Working with Maps - Certified Flow Designer Training 2

https://www.youtube.com/embed/ChdLVduH3oU

Intro

How feel free to share your screen. So Oh, and sorry i'm gonna start recording fits Alright great! i'll go ahead and take it away i'll just share my desktop.

I guess. you guys can see this. Yes, alright.

So you guys can see. Well, okay, so So you you just see some random dots on here right right now.

Green some purple you probably don't see their little dots there that that's So this is basically I I got this data from our cool learning management system seesaw and basically I I

grabbed a month worth of data at the beginning of school last semester. Not this year.

This year things got really weird and like. Last week we had like 2 day one. The first day was online learning, and then Tuesday, Wednesday we were you know, on campus everyone.

And then Thursday student was sent home because there's some covid cases with we did online and Friday.

Everyone, even including teachers, can't tumble school because the road was blocked anyway. So it's crazy, and but things were Oh, somewhat normal. you know as normalized can go in January.

So I did this whole January from January, the third of January, the 20 eighth and a month of worth of data.

So these dots are represent you know items that people posted on onto the system as purple, and then commons are green.

So as you can see on the on the corner here. it's so there's about 6,000 commons on January the 20 sixth, and then there are some little dots here as likes you know if you post something even like

it. and there's really tiny ones that you know parents That's visit, you know 900. Some of those this you know doesn't really make much you can't make sense out of this right you just want to run them

but was the power of flow. we can see that, you know. I I categorize them into. You know the the different items.

So items, commons, likes, and parent visits, and the dots. The size of dots actually represents the number. So basically, at the beginning, you know, maybe January third, when it first started out, there were only 90 items posted to that day.

But when you get to towards the end, like January 20 eighth, there were like 5,000 items.

Posted so same same thing over here in terms of common as I can see, the the parent visits and likes are some was steady.

I would say, you know, throughout the time, so at the beginning they're probably about 200, and then at the end it gets to 900.

Okay, So it's it's more you know later on but So if we break this down again. what I what I did was you know, instead of having so many dots, each time representing a a post or a like I just categorized them into just how about you know for

each day. I only have one dot, and representing that all 5,000 total, 252 commons on January fifteenth.

This is one dot. So basically I would have in total about a 120 less than 100, and 20 because it's like not entire month.

It's January third or january 20 eighth, so about 25 dots per item. There are 4 different items, so there are about a 100 dots here.

Representing different items and So if we now look at this this is cleaner

And so basically in the beginning, so each role is 7 days of the week. So 1, 2, 3, about 3 weeks and 5 days are what you know.

This data is showing. So on the first first day of the first week, January third, we had 90 items, and then on the second week, I think, is the boat that the best.

And so, starting out Monday, we have 500 Tuesday of 1,500. Thursday. Wednesday is 2,600 and Thursday, you know.

So on so far, so it's it's growing and then you know, and it gets pretty steady once the school gets rolling.

You know the the everyday. it's about to 6,000 items posted but in terms of parent visit, I think, is that is about a 1,000. Once parents started engaging it's about the same every day.

It's about this many yeah lastly you know since this is a timeline.

I did basically a scatter plot of you know So showing that you can see the the growth trend.

Basically the the the first week was pretty quiet, and then starting the second week on January the tenth, Monday, January tenth, at things starting to go crazy and going up.

And and then it gets to a bit of a plateau in terms of the school getting into a groove into a flow, and and things are are steady. So that's the different ways to visualize this simple data.

Set first. I gotta say Your Chinese parents are the envy of the world to have that many visits coming to your school.

That's a stopping and amazing and wonderful thanks that was a great flow.

And I love, specifically the last 2 steps where you go. From this time series data where you're actually using each road to represent a week.

And you can sort of visitably see the l or the size of the dots change. Then you're basically doing the same thing.

But instead of using the size of the doctor using the actual offset, or the Y offset, or the the height components as the dimension, and I think being able to show one value in multiple ways like this

really builds a strong mental model. So I love the transition and sort of these experiments in how you're representing to your point like a pretty simple data set.

But seeing it through different lenses, I think, Yeah, as a lot of value, What is that? Definitely some ideas I have as well. But yeah, other comments or or thoughts on this and anyone else that would like to.

Take a minute. 2% You can probably do maybe one more different multiple variations on one data set to get out looking at it from different angles.

It's really neat good work, Thanks a point I Agree? It really brings the mental model to life.

Okay, okay. Anyone else that would like to present or share a bit of any number they did

Alright final call 3, 2, one feel free to go ahead. I can throw on something. Let me see.

Okay, So it's based on noah storm tracking data.

Oh, perfect. They maintain for a global all the storms that that they follow over the and it goes back to 18 something.

So I took out of that. I extracted everything that reached the Category 5 and was in the North Atlantic, and you end up with about just under 40 storms.

Total and they have data. So they have the they have readings every 3 h, and they can show you.

Then, basically, you know, when the form the storm was first observed, till when it was last observed, and this is based on the size of these dots in the random chart is based on the duration of the storm.

So you can see. Allen was quite a short storm In answer was a long growing on that side.

But then you can also look at how many hours it actually spent at Category 5 rating. and then the picture looks slightly different, and you can see Irma was perhaps the longest of the category.

5 duration storms, whereas you can find again some of the other ones may have just reached that as a blip and gone out back into category.

3 2 one. it goes negative categories and it's actually quite a good data set, and there's a lot more.

I could have done with it. And I have a couple from bold attempts at making more content, and I I would like to keep working on it as things go.

It even has some mapping data, because I think there's coordinates. You can follow where these things were over. time so i'm interested in today's presentation.

Also thank you guys that's a really powerful data set in you know, just off the the bat.

One of the first things you strike me is these kind of charts where it's a *d scatter plot which looks great when you're in headset, but at least on flat screen to see the

dimensionality. One thing we sometimes do is just have one line that connects down to the grid on the base, or even to the size that helps.

You sort of see the distance. we found that that's quite helpful to to see that position to give it make a little more concrete.

But yeah, it's a really powerful data set and we can definitely keep iterating more on it.

But thanks for sharing, and I know I think we got cut off last time, yesterday, when you were trying to present this. And so we were all like left in suspense. and Then I think you had some connections. This is so i'm so glad you were able to come up today here today.

Yeah.

Yeah, a a super neat data set and gee if There's information in there.

It could be tied into maps. That would really be neat, agreed Alright.

Cool. So just organization i'm gonna show just a few part of the possible maps here.

And i'm gonna share it sort of just over my shoulder here to to start and sorry 1 s

I would say, keep going back. Okay, that's fine alright i'm gonna take a very screen control here. and i'll share it this way.
Highlighting Flows with Maps

So. just a few flows to to highlight in terms of sort of are the possible. And one thing I try to highlight is that with maps because we have this third dimension more typically when you look at a map, and things see things plotted, you'll see things like this where it's a circle or a

dot indicating the the spread of something or where something's happening. but that with this their dimension, if we look at that third dimension as time that we can actually use that time dimension, to show how something changes over time so now it's not only

tied to a specific location on the map. but that the distance away is related to the time it happened, and so you can start to create these visualizations.
Covid-19 Cases on a Per Capita Basis with Maps

We internally call this the actually we have a different one where it's more vertical. But it looks like a rain cloud basically, over the United States.

And it is in this case everywhere where they're on a per capita basis.

There was an outbreak of Covid, and hiding any dot where it was less than a severe threshold.

And so you can really see how an aggregate in the winter of 2,021, we see this large spike, but that then also, geospatially, you can start to see more.

And so I point to this nice like a, you know, the revolutionary. But I think that's, it points towards what is possible in the platform where you utilize this third dimension, and then not to go into too much more detail.

But just a few visualizations that also utilize maps, but in sort of nontraditional ways is a hierarchy view.
Parents in the Labour Force Map

So here in this case it's the total number of children under 6 years old is the height axis and actually gonna take it back a step.

And We'll just have it show just this one so here. You can see the total for the overall united, States. and then you can also see each specific region, and then each region break down to the

State, and then each State goes down to the county. and so it's 4 level of data and it's

built as sort of this, like tent whole hierarchy. And so this is another visualization that utilizes that third dimension in sort of a powerful way that can be extrapolated out to lots of different types of maps or other types of aggregations of information and then
Movement of humans from/to California

just the last one to quickly show is this was one where we're showing the movements of people in this case the movement of people from California or anyone that moved out of the State of California.

And where did they end up? And so the color of, or is, or the color that they are showing is where they are coming from.

And then these are the dots of where they are going to. And so the idea of showing the flow of people or the flow of something supplies other things related to maps, I think, is another sort of intuitive powerful component.

You'll notice that the the dots will stack inside of each county. That's they're being put back into anyways I don't wanna i'm not gonna go into building those in this session, but I just wanted to sort of put something out there to say there's more that

you can do this, not just putting a dot automatically, but you can show both animation. You can use the height access, you can start to do things that leverage sort of the third dimension in a more powerful way, and then similar to even the example that how showed and and Jimmy the idea of taking a dot and moving it

through multiple steps, and that each step allows you to understand it a little bit deeper. Different perspective, I think, is all part of that storytelling process.

So that is it for me. I will be on and if you have any access issues or other things do text me or or put into the chat. I can go to a breakout room, etc. with you and otherwise

i'm gonna pass it over to you Bill take us through the the meet of today. And before that any questions or or other commentary
Fundamentals of Maps

Okay, what we're gonna do today is take you through what I call the fundamentals of maps. I I teach a lot of courses here and maps is we always include a significant portion of of a session on maps

because maps are ubiquitous and and flows that are that are developed. I would say out of every 10 or 20 flows that we get involved with developing or whatever or we see being developed.

Our customers probably good 75% of those have at least one map on them. So it's a very common use case and flow is very good at at visualizations by using maps.

So I just clicked, clicked the the create new flow button. So what I've got here is what you get when you create a new flow.

I'm i'm on I want to define what's going to go on with swarm one on step one.
Adding a Map to a Step

And what i'm gonna do here, is i'm gonna put a map on this step straight away.

So to do that i'm clicking the plus map icon here and then Slow is asking me.

Okay. told me you're going to do a map what kind of map? Are you gonna do? We have about 12 or 14 standard maps?

We have maps of Europe and Europe, including Russia and the Uk and France and India.

We did a big project for the un, having to do with Bangladesh. So we have a couple of bangladesh maps in here, too, for purposes of today.

I'm going to use the world map and I can there are several different ways. We can express a world map here's an equal rectangular view.

I'm not gonna do that one though i'm just gonna take the spherical representation of the world in in this session.

We also have the capability, where, if none of our standard maps sold the bill for you.
Uploading your own map

It's quite easy actually to upload your own maps All you need to do is find a suitable file that has app information in it.

Create a top of Json file and then upload that. and then you can have a custom map that behaves just like any other map in the system, and we have about a 5 but page easy reading kind of document on our help center that
Help Center: Maps

takes you through exactly how to do that. So if you if you go into our help center and just put maps in the search bar, you'll probably get about 20 or 25 pointers to different things.

Some of them are videos, Some of them are short articles and there are a couple kind of user guides like the one for doing your own custom map.

Okay, so i've got involved by the way as i'm going through this. Interrupt me at any point So okay i've got this map of the world.
Putting Data on the Map

What am I gonna do with it? Well, i'm gonna put some data on it? So what i'm gonna do here is i'm gonna define what i'm going to be using for my swarm of data.

Now, luckily, in our library we have a a data set that is comprised of information about the 10,000 largest cities in the world.

So I'm gonna select that. So this is going to be my data set.

Okay, and just like we've seen before when this when this form of data is brought into flow, put into a random chart of dimensions, one meter by one meter by one meter, and by the way, the the world here it

has a diameter of one meter So you can see that these these dots kind of crisply in case the map of the world.

Okay, So what's the next thing i'm gonna do for this? Well, what I wanna do is I wanna put these dots onto this map.

So it turns out we have a. We have a couple types of charts that have to do with mats.
Mapping by Coordinates

One is Matt from coordinates and this means a in my data set. I've got latitude. Learn to 2 coordinates that are going to place these data records onto the map.
Mapping to Regions

We have another one that's map to regions which means i've got a country name or whatever that can place information onto the map.

So this particular data set i'll show i'll show it to you here, right here. This particular data set. First of all it's got 10,000 records and the records that consist of city Actually, we got a couple of representations of city.

We got latitude and longitude so we can place it onto the map. We got the country we got population, we got continent and a few other fields.

So pretty simple data set, you know, maybe 10 columns by 10,000 a rows in this data set.

So I do have my latitude and longitude in in this data set. So i'm going to say map from coordinates so Flow is going to ask me.

Okay, which map? Well, i've only got one so a very big map one number one. The latitude column Row makes an educational guess as to which columns in the data set could contain latitude information, and it turns out that the column called latitude does contain it.

Similarly for longitude, it's a longitude column that contains that. So immediately when I click on this instantly. These 10,000 dots are now put onto the surface of the earth.

Each one of these dots, by the way, is a size. 5 5 is an arbitrary size it's kind of a smallish size dot.
Increasing the size of dots

If I wanted to increase the size of these dots, I can increase them to whatever I want. But right now i'm gonna leave them at 5 Okay, Okay, so let me put some interactions onto these dots.

I really recommend that this is done very early in the game so what i'm gonna do.

I'm just gonna put some query ability into these dots so I can see what is what's behind these these particular dots.

So to do this i'm gonna say on select pop up i'm gonna create an overlay popup, which means the popup is gonna appear here in the upper left hand part of my screen, and the comp when I say select

columns. These are all those columns I showed you in the Csv file. So on the pop up i'm gonna put the city the country.

I'll put the population out of the continent keep it kind of simple, and to make it easy to read so to understand which information is which in the pop up i'm going to put a little label within the pop up city country

i'm gonna abbreviate population just pop and continent. I guess i'll spill that one out Okay, so you're gonna go on the upper left.

Okay, when this dialogue here there's a lot of additional formatting and precision setting that we can do on this one here, since some of these numbers popular can be like 37 million people you know

that's 8 digits. Let me let me constrain it So I'm gonna be rounding the display to the nearest 1,000. just gonna make it the the information a little bit more instantly.

Readable by express the population and thousands rather than units so i'm gonna click. Okay, here, i'm just gonna click on some dot here so random dot.

This is Yan Yang China. 61,000 people and That's continent is Asia. So this is how the pop-ups are gonna work So i'll be able to query what's behind any one of these dots.

Okay, i've got clickability query ability on here. Now, Now, what I wanna do is I want to generate some separation of these dots from the service of the earth in a way where the largest cities are the furthest reaching out into space
Additional Dimensions

from the surface of the earth. so i'm pretty well trained in flow. So I know what I need what I need to do here is I need to click on additional dimensions to get this kind of functionality, and i'm looking for a height offset.

I'm gonna say height offset and I want the height offset to be a function of a column of population.

Good, so I don't know if you can see it very well; but some of these dots are starting to get some separation off the surface of the earth right now now from my taste, and this in this presentation I want the

separation to be more than what you're seeing here so instead of a maximum offset of point one meters.

I'm gonna change that to point 5 meters okay, So now you can see some of these cities are getting some pretty good separation away from the earth.

Slow, also provides me of some high level information. here. The smallest city in my population of 10,000 cities is 40,000 people.

The largest is 37, 9, 7, 7 0 0. 0. So 30, almost 38 million people is the largest city in this particular data set.

So let's see maybe this one i'm gonna make a guess I haven't spun the world all the way around. But i'm making I guess that this is my largest one right here.

It's way out in space here. Okay, tokyo Japan This is the one that's almost 38 million people in the metro area in in this particular data.

Set, and it's in asia Okay, so i've got This done, this is better than where I was before. but it's still not very good, and that I can't really tell where these dots are on the map So once again

being reasonably welcome trained Well, trained in flow i'm gonna say, Hey, new connections at this is the way I connect dots either to each other or to surfaces of maps. or other structures. so i'm gonna say I

want to connect, connect the dots to an access or a map. Okay, and since I only have one map the club knew exactly what to do. So now, what we've got here is we got each one of these dots is nicely connected to the map took about 3 clicks to do.

That. And now, if I query on this dot again, this is my Tokyo Japan. I take a look at the map here, sure enough. that is Tokyo.

This is put in the right spot on the map, let's just take a look at another really large city here, and see which one it is

Okay, So this is Jakarta Indonesia, 34, and a half 1 million people in the Metro area.

Okay, So all this seems to be working. So now for I guess, for for reasons of presentation.

I wanna I wanna make the largest cities, have larger dots, so I want the dots to be proportional to the population of the cities.

In my data set. Okay, now, notice down here in this object's timeline. I've got my discolored cell here is connections I'm. looking at the definition of connections.

One. That's the last thing I did over here on the right hand side of the of the page. So over the screen. So what I need to do here is I need to click on the accompanying swarm of that, because I know that dot size is a swarm attribute.
Dot Sizes

So i've i've refocused on my swarm. So now I've got my definition of swarm over here and on the options I have for dot sizes.

Well, I can use the fixed dot size as 5 which i'm doing right now. I can scale the values according to some column. or I could even set the dot size directly from the Csv.

File the particular one I'm going to use here is I'm going to scale the values according to column population. Okay?

Oh, so I do that. And now, instantly my dot size is our proportion of the population of the cities took about 4 clicks to do that.

So and now i've got the larger dots here a little bit easier to click on. So here's my tokyo again okay in addition to that size a very common use case is to make dot color and attribute of these maps.
Colors on a Map

So i'm gonna do to keep things simple here on this particular map. When I look at my colors, options here, I can set a gradient scale.

I could use this color scheme if I wanted to. I could even put the hex values of the color in a column in the data set.

What i'm gonna do here in this example, i'm gonna use a gradient scale once again i'm gonna colorize by population.

So you know about 3 or 4 clicks there and i've got I've got my dots colored according to population.

So Tokyo is a very different color than these. All these other small cities along the surface of the map flow by default makes the low end of the scale correspond to a neon green Our standard neon green dot and it makes the

upper end of the scale correspond to purple so I'm. Not exactly sure why that was the default but it's it's flexible.

I can set this. So instead of having my largest dots being purple, I'm gonna make these dots the brightest red I can find in my color.

Palette. So I did that just by clicking on this, and then using using my mouse to click out of very, or to find a very red color.

So here's Tokyo It is pure pure red Jakarta is not quite as pure red, but close and then here's another large city.

Here. let's see which one it is this is deli 29 million.

So i'm showing you to lose a little bit of the red and I've got this is an orange tinge dot. So you know what i'm saying here, is a regular progression from green to red.

There's nothing sacred about always using our neon green Dot. So a lot of times I I like to use kind of an aqua colored dot, so I just chose aqua here instead of green.

And now i've got this this this representation so going from Aqua to red instead of neon green to purple.

I have gotten a little bit more definition of differences in colors for these dots. So. In any case, you know, all these, all these dots are a particular color as established on this.

Using this gradient scale, so that's all i'm gonna do for the cities part of this map.

But another important aspect of maps is to use what we call core plus i'm not sure if you know the name the meaning of that word.
Choroplath

I did not know before I started at flow. but a choroplath is a capability for colorizing regions on the map, such as countries and this particular map, according to some metric that's in your in the

Csv file that corresponds to countries So what I'm gonna do here is i'm gonna click on map. I know that core plotting is a map attribute So I'm clicking on that, and i'm coming down here, and I know for to establish a choreograph i'm gonna have to define a source data

file. So i'm gonna come over here i'm gonna click this hamburger icon. i'm gonna come into data sources.

And you see here, i've got my 10,000 cities data set. that's the only data set I put into this flow.

So far i'm gonna create a new data set here that's gonna have country information, including country population.

So I can colorize the countries according to the population of the countries. Okay, So i've created my due data. set here. now flow is asking you to go out and find it.

So i'm coming out here i'm gonna choose the file on my hard drive. Okay, let me just type in. I I know the folder that this is in

Okay, and I know the folk, this particular file that I have has the word country in it.

So okay, So here, Okay, here it is right here, country world population, one. This is the data set that I knew of on my art drive that contains the information I want to use to drive the colors of the countries in this map.

So I click on it I hope in it it's being read in the flow. It's got 237 rows one for each country of the world, and the data set consists of couple different spellings for a country value.

This is the value of the population it's also got a ranking I ranked in this data set. I have all the countries of the world ranked in there.

According to their population. So China is the most populous country. I also have a in a column of convenience which is called Population and Melans.

It's just this it's just this this number here divided by a 1 million.

So population millions. And I think that is, yeah, yeah, I have a few other.

I have a few other fields in here Oh, you know what i'm mention this one here right now, cause we're gonna we're gonna use it a little bit later, a little bit later.

I'm going to i'm gonna generate a colorization of world countries, according.

So I put the the 10 largest countries i'm gonna make them red. I'm gonna make the next 10 rang and the next 20 I think are gonna be blue or something.

So you know what i'm doing here is i'm just setting this up. So i'm gonna be able to conveniently coverage. countries in groups and blocks of size rather than uniform, rather than doing a gradient from the smallest to the largest, and i'll show you why

that's going to be the case. in a couple of seconds So that's my data set.

Okay, So i'm coming back here i'm gonna click on the map again. Here get focused back on defining the core path Now I know what my data set is.

It's gonna drive the core left and its country world population one Csv. Good. Now, when you have a map, then there are regions of the map that that indicate boundaries in this case of countries.

So the region column that I have that matches with what's in internal to this map is the country name i'm gonna say the value here and i'm gonna be using the population in millions column and

I'm gonna range the color from yellow which represents 1 million to bright red, deep red, which represents 1 3, 9, 8 million.

So this is 1 point: 3 billion people. Okay, Now it turns out the facts of life in the world.

These days are China and India are by far the 2 largest countries in the world.

So basically, they grab all the red. Okay, since this is a linear gradient from one to the the size of China.

You know India and China are the only 2 countries here that really turn out to look red, using our default gradient here for Carlos.

If I look at the United States, which is the third largest country in the world, I do see it's a it's a deeper color than a lot of the other countries, it's kind of an orangeish color and

brazil's another large country, so you know these countries are arranging from yellow to red.

But the way the data lines up in the world is only really 2 countries that turn out to be read.

So in any case, i've got all this into my choreograph now

And perhaps this would be suitable for what i'm i'm using it for so it'd be like 7 or 8 clicks to do that.

Okay, i'm not satisfied with this though because i'd like to have a larger number of countries have a rich color just for my presentation purposes.

Whatever those are. So, instead of scaling the choroplith from one to 1, 3, 9, 8, and going from yellow to red on that scale, how about?
Scaling by population

If, instead of using the column a column of population and millions, I use this populations.

Section column that I showed you earlier so in this particular using this particular column.

I'm. only ranging from a value of one to a value of 5 and 5 represented the 10 most largest countries in the world.

4 represented the next 10 largest. and whatever so now i've got a much richer variation of color, because I've contrived my data set to.

So when I do a linear a choropl thing here I I get something.

It's just more interesting to me so in this particular case i've mentioned. The 10 largest countries of the world are are are value of 5 or red right here in this swath of longitude.

You can see 6 of the 10 largest countries of the world right straight away. We've got Russia, China, India, pakistan Bangladesh, Indonesia.

Those are 6 of the 10 largest countries in the world. We've been the globe we've seen Nigeria, as one of the largest countries in the world.

Brazil, United States, and I did not realize, though I did this this this training course, that Mexico is actually the tenth largest country in the world.

The next 10 largest are these kind of rose colors, and the next 10, I think, are these kind of oranges, colors, and and so on.

So, anyway. that is a you know here what i've done is I've I I've modified my data very easily, and it just took me a few minutes to do it but in exchange for that I got a much

richer polarization of these countries of the map.
Controlling the color of each country

Final thing I want to show you is it's possible to control the precise color of every country.

Every region in this map. So in in order to do this instead of actually, you know, let me save this i'm gonna I'm gonna I'm gonna this is gonna be my stack.

I'm gonna make a copy of this next of this step and do my modification on the following step: Just so I have both steps to to refer to.

So now i'm on step 2 i'm looking at map, one on step, 2, and instead of scaling the value here, I'm gonna say the value the the the value of the color is in a column in the data set and

the particular column. Well, it's not going to be population section it's gonna be a a column that I call section color.

So here what i'm actually doing here is i'm getting the color for this, for this torque left reading into in the Csv file, and let me show you what that looks like here real quick.

I'm just gonna look at the data set again, this is the data set. Oh, i'm sorry that was a that was a rookie error. I'm not. I don't want to look at the data set for the cities.

I wanna look at the data set for my country. here it is it's this this column here has hex values for the the colors I wanna do for every country.

Now it turns out here I kind of I kind of set these. So the 10 largest countries were this dark red and the next one we're a particular orange that I wanted, so you know.

But if I had one or 2 I could make every country have a different color. If I wanted to, just by putting a different x code here in this column, and my data set, I'd have to come up with 237 different colors to do that But you know.

You. You could do that if for some reason you wanted to do it. So in this case what i'm going to do here is I'm just gonna live with what I've got here. here.

I've got the 10 largest or red the next 10 largest, or this kind of bright orange. The next and largest, I think, are maybe the blues, or whatever.

So in this way i'm able to precisely control the coloring of the regions of my of of my map.

So that's all i'm gonna do on this I still have a couple of other things that I want to show you.

But let me pause here to see. if you have any questions on this and Michael i'm gonna admit Julian looks like he's in the waiting room So I just noticed that just now So any questions.

On what i've done so far from match or corpus.

Okay, Okay, these are the basics of using any of the maps in the system. They all basically work the same way you can call. you can colorize all of them.

And you just have to you wanna make sure that in your d need a source that you've got the

You've got columns that allow you to do these kinds of things. Sorry, bill. 1 one question before you move up the the map the globe that is in the flow system already has knowledge about borders and the names of the countries you don't have to match that to some existing data set that you guys use like does that know that's India does that

know that's Saudi. arabia yeah this information is contained in the map, and if you ever want to find what the region names are in the map, there's a there's a button here called get available regions.

So if you look at the Csv. is if you look at the particular Csv.

File. This contains your your, your, your map. You can get the regions of it by clicking on this.

Get get available regions button. So what I did here is I downloaded to my, to my hard drive.

The the regions of the map i'll just add to that that the our like world map has a whole bunch of aliases.

Basically each time the World Bank or U n dp send us a data set and the they send us spreadsheets that don't exactly match what's in our data.

Set. We update this map to take advantage of those new names.

But in general it is nice for you to like especially if you create your own custom maps, or somebody's credit custom app for you.

It's nice to see exactly what matches because you we do need exact matches between the region name and the data in your data set.
Finding missing elements using Flow

Can can anybody tell me how you can easily using flow, find all the missing the missing names or the mismatch names in your data set? instantly?

Great question, Bill. Okay, the way you do it is you do exactly what i've done here don't worry too much about the exact names of the countries and go through this car ple thing step and any place where there's a

mismatch it's going to be a gray color. Yeah, So actually, I use that technique to debug some files that we've gotten from different agencies within the un and the like.

And almost every time I get a a map is one or 2 mismatches and some country usually not one of the major countries, but some country will show up as being gray.

So then I you know I see what the spelling is it looks like it's a common spelling that we're going to encounter again.

I send in to our engineering group. and all and alias for that country, and we put it into the maps.

So gradually over time, we're accumulating quite a few variations on how different countries or Okay, So maps are a lot of fun, very colorful, really useful. and a very common use case in flow okay i'm gonna

close this flow here. By the by the way, you know, let me actually let me come back into this. Well, because it can i'll show you a couple of other things I can do with.

There is a question for John Porter as well about Okay. Converting Csvs into Json so I'll.

Just quick answer that which is that the if you could scroll up your chat window? There is a link that Michael put in for custom maps which tells you exactly how to work through that.

Since essentially, there's some really nice online tools to take to find, first of all, there's lots of shape files in the world.

And this document just tells you how to find some of those. Second, it tells you how to convert those shape files to top of Json with an easy online tool, including optimizing it because some shape files are hundreds of megabytes large.

And this is a web project product We don't want people to have to hunt download a 100 MB file to get down to every last little corner of the shoreline of a country, and then options how to export that and

then upload it into our system. Okay? Oh, thanks, Jason. Okay.
Best practices on naming a Flow

One other thing. I would just want to show you what to do. A best practice that we always recommend is name your flow with a reasonable name, instead of having a name new flow with a date string after it, name it with a more meaningful name.

So here's a certified flow designer map training version, 1.0 B. Because I did the same kind of presentation yesterday, and that was version.

Sharing a Flow

1 point A for the people who came to the Tuesday session. So give a meeting phone name. Another thing is sharing.

Sharing is quite important in flow. We support different ways of sharing this isn't a course on sharing right now.

But what i'm gonna do here. is i'm gonna share this flow privately, and i'm gonna share it with an organization near and dear to my heart are flow qa organization.

I'm gonna share this flow with it. so Now, people like Michael Jason and some other people in the in the company here can X can access this flow, and they can.

They can make copies of it and do with it whatever they want. So just wanted to get in a plug here for sharing no good.

Filters on Flows

Okay, and i'm gonna put a filter on my flows. I've got hundreds of flows from all around the world that people ask me to take a look at.

So I got one of the most interesting jobs in the world. I think I get to witness this creativity. that's going on all all around the world with flow.

Let's see what I want to do is I want to take you through custom maps, and i'm going to also take you through custom maps and edit mode here.

Custom, math turn out to be really easy to do. but by far the hardest part is defined.

The the the file out on the Internet that has the map of interest to you. But there are good sites that have those kinds of maps, and we have, as I mentioned before, in our help center we have directions, and how to do that.

Custom Maps

So here are a couple of custom maps. 6 or 8 months ago I had occasion, on consecutive days to do training session for people in Kansas and people in North Carolina.

So I thought it was just good form for those training sessions for me to make some custom maps to those 2 States.

So I went out to the Stanford site, and I found a files that had Mac attributes for the State of Kansas by county and for North Carolina by county, and I went I followed the process.

In our the in the manual that we we published in our help Center, and to do the Kansas map. Oh, I was.

I was forging new territory here. It probably took me 35 min to do this custom map, but there was a steep learning curve in that I kind of perfected the steps I needed to do, and when I did the North

Carolina counties map. It took me like 15 min, so steep learning curve

But custom maps are quite easy to do to in order to check out. To make sure I had all of the counties names spelled right here.

I put in kind of a crazy choroploth. Here, let me show you what the let me show you with the data set is for this, for this map.

Here. it's one of the world's simplest data sets. I've got the county name within the State of Kansas.

I got a value from one to there's a 100 1,005 counties in the state of Kansas, and I just did a random number generation here, and I I put numbers ranging from one to 5.

And something I call dot value. I just wanted to check out everything about this map. worked. Okay, So very simple data set a 101 record for each county.

And then I set up my choreograph on this, just like I did when I was talking with you.

Turns out the region. name in my custom file is called Name 10.

Colon Greeley I think that's really an example so it's name. 10 was the region that corresponds to the county names in this map.

So I establish that as the region for my custom map. And then I I I set up the the the the the data file.

I I did put in my mike in this in this data file. I have. I had the county the county this what I cost the the value column Here it went from one to 105.

Where the lowest county name alphabetically was one, and the highest county name alphabetically was one of 5.

I did that, and the primary reason I did it you know it's kind of crazy to alphabetize. but I wanted to find, if any, if anything, showed up as being gray in there.

Is that what I mean? That would mean the name I have in my data file did not match the name in the in the mind.

So it turns out, these are all nicely colorized, this one that reach the richest red one, maybe, is this one. Yeah.

So this is really near the bottom of the alphabet. Wilson it's a 100 third county in alphabetical order, and if I can find the very brightest yellow one, maybe this one here. Oh, this is the fourth,

the fourth one Barbara.

County. So there's some county in here that begins with a letter A, and it will have the brightest yellow. I did the same thing for the North Carolina map.

So you know, really easy to do. and once you have your custom map, set up, these maps behave exactly the same as any other maps in the in the in the float system.

So it's just a few words about custom maps and then. every once in a while you might come across a situation where where you just can't quite find a map that does exactly what it is you want it to do and Maybe you

might want. Maybe you might need to go out and just get a take a picture of a Mac.

This is something we did for a company in the Dc. area. They they this is my human body sorry about that. Got the wrong one.

Yeah. So this is something we did for a company in the in the Dc.

Area. So what we did is we took a picture of a map.

We took it we made a We took a image in an image. Basically took a oh of the map, put it onto onto a step.

And what we did is on. with. looking at this map we were able to find the latitude and longitude of 1, 2, 3, the core port corners of the map.

Then what we did is we knew, so these become these become the boundaries of the latitude and longitude for this particular image.

And then what we did is we we knew the latitude and longitude of the various buildings that we're trying to display on the map.

So This, then just became a linear triangulation let's say, or i'm not sure what the right word is but a linear hunting in on what the locations of these particular properties were So this is property 13 had 8

170 square feet. We put just some simple kind of clickability on here.

This is this takes a little care. Yeah, you have to make sure. you know the latitude longitude of the 4 cars of the map.

But once you have that becomes very easy to place if you know that it didn't launch it to structures that you wanna show on the map becomes very easy thing to do.

So that is a that's a that's that's an example of using a picture of a map and using it constructively for holding scattered plots.

So now, just to send it. Put a teaser here. If you can do that with a map, you should be able to do it with just bad anything.

So what we've done here is we took a picture of a human body turns out. This was a drawing drawn by Leonardo in the fifteenth century, and this was for a medical kind of application.

What we wanted to do here. if we wanted to do this, some incidences of pain pain, points on the picture of a human body.

So we did. We took leonardo's drawing and we put some scatter plot information on it.

This is a clustered swarm that shows each incidence of pain clustered around the point or happens.

This is more, this more classical scatterplot where we're counting the number of incidences of pain in the neck, and then the left hip, and on the right hip and the wrist, and and the like, so it's

kind of that was a pretty interesting flow, using exactly the same technique that we used on

The map of the Washington Dc. area so you're still using latitude and longitude to create those points.

No, we didn't use that to logitech to but we did use x and y, and like this is the 0 point for X and Y. and this is the 200 point, and this is the 0 and the 200 point and what we did is we

defined each point on the body to have an xy coordinate. but it's pretty much the same. So exactly the same concept. Yeah.

So if you I I guess it would have been fun, maybe first, instead of using X and Y to use latitude in London.

Then we could put that on this, but we figured that might cause a bit more confusion than we were up to at that time.

So, anyway, you know. there's lots of techniques that images and and Matt can be can be used in doing visualizations in flow.

So let's see. Let me pause here. any other questions on this kind of technique or anything else. We've talked about. Can you show what the csv file Looks like that.

Overlaps the coordinates the line X with the image. Yeah, this one here? Yes. yeah. Okay, let me go up to this warm here.

So you're asking a question. you want to find the Xy you want to see the Csv. File for the swarm that corresponds to this step.

So I focused on the swarm for this step and now what I'm gonna do here. I'm gonna show you the csv so the Csv file is body, part location left foot left hand left tip, etc.

8 locations. I think this is the number of occurrences of pain at that location, and what we did is we?

We did a little bit of measurement and an approximation, and we came up with Xy coordinates for these various places.

So the left foot has a actually let me take this one. The left hand has a large x-coordinate and kind of a medium. My coordinate let's see if that makes sense.

So the left hand should be left hand should be way off to the right and kind of in the middle of the picture.

Yeah, So so really simple and i'll just put that up again for you in case you wanted to take a mental picture of it

And once again what we did here is we made this point here. We just defined this point here to be the 0 0, and this would be 200, 200, or maybe it turned out to be 2, 1,200, due to the dimensions of the sketch. and then we just you know We kind of

approximate it, and with one or 2 iterations we're able to get these points directly where we wanted them

Okay, Anything else. Okay? Well, great. hello. Thanks for thanks for listening.

I will stop sharing here and by the way this flow that these these flows that we create during these sessions will be made. you.

You'll give the link to these slows you'll be able to reverse engineer anything that that you saw me do here today?

All right, that you go. Yeah. Thanks for going through all of that. I think maps is a very exciting area for lots of experimentation.

And one of the easier ways to think of threed spatial visualization is just show.

People map First, it's the easiest thing for anyone to understand like where's the value of threed? And where can you derive value and it's a pretty easy shoe in?

And I think going from there to then, some other visualizations often lends itself really well. So homework will be the same as last week, which is basically to take this topic.

We just went through and to find a similar data set we'll send out a data set that is geo spatial or geospatial data contained within for you guys to practice on. But you can also pull from a variety of

sources to create your own data story that uses a map to show some, some mastery of that, and that will be available for any help or assistance with that in the chat window.

You'll also make sure to reference there's the demo media folder which i'll encourage everyone to reference.

That has some other sample data, but other top o Json files. If you want to play around with some of the custom maps and some of the functionality there.

Otherwise, thank you guys so much for your attendance today. You're really exciting to see the energy here any other questions

And similar to the last time we will have the beginning of the session open to anyone that wants to present. So, Jimmy. Thanks so much for presenting and then, That's how I lost track of who percent.

Oh, how thank you. How per presenting as well today. So Yeah. Thank you guys. And any other questions wrap things up. Yeah, I just wanted to say, you know, this is a big product.

It's got a lot of options and some of the things you're doing with this product are probably pretty new to you.

If you get to a point where you figure out there must be an easy way of doing what I want to do. But you can't quite figure it out and send us an email We're i'm very happy to help you out if you're if you're hung up at some point so is there is there any more kind of

fine detail guidance for what you want us to present next week besides something containing a map or or not.

Yep: yeah, thanks, Henry so I don't as of right now. But we can we'll send it in an email It is pretty broad here in terms of the the homework assignments.

We're not you know we're not educators and we're, not he's being grades It's more to prepare you for the capstone project and so we're working further on the details for the capstone

Of what we're expecting I can show you a little bit of what we've been working on. But we have now, between Bill and I one Excel sheet that contains basically every function in the whole and all of flow.

And we're basically using that as sort of a rubber to make sure one that we cover everything and that's 2. It's a way for us to Assess people's capabilities within the different functional areas of the

app so I can be more. We can be more specific in the actual ask here. And so in our summer email that we'll set out tomorrow. we'll be try to be more specific. But over that gives a little bit of guidance that you know this homeworks are are meant to be yeah, i'll

I'll just ask the question about when the capstone needs to be ready by We have a date on that we know specific dates. it's gonna be starting scheduling the week after our last

session. So we have 4 sessions here and Then we'll start scheduling for the week after, and we'll probably be hosting them during these regular times on Tuesday, and Thursday were people that want

to present in front of others. and then for anyone that wants to present privately, and not in in sort of a session like this.

That we can do those separately. and just schedule them separately. So that's the the the game. plan there it's entries on, and she's we're deep in the work of outlining all of those details. right now.

But thank you guys all for your patients and flexibilities. We've been building up this certification program

Cool, all right. Well, until next week feel free to reach out.

Revision #3
Created 2023-06-19 22:40:51 UTC by Michael DiBenigno
Updated 2023-06-26 22:18:28 UTC by Michael DiBenigno