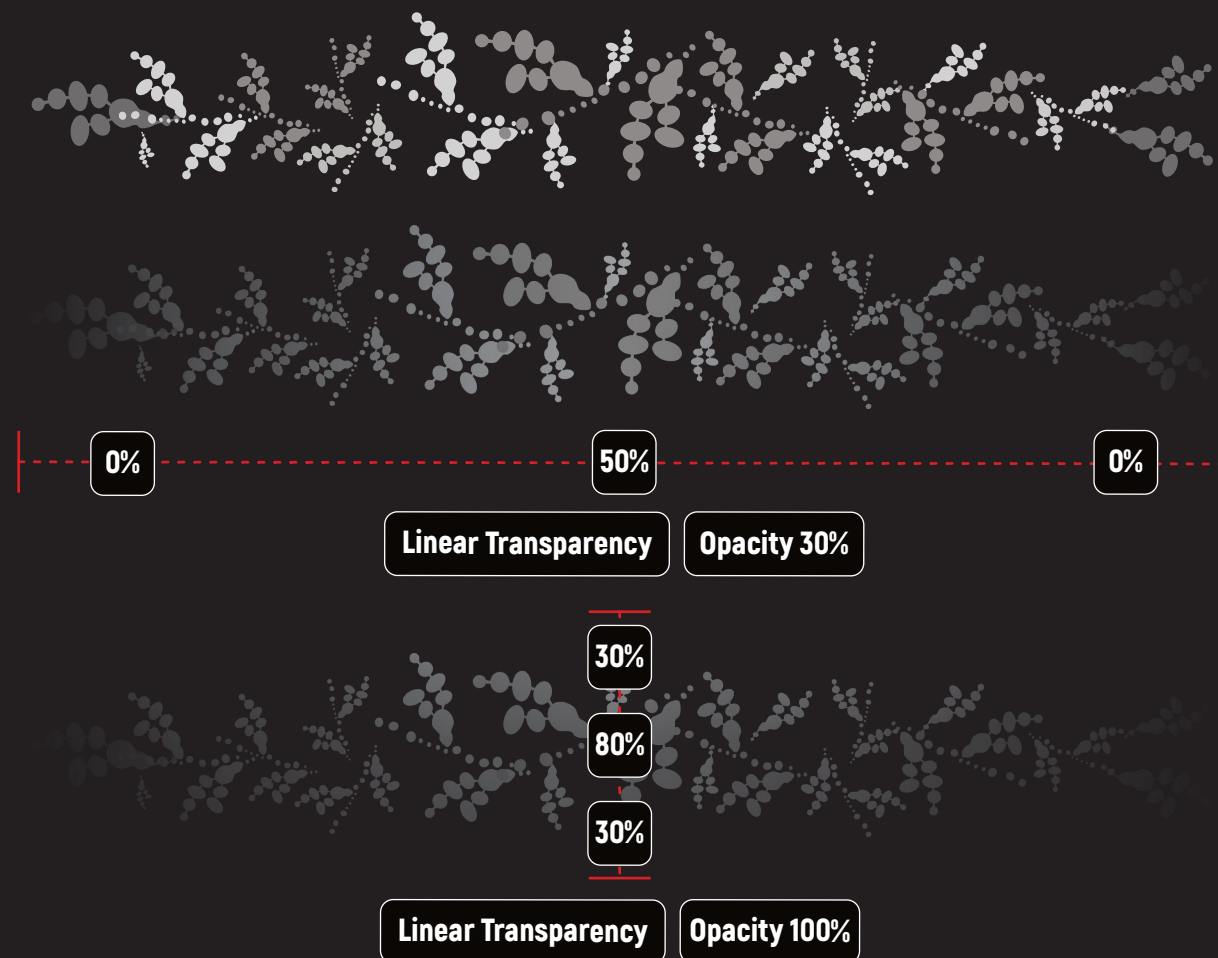30%
80%
30%

Linear Transparency **Opacity 100%**

Fig 3.0:
Complex vector brush
with transparency

- Arrange vector shapes into a pattern. Use greys to change density of images or layer the grouped elements to visualise depth.

- Select the group, then select the transparency tool [Y] add horizontal linear transparency and adjust values for effect.

- Group the object again to create a nested group as seen in the layers panel

- Select the transparency tool [Y] and add a vertical linear transparency and adjust values for effect

05 Template

When working with a lot of brushes it is more efficient to construct a template or series of templates to improve workflow.

- The dimensions are unimportant except that the file needs to be large enough to contain the brush/s image. Adapting an A3 (A3/300dpi Portrait) with units:pixels functions well.

- Set up file with an artboard filled with black (RGB:00,00,00) or draw a filled balc rectangle in the background or layer. Vector brush nozzles are created as negative images just like masks.

- With A3 file created add 3 columns (3 x 1000px)+spacer

- Add a rectangular bar at top of each column 1000 x 20px (red). Space to fit page and add vertical guides adjacent to each edge. This will help align slices.

- Create a new layer on which to create nozzles.

- In Export Persona create a single slice 1000 x 300px (largest size for vector images).

- Add name in Slices Panel and set output to PNG-24 with sizes 1.0x and 0.50x. Copy the set up using copy/paste icons on the Slices menu. (Copy once and paste to all new slices when created).

- Save it before adding any nozzle designs.