Morph Pie Chart Demo

Now, I'd like to introduce you to more. This is a data tool that Datavized has built with the support of Google News Initiative that allows you to make art with data. So it's a free and open source tool for creating designs, animations or in interactive visualizations from data. So we designed this tool not to convey meaning per say in data visualization, but to be more of a playful tool to create generative art and animations from a spreadsheet.

So let's get started with Morph. So we go to morph.graphics to access the tool and you'll see similarly to our other applications like TwoTone, the data sonification tool, the app is a web browser based tool, so you can use this without having to download any kind of software applications. Work straight in your browser. You can see here too, we have some videos, little animations and things we put together to show you what you can make with Morph. Also, there is even an additional tutorial by Alberto Cairo who recorded an introduction to Morph and that's built into the website as well.

So let's get started. So we click on the Get Started app and you can click upload. Again, you can upload your own data set or select a sample. And again, you will see kind of some of the sample datasets that we built into the tool. If we are uploading a data set, the tool has some limitations. So you can drop your file in. It can take a spreadsheet format. The maximum file size is 2 megabytes and add up to 300 rows of data. So those are your limitations. So just think about what you might want to generate in terms of data are given those limitations.

So we put some samples in here to help get you started. Let's look at one of these. We have "Largest cities in the world", "Fisher's Iris dataset", "European Parliament election". Let's go with the parliament election. So we also have a little info button here, too, which gives you the source of these sample datasets. So there's also an indicator that it's going to replace the existing data here. So if I have uploaded a dataset and used the tool, this will replace that. So let's go in and just upload this. And again, the purpose of Morph is really to create a generative animation interactive graphic still or moving image turning data into art. So you might use this tool for creating, let's say, the cover of a data report, a sticker, something kind of fun and playful to give your data story, a brand or logo or identity.

And also just for users who are kind of new to visualization tools and data tools, Morph is a great kind of beginner getting started in a playful way, working with data in spreadsheet format and turning that into visualizations. It's quite a playful tool. So you'll see here the Morph tool is a built-in kind of wiki wizard here. So we have steps 1 through 5. So uploading your data, reviewing your data set, designing that, organizing it and evolving it. And we'll go through each of these steps. So we've kind of uploaded our data, in the review section we can examine our data kind of look at how many rows we have. Check that. And then we're going to select our design and design to pick our chart type.

So here I've picked the parliament election dataset, right? And I can always go back and just kind of look at my sample dataset or if I've uploaded that, that will show up in the data preview. I'm going to click on that European Parliament election. And I can see we have group, we have description, we have chaired by, and number of seats. So just four columns of data and one, two, three, four, five, six, seven, eight rows of data. So, again, it's quite a smaller dataset that we're going to work with. And then I click design. And this

gives me, Morph gives me an option of a few different designs. Pie chart, bar charts, scatter plot, line chart, an area timeline and a radio area. So Morph was also inspired by existing tools, kind of like open source data visualization tools, like raw graphs and things that you could turn data into visualizations. Only we're taking it one step further to kind of create these generative visuals and animations from data in a playful experimental graphic design capacity.

So in this one I will pick something pretty straightforward, the pie chart. And what ends up happening in the organized section, you'll see you can choose different fields to build your chart and then we'll evolve this into creating something more generative. So on the yellow indicates the necessary variable field to create a preview based on this chart type. So let's pick in this case a group or description. In this case, we'll pick chaired by. Now, we can also kind of fill this randomly. You'll see if I click select fill random, that will pop up at a different column dataset will pop up in the variable fields. Then I can go a step further and kind of continue to map the data. Each of these columns into my pie chart and I can get as experimental as I want. I can also create labels. In this case, the number of seats will just take that out for now. We can also kind of duplicate things. So as you can see, unlike a traditional data mapping tool, Morph is really experimental. It encourages kind of random exploration. Again, the purpose is not for representing the information in a visual chart or graph, but to experiment with mapping data and generating art from that raw information.

So let's pick this order. So we have seats and color. Maybe I'll go ahead and add in those seats because I'll come back later to that in the design. And you can also fill random. Again, that's going to kind of change the variable fields. Next step is to evolve. And if you're working through the tool and not sure what step you're on, just look at the top. There is an indication of what step you're on and the bottom will also give you the tabs of each of these steps. So now that we've kind of mapped our fields, we're going to evolve. And this is where it starts to really get fun and branch off from any kind of previously existing data visualization or application in that it creates this animation tree.

So we start with is the initial graph, raw graph preview from the, in this case, the pie chart design. Now, as soon as I click on the origin of the chart, these nodes pop up of variations, and what it's doing is there's a built-in generative algorithm into the tool. So by clicking on the original design, Morph automatically generates these different nodes based on that original chart. And you can see here I can kind of choose which one pops out to me. It's really experimental. It's really subjective. And this one is obviously popping out to me because the color is a little bit more vibrant. So as I click on that, the tool morphs, right? It changes form and it generates additional designs and graphs and images based on that original pie chart variation.

So I can continue to do this really infinitely. And that's really the generative nature of the Morph tool, is you can create these evolution of individual signs and graphs into something that is, becomes kind of a real far experiment, very kind of abstract component of that original graph. So as we continue to select, it will continue to generate and we can also use this feature to randomize the graph. So if we click on random, it will just pick a node from our, what we call our kind of generative tree here, and will involve that in a random capacity. So we can also be more specific with the graph or image we like to manipulate or generate. In this case, these kind of color charts.

The next step is then editing or modifying each of these nodes. Or we could also call them leaves in this generative tree. So let's choose this one little leaf here and click on editor,

and I can pick any one of these nodes here. And once I select that, it will bring me into the editor fields and you see edit leaf and all of the different options for kind of manipulating this colorful, colorful design. So here I can modify this with sliders, shuffle, restart itagain, and ultimately I'm going to save it back into the original tree. So let's just play with some of the colors here. That looks really cool. Some purples. Purple tones.

We also have the saturation factor, so I can really kind of fade that out or pump that up in saturation and lightness. I want to keep that kind of brighter and then the radius. This is something else. I can also kind of play with the offset, which really radically changes the shapes of this original kind of pie chart design. So I'm going to go with something where it kind of splinters out this pie chart a little bit. There's also things like the rank factor, the value factor that I can manipulate. And we have this built in random factor. Again, kind of the underlying principle with Morph is creating these generative experimental works of art from data that would typically require creative coding or custom coding. You no longer need to do that with Morph. If you can simply just kind of play with the charter graph and manipulate that with the tool.

So once I'm kind of happy with the editing this particular leaf, if I will say that you can also reset your, your functions there or default back to that original chart that you had in your tree. So we'll save this one and you can see it brings it back up into my tree right here. And I can continue to generate this selecting on each of these little leaves or nodes to create further mutations and evolutions of that design. I can also use the steps here to reset a leaf. So if I want to kind of go back in time, I could select any one of these and it will delete that generative application to that particular node. So then I go back, and every time I go back and regenerate it, it will still create brand new variation. So if you do like something, don't delete it. Continue with that generated visual.

And you can also clear your tree, which would just take every step that we just did and delete it and we could start over, and that's fun too. You know, it's kind of like it's a blank slate. Start over and sketch again. In this case, I'm going to keep this tree and then show you what becomes of this gendered visual from our evolution tree here. And I can select again any one of these nodes. And what will happen is the exported design will have archived every step that I selected in the general generative tree to provide me with output, visual output that will either be a still image or something animated and show that sequence of events.

So let's choose this one here. So I can zoom in on all these charts or zoom out and kind of see the design and structure of the tree, since I need a lot of different clicks and steps in here. We can't see the entire tree, but you can see how kind of expansive this work of art is starting to become. So if I zoom in, and let's click on this one here and export, you can see it has sequenced every step from that original design into all the generative steps, all the leaves on that evolution tree providing this animation result. And I can speed up this animation or I can slow it down. I can also change the background color. And I can take away those labels if I'd like. I could also change the font size and, you can see here in the animation we have an animated gif format. I can also choose a WebM Video for sharing in Chrome browser and a PNG Frame Sequence. So Morph is also design for fully professional tools, right? Where you can bring this in to full large scale animation, something that you might project into to Times Square, to the quality of something in print. So it does have all these really fantastic exporting file formats for continuing to experiment with your visual.

In the still image option. We have PNG so if you'd like to export as a raster file or SVG vector file, and here's one of my favorites too as an HTML interactive vector. So if I save that and open that, it will show up in the browser as a fully interactive HTML. So this one you can see I've kind of taken a pie chart and taken some liberties with representing this data in the pie chart with Morph. Let's go back and look at something and kind of creating something even more abstract and experimental, using a different dataset and a different design.

OK. So I'm going to delete my my lovely European Parliament election graphic and image. First, I might want to use this animation and maybe save that. Let me just show you that save feature so I can save this animated gif here. It will export from there. I may also want to take out the labels and or customize and just completely remove the title. I can also share this easily through social media. So if I just could share social, it will export the graphic as I've maintained that entire animation and it will create a link to that in social media, which is really quite lovely. We'll go back and we'll just show you to the still animation. You can also see that here is a PNG. Export complete or share social. And this one will show up a little bit faster. In this case, we have a URL link, so we have created an ability to have enable that to kind of copy and share that easily. You can also email, or show this on Facebook or Twitter and it will preserve your Morph design.