

Morph- Scatter Plot Demo

Hi. So I'm going to show you a demonstration with Morph. We're gonna walk through a tutorial and let's get started.

So we go to morph.graphics to access the tool and right in the browser we just click getting started. There's also the GitHub page and a few sample videos on there you can check out. So, we're going to click getting started. That opens the tool right in our browser and we can dive right in. Morph was designed to be fast and easy to use for a non-coder to enter, or anyone to really use the tool to quickly experiment and creating generative art. So, it works immediately in the browser. There's no software or anything like that to download. So here we are in the application.

Step one, upload your data or use one of the sample datasets. So we're creating new data driven abstract art. We're going to experiment with playing with colors, shapes, sizes that chart type and ultimately creating something really abstract out the other end. So, we can again upload our data set, which shows you on the spreadsheet file format and the limitations in terms of numbers of rows of data and the maximum file size of 2 megabytes. And in this example, I'm going to show you a sample dataset. So let's start there.

So let's start with step 1. And we're going to select a sample dataset and generate art from data using more. So open select sample and let's pick the largest cities in the world. Also, we can click on the dataset as well to see the source at any point in any of these sample datasets, and that will take you to the data source online. So we'll pick largest cities in the world. So you can see we have city, nation, population. It is previewing our data right in the dashboard. So this was built into the tool. And of course, if you are uploading your spreadsheet, just double check that your formatting is correct and it's in a readable format in terms of those columns and rows.

So here we have three columns. We also have 238 rows. You can also kind of cycle through and preview your data and then the next step is to design. So we can pick any one of these chart types. We've got six chart types to choose from here, so let's pick this scattered plot. And once we get to this step, we can start to map the fields from our dataset set from that data source and it will create a preview chart. And that's what we're going to start to use to create our generative abstract art from Morph. So I can actually fill this randomly, to kind of tool populate each of these fields for me. You can see the yellow sections are what are required to get a preview of your chart type using this data source. So I'll just click fill random and show how that works. So it's taken nation in my area section, in the X position for this particular scatter plot chart type on its chosen population. And I can also kind of go in and select to put the other column if I like. In this case the Y position I'm choosing city. Again, I can clear that or I can even click fill random again, and it's going to continue to kind of change the data source in each of these fields.

[00:04:07] So we'll go back in, I'll choose City for that X position, population for Y. And I kind of get this fun almost like bubbles or cloud type of image that I'm liking. So it's really based on, you know, that kind of beauty in the eye of the beholder. What's your preference? And this is really the fun part of using Morph is kind of, you know, what's seemingly unexpected designs and images that are generated through the tool. That might also guide you in creating something along an animation or a visual that you might not

have otherwise thought to create using something like a traditional data visualization tool for a charted graph. So it is really designed to have to be playful and experimental.

So our next step, once we've selected and kind of organized our chart from the preview here, we are going to select evolve. And it takes that preview and gives us the base to our tree. So what happens here is each time we click on this image, it's going to generate nodes or leaves and start to create a generative tree. Kind of inspired by the tree of evolution or tree of life. So let's click on this first image and let the algorithm do its work. And here we have one, two, three, four, five, six, seven leaves or nodes generated from our one visual design here. So I can see that in this one, clearly, one of them is standing out. It's a little bit more saturated and brighter. I'm going to choose that one, and now I'm getting this kind of like rainbow effect, something a little bit more of a pastel palette, something more kind of neon and funky. So I can go in either direction. That's really the fun part about this evolution tree is the random aspect, the fact that the computer generated algorithm is mutating all of these variables into unique one of a kind charts and images.

So ultimately we can kind of continue to play with each of these individual leaves and nodes and generating and mutating them kind of infinitely. We can also click on this random button, which will allow the again, the algorithm to decide what to choose. So we are continuing to kind of generate through this random feature built into the tool. And once you're kind of at a place where you found a lot of designs and experiments, you can click export. Excuse me, editor. So we'll click editor and we'll just select one of these beautiful images here. Let's pick this little cloud image, and in here I can modify my leaf. I can choose from modifying color area X, Y position. So the modifications will be unique based on the chart type. So back in your design step, depending on what kind of design you do choose, what kind of chart type you choose, the functions for editing the visual will change each time. So be sure to experiment with different chart types. So here I can change kind of hue and offset. I can also look at saturation and make this really neon. Playing with the offset a little bit here changes the size of these lovely shapes and then X and Y position, right? So I can start to kind of manipulate and play with that or the rank factor of this scatter plot. And then built in with each feature in terms of modifying the individual leaf or node is also this random factor.

So you see, that's a theme throughout the morph tool is the ability to have a random computer generation of visuals to provide the most interesting array or sequence of images and mutations that may be possible that the algorithm is ultimately kind of processing underneath. And then also you have here the Y position so I can play further with that offset. And once I'm kind of happy with the new image that I've created, the new design, I can click save and this is going to bring that back into the tree on my design tree, if you will. And I felt, so if I don't like this, just click reset, start over again. And that's another kind of fun part with Morph, like a sketch pad you just can tear the papers or race and start over again. So let's save this one and we will bring this one back into the tree. In this case, it's just saving it. And there it is.

So I'm going to click on that one because I can actually take that mutation, take that generated leaf and then further mutate that to again, create kind of different directions. So once I'm kind of happy with my evolution tree here, then I'm going to be very clear the tree if I want to start all over again, see what that looks like. I don't want to do that so I'm just going to hit cancel or I can reset a particular leaf. In this case, it will show up with the most recent kind of node that you've selected here. So let's reset leaf. Actually, if I zoom out,

you'll see the other nodes here in each of these branches these kind of children throughout the tree are highlighted. So these are the leaves that I can reset. Go back in time and zoom out. So let's export one of these leaves. So what's going to happen is it's going if I want to have a still image, I can have the option of exporting that or an animation. So once I click export, I can choose any one of these leaves or nodes in my generative tree. And again, it will be available as either an image or animation. It defaults here in the program at this stage on an image. So we have our largest cities in the world. The title is retained. You can remove that. If I wanted to kind of customize the title I could do so here. If I did have labels assigned in my design step, labels would also show up in this field.

Now, we can also as well if we have labels here, export in HTML vector interactive so you can open that up. You can embed that, that could be kind of standalone interactive file format where it could hover over each of these shapes to show the label or value. And then looking at animation, what happens in this stuff is Morph retains every step that you take in every click of every chart type. And if you've edited each of those nodes in the sequence, it will retain all of that in your design tree. So by clicking on animation, it is creating that kind of sequence from your evolution tree from start to finish of your selected chart in the editor function and export function. So here is animating all of those steps, creating a kind of really beautiful graphic from our original cloud in bubble design to something kind of colorful and animated here. And then it can also kind of speed up or slow down the animation.

So we can make that super fast or super slow. I can just use the duration feature. If I also want to kind of change the frame rate, I can do that in here as well. Defaults to 30 and resolution again so this can have a really high quality resolution and output, which is really fantastic. And then there's the animated GIF export. There's also the web and video for sharing in like Chrome, an animated video sequences. And then the PNG frames sequence download as well. So I wanted to just take, for example, a still image, save as PNG, that will export right there. If I want to share on social media, I have the option of sharing this image and or if I want to share the animation through Twitter and Facebook, I can also email this to a friend or colleague. And we do all that by kind of cataloging that through image which you can copy and paste as well.

So those are the functions of kind of your file export and you can further customize your animation if you want to go back into your tree, you can just kind of hit that back button. You can also go into each of the steps of Morph at any point in time. So, for example, down here where you see this kind of wicked wizard of your steps, 1 through 5, I could go back into my tree. On this case let's just be bold and clear our tree and start over. And that will give me that new graph, a visual chart preview to start over. I can also go back into again my data so I can start from the very beginning in application and select a new sample dataset or upload my own. I could also, once I select that, again, change the design, use one of the different chart types, experiment with different chart types and different visuals.

So as you see here with this new dataset with my my Iris data here, I have Sepal Length, time, group and radius all coming from this particular dataset. Let's review that here from these columns. And this one has about 150 rows. One, two, three, four, five columns here. These are kind of the class of these different species, and then let's kind of organize that right. So we can again fill random to create something completely random and just the chart preview and evolving, kind of going curve steps again of creating generative image or animation and all of the properties are retained in each of these generative images. So

again, when I click export, or excuse me, when I click editor and go into each one of these leaves for whatever type of chart type that is built into that I've selected that's built into the tool, it will retain that for the editor feature.

So the X, Y position, the scale rotation, these can all be manipulated, the offset, the rank factor. So you can really customize and play with these features in the sliders and kind of, you know, manipulating your artwork. So this is a really great place to play within the tool and get some ideas for designs and shapes and then play with these even these random factors within each of these and saving that back into the tree and continuing to generate the visual.

Let's see what happens when we turn on the animation for this. So we've got this really funky kind of visual from our still image. It almost has like this clockwork counterclockwork animation. It's a really funky, abstract, crazy kind of visual and it does have some kind of depth and dimensions. So I really like this. So I'm going to save this animation and let's see. Save animated gif. And then it's exporting, so I'll have that saved on my computer and then I can also share it. Within Morph I can use the social media sharing feature, I can embed that in another website if I'd like or again, use it to share on the cover report.

And that's really the whole tool in a nutshell. From these very simple steps, you can create your own generative art from scratch in just a matter of minutes. So, we look forward to seeing what you make with Morph.