Inkstitch Manual

This manual explains how to create an embroidery file using the free, open-source software Inkscape and the Inkstitch extension. Although the software might feel a bit less user-friendly at first, it aligns perfectly with the open-source philosophy of a FabLab.
Once installed, the Inkstitch extension automatically appears under the "Extensions" menu in Inkscape. Please consult the installation guide to ensure Inkstitch is installed correctly.

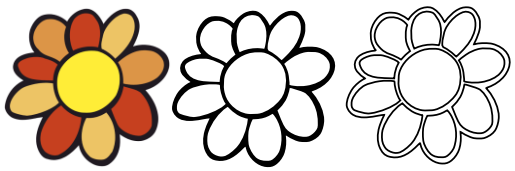
Preparing a file

Before you start creating an embroidery file, it is important to set up your document correctly. From the very beginning, keep in mind the size of your embroidery design and the embroidery hoop you intend to use. In this example, we are using a 100 × 100 mm embroidery hoop. Therefore, set the canvas to this size via "Document Properties."

Next, open your design in Inkscape. For this manual, we are using a multi-colored flower as an example. If your design is already a vector image, you can get started right away. If it is a bitmap image, you must first convert it to a vector using the **Trace Bitmap** function.

In this example, the colored image was first converted into a black-and-white vector. Then, the **Path → Break Apart** command was applied so that each individual petal became a separate object. This allows you to assign a unique color to each part. A handy workflow is to create a copy of the drawing, color each petal individually, and then reassemble them into the original drawing.

Since it is more efficient to embroider all parts using the same thread color consecutively, group objects of the same color using **Ctrl + G**. This reduces the number of times you need to change embroidery threads.

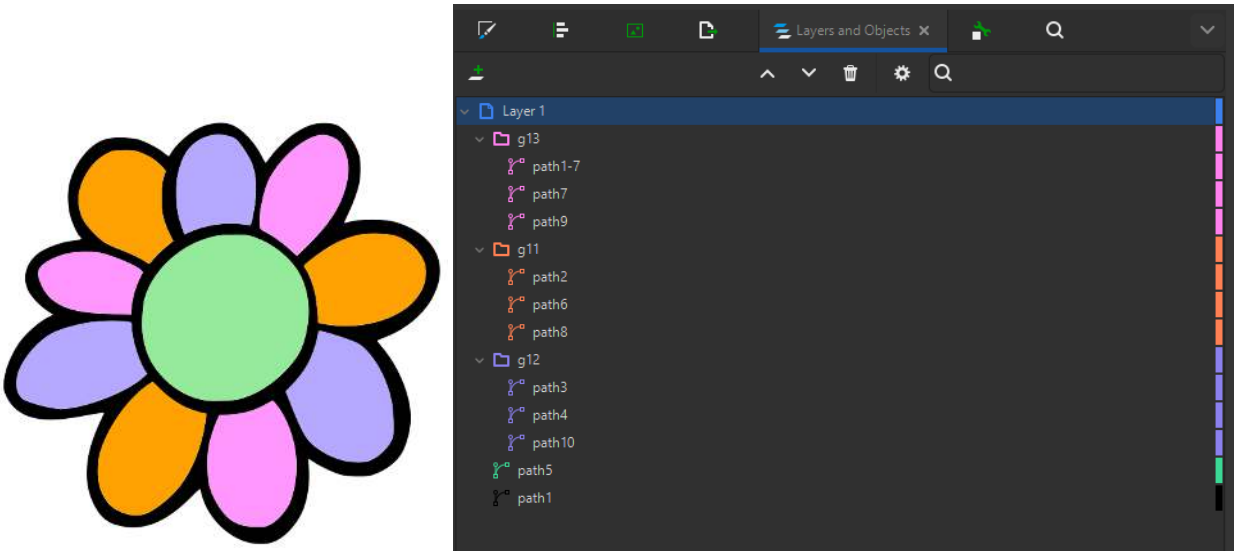


Since it is best to stitch the same colors consecutively (to avoid frequent thread color changes), group the elements sharing the same colors (Ctrl+G)

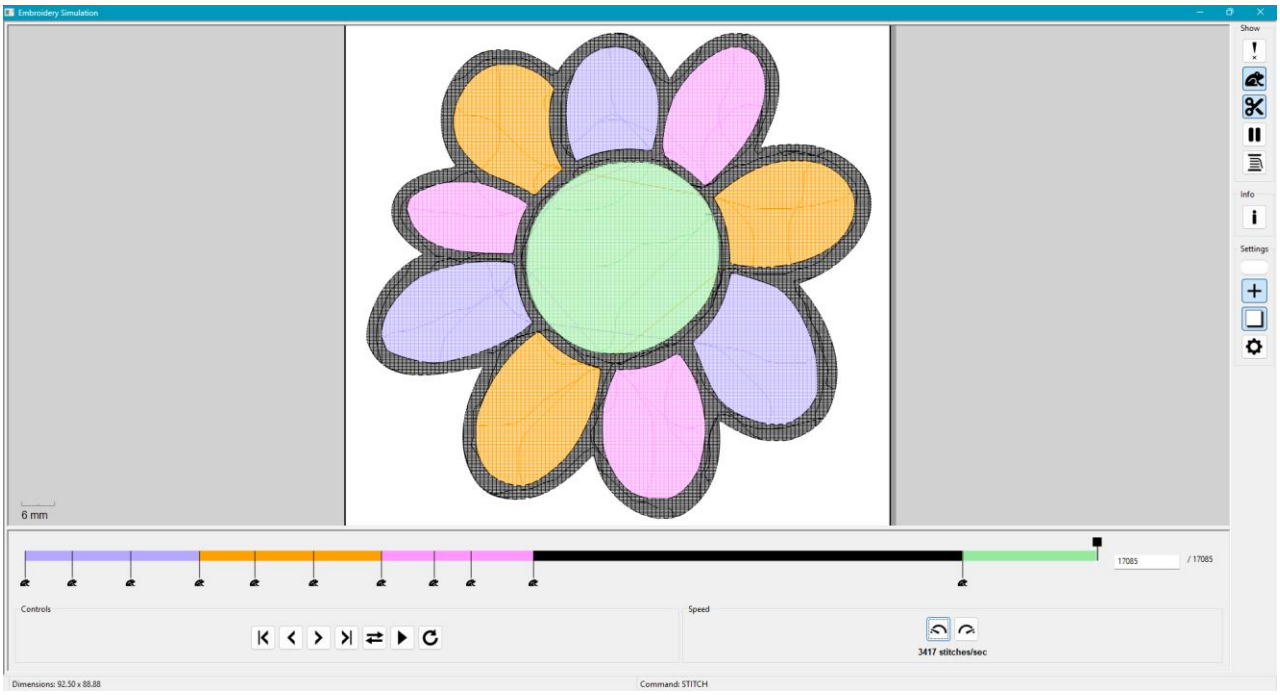
Determining the embroidery sequence

An embroidery machine works **from the bottom up**. You can determine the embroidery sequence yourself using the **Layers and Objects** panel. This sequence can be adjusted later if necessary.
In this example, the black outlines were scheduled first. To keep things organized, you can assign colors to the objects in the layers panel by clicking the color box next to the object; this makes it easier to adjust the sequence or layers later on.
Next, check the result via:

Extensions → Ink/Stitch → Visualize and Export → Simulator



In the simulator, you can see how the machine will embroider the design. In this example, a few connecting threads (orange, pink, and purple) run across the center of the flower. Therefore, the embroidery sequence was adjusted: first the petals, then the black outlines, and finally the green sections.
The small frog icons in the simulator indicate the **jump stitches**.



Saving the embroidery file

If you are satisfied with the result, select **Save a Copy** to save the embroidery file. If you are using our **Brother** embroidery machine, choose **.PES** as the file format.
Additionally, always keep the original **.SVG** file. This allows you to make changes later without having to start over.

Adjusting embroidery settings

Go to **Extensions → Ink/Stitch → Params** to view the settings Ink/Stitch has automatically assigned to your design. Here, you can adjust stitch types, density, and other embroidery parameters to further optimize the result.
These settings are explained in greater detail in the manual Inkstitch types of stitches.

