Techspressionist Salon 97: Creative Coding

Recorded August 7, 2025

Synopsis

Salon 97, "Creative Coding" (August 7, 2025), features artists who make work with code. Anton Dubrovin presents his work. Allen Hirsh, a biophysicist, gives an overview of his system, showing videos made from a single original photograph and an idea that emerged from his particle system. Chris Bly, from Portland, Oregon, is introduced through his plotter work and shows plotting with pens and the range of materials that can be plotted on. The salon ends with a comparison to a candid photographer who goes out not knowing what they will see.

Participants (4)

Anton Dubrovin (MCHX), Allen Hirsh, Elio Ramos-Colón, Chris Bly

Transcript

Colin Goldberg

Hi everyone. My name is Colin Goldberg, and today is Thursday, August 7, th 2,025, and we're here for Techspressionist Salon Number 97. The topic is creative coding. We have 4 artists here today to talk a little bit about their practices and how they use code to create their work. We have also in the chat a Pdf. For instructions of how to use Zoom translated captions that was prepared by Cynthia Beth Rubin. And if you're interested in having the you know the audio translated into a different language in real time, you can download that Pdf and follow the instructions.

So basically, I'm not gonna give a whole long winded explanation about creative coding. Because, it's not really my area of expertise, although I have, you know, dabbled a little bit. I did my 1st animation work in basic back in the eighties on my commodore, and lately I've sort of picked it up a little bit, asking ChatGPT to write code for me and describing some different things as a fun experiment. A little bit of cheating. I do ask that anybody who is not presenting currently to mute yourselves so we can make sure. The audio is nice and clean.

So the featured artists for today's salon are Anton Dubrovin, who is from Kazakhstan, zooming in from Moscow, Russia. Right now we have Allen Hirsh who's from Chevy Chase, Maryland, here in the States, Elio Ramos-Colón Colon, who's from Garab, Puerto Rico, and Chris Bly from Portland, Oregon. So without further ado, that's the lineup in that order. Each artist is going to have about 15 min or so to present. Share your work through screen share, and I will start a timer for each artist, and then around 2 min before it ends. I'll just give you a heads up. So, Anton, you want to take it away.

Anton Dubrovin (MCHX)

Yeah, Hi, everyone so nice to see you. Yeah. And I'm excited to start. So yeah. We'll go. I will have a to share a screen now. And oh, okay. So I would like to start with a little introduction how I started with art and my journey. So I was always fascinated with abstract art, and especially movements like color, field, and obstructive expressionism. And you see, the artworks of the artist that I was really moved and inspired with. So it's really like, moved me deeply, especially the focus on theory, scholar transcendence, spirituality, and how they impact how the works back the viewer emotionally and physically. So this is where I felt that I want to start creating my works.

And. So the 1st thing I was thinking and wondering, is it possible to recreate the effect of color field using

a modern digital media and thinking of it, I started to experiment with graphic art and then with AI. So this is my one of the 1st works that I made with machine learning, using my own data sets. And I will show you a couple of this kind of works. So yeah, I was trying to recreate color field with AI, and I felt like it was working. I also created some video loops, and I really liked it.

I had a great response also, but still. Still, I was kind of frustrated with the Limitation that AI and video formats have. And so I still have this question. What does it mean for digital art to be displayed, and I mean especially compared to physical works, particularly coal field paintings, which is traditionally experienced at a large scale, often in public places this painting. Immersive. And one of the reason is because of their size and presence. And I believe that scale and environment are essentially for this kind of work to create The intended experience.

Hmm, but then I started to think that digital art also can be in large formats. Like in the big walls, huge screens they can be in motion. This work is, is my work exhibited on a big wall in the museum in Goa, which is big scale. But what was truly beautiful about what is truly beautiful about digital art, I think, is that you can also view the actual work and not the reproduction in your own private space. And this kind of intimate private experience is something that traditional art doesn't always, or physical art doesn't always allow. And I think it's incredibly important.

This is, also my work. That image made by my friend in his studio. And it's my work displayed on his different monitors and devices. So I wanted to explore that I wanted to create works that were flexible that could adapt to any screens, any format and context. I wanted them to break out of ui limitations of platforms and apps, and that what led me to start learning how to create art with code. And now I'm going to start showing you my works that I made with cold.

Yes. So. This 1 1 of the 1st that I created is one of the 1st of my generative Art collections. And what was amazing for me, that all the restrictions of video. Like duration, resolutions, compressions, disappear. When you create with code you can build endless animations. Works that evolve forever and look perfectly without interruption. You can make them any size or format, and they will display flawlessly on any screen phone or iPad or monitor and that flexibility is something you simply can get from video file or any physical work.

So also, what is exciting for me is the variety that you can introduce the same idea. The same artwork can be expressed in many different ways, different colors, different variation, but all connected to the same core. And yeah, and this one was really inspiring to me and is, and still really inspiring. And I started with Javascript and just the Ccs. It was really simple works, but it wasn't enough for what I was wanting to achieve. And then I found glsl, a language that is used for game development, and that, it works with shaders and color animation.

And now I'm going to show you my works that I made with glsl this one is 1 1 of my favorites and one of the first.st So I fell in love in love with Julie Sale, and because it was feeling like I'm putting my hands into a jar of colors, mixing them like fluid sculpture, shaping, and them with moths and light. And also, I'm not really interested in complex forms. I just like to work with color and time to shape form through movement, using just simple functions.

And. What I aim is to create an experience like a transition from one emotional state to another. And this is why I use slow, soft movements and rich colors. And nothing should be fast or overwhelming. The artwork should feel present, but not demanding attention. And one of my one of people who collected my work said that he likes to put my work on a second screen while working, and switch his attention to it from time to time, just to Reset and to spend time a little time with it. So I found it really interesting and really inspiring, because I feel like it.

My approach should be something that you can live with. Let it like play, and while you have this like, have a conversation, but come back to it when you need it, and spend time with it, for like for I don't know couple of minutes, or and also watch how it will evolve so, and I feel like it should set the mood, vibe. And in the space something quiet and like meaningful. Especially if it's in a private space. The space where we live in. Hmm, and so this is like, what is my idea of working not just creating digital art, but shaping like visual experience and then become a part of environment. That's all. Thank you.

Colin Goldberg

Alright. Thank you, Anton. Do you want to? Stop your share.

Anton Dubrovin (MCHX)

Because

Colin Goldberg

Great awesome really enjoyed that. So I'm sure there's gonna be some questions. What I'm gonna do. And this is what we've done in the past with other salons is just ask everyone to hold your questions until the end. And then, you know we can go through with a show of hands. I'm also gonna paste. Anton's Instagram into the chat. If anyone's interested in seeing more of his work, definitely give him a follow up. So yeah. Awesome. So the next artist who is up is Allen Hirsh, who's from Chevy Chase, Maryland.

U.S.A. And you know, I had asked each artist to give a little bit of an intro about themselves and their work. But you know what I think. I'm gonna just skip that and let the arts, you know, introduce themselves and say what they want, because, yeah, it's just it's just better that way. So Alan, go ahead and take it away.

Allen Hirsh

Thank you. So can everybody see the 1st slide.

Colin Goldberg

Yep.

Allen Hirsh

Okay, so this, this gives you an overview of my system. I am a biophysicist and through my artist brother. 30 years ago I began to do serious computer programming, too. I taught myself an advanced form of basic and many years later I decided to create my own kind of generative art with code doing it my own way. So these bullet points give you a pretty good idea of what I do. It is a generative system. It uses 3 images simultaneously going from pixel to pixel and register. In other words, there are pointers on each pixel, and the images are the same size. So I'm moving from Pixel to Pixel and register. It's using 11 dimensions to put into. I have thousands of equations. I've written.

And when I'm painting, I'm using linked equation sets and the inputs, the numerical inputs to the equations are the 9 RGB color values in the 3 concurrent pixels and then I calculate the X and Y position of I use a very large mix of mathematics. I use all the elementary functions. I use numerical calculus, mostly numerical integration A recursion, of course, like in fractals and logical branching. Based on both color and position functions which I are integrated into the rest of the system it what it does in terms of this, it has a space and a color component in the space component. It takes all right it. It. It calculates a new position position.

And then it goes in the source image and takes that the pixel in that position and puts it into the target position which is in register. So if it's a position XY. In both images. It, it takes the pixel from the another

place in the source image and puts it into that position in the target image. The when I color things using a different part of the of the program. Each pixel is in a in a source. Image is addressed, and then I take the color values from the 9 or 16 or 25 pixels around each image.

And those color values are fed into particular equation sets that I've written. People call them filters, I guess, in the modern world, and the outputs are used to change the RGB values of the pixel in the center. So I'm microscopically moving every pixel in the image, in the source, image or coloring every single pixel. Everything's done microscopically, pixel by pixel. The space transformations typically take for 15 to 30 seconds in a 15 Meg file, and the color transformations run from 13 to 15 seconds to color every pixel. So, as you might imagine, I have an embarrassingly large amount of art.

I also invented and patented a new way to Uprez. Images, so that I can take a 15 Meg image, which has a native size of about 6 inches by 8 inches at 300 dpi, and take it up to a hundred inches by 100 inches at 300 dpi, and it's pretty much in beautiful shape. I have very large paintings hanging around my framed paintings hanging around like my apartment, which is sort of my art studio art art gallery, and my son, who's a mathematician, is urging over the last few years. I finally wrote a loop program which by which I can make videos, I by iterating Control coefficients in subsets of the equations and then just creating a whole line of frames which I can then concatenate using commercial software into videos, you'll see a couple of them at the end.

So this is the graphical user interface. I don't have time to go through. And every one of these is, some of them are coefficient and exponent inputs. Some of them are recursion numbers, and some of them are just labels for equation sets. But, as you can see, I can do a lot of different things. When I actually paint because it's generative, I'm pushing a button. Huh! This is what I see. I just see a lot of numbers. I don't see what I'm doing. It's hidden from me. But of course, these numbers are telling me things like the contributions of the different components of the equations, right?

And then this tells me, for instance, where I'm moving the pixels where I'm taking the pixels from, you know, and moving them into this positions here. So everything you're going to see From now on, both still images. And at the end some videos were made from this. One single photograph was taken by my daughter when she was on a trip in the Netherlands. And a teenager. She's a good photographer. I am not a good photographer. I'm a lousy photographer. It's just what I do with photographs. It's interesting.

But she's a good photographer. She took this photo of this beautiful antique windmill. Of course, that the Netherlands are famous for and Oh, so everything you're gonna see from now on is a manipulation of these of this windmill. So some of, because a windmill can be thought of as a sort of a symbol of solar power, which certainly is. The wind is driven by the sun. Some of my images are pro solar power. You can probably imagine that I'm not a big fan of the present President of the United States, and his Pathological hatred of windmills. So this is sort of, I interpret as like, you know.

Petroleum pollution interacting with solar power. And then this is like big oil smashing into solar power. And there's just an interesting, modest distortion, physically. And an interesting colorization. You can see I don't. I don't know if I can. I probably can't blow things up. Not sure I can do that here. But The nice thing about coloring individual pixels is that you can. You can produce A patina, a richness that you could get from carefully hand painted material. In fact, if you blew this up, one of the things I can do is, of course, I'm coloring at a microscopic level which even a hand artist can't do. Which is, it gives you rather interesting results.

Now,. This is very interesting. You see all these diamond structures here. If we go back to the original photo. If you look down right in the slightly left center, right at the bottom of this roof, which is a storage shed, you'll see the top of a of you know. A window into into the interior of the shed, and it's very hard to

see it here, but that's a diamond shaped window, because the moving, the pixels can not only change their placement in the image, but expand or contract them.

You can act. That's that. These are all. That window blown up and moved around. Okay, sometimes I tend more towards a photographic structure. This is more of a painterly structure, right? So this sort of converts the windmill into something that looks quasi high tech, right? Which I think is kind of interesting. And then it was colored as if it was then painted. But the structure is not. It retains a photographic quality in the sense that it's not blurred the way a paintbrush would blur things.

This is another surreal photographic types approach because I haven't colored it all. The all. Each pixel has retained its color. The structure is surreal, but there's still a photographic quality. So it's something I didn't anticipate when I 1st started doing this. There's another one which is also photographic in that sense. And this is another one. Okay. But this is more fluid. It's not as quite as geometric. But still retaining that photographic sense.

But then I can highly color them right to get a more of a painterly quality, which is something that was very important in terms of what I wanted to do. I wanted to use mathematics, not the way of fractal system does which paints mathematics itself. But to use mathematics as brush and paint and canvas in that sense. Here's another even more surreal version.

And, as you can see, it's the number I once calculated technically how many using a 5 million pixel system, which is I'm using. I'm using 5 million pixel inputs as images. How many? Technically, how many images you could make in a in A in a an 8 bit RGB system. And the answer is about a Google to the 360,000th power. So even though I'm an optimist. I don't think I can explore that space very effectively. Here's a more, and we're whimsical transition.

And then here's the same thing colored right? Which I think is a really interesting transition. And here now is a rearrangement so complete that if I show that to a naive observer they would never guess that it came from a windmill. I mean, it just looks like some sort of I don't know. Modern struck, you know. Structure here also is, is a highly. You know, modified system, but again, more fluid than than the others, more painterly in a sense.

But then retaining, of course, the original colorization. And then here's another one. And then here's 1 that's highly highly colored. And this to me makes it look. It's kind of ironic to me, because this sort of looks like something that might be an electrical electrical, generating structure, which, considering that the windmill is, of course. In the modern world. An electrical generating structure is kind of a nice confluence philosophically.

And if we go back

Colin Goldberg

You'd have just over 2 min left. I just wanted to let you know, in case you wanted to.

Allen Hirsh

Oh, okay, so let me let me go past all of these. And I'm gonna show you one more. This is really highly structured in color. But then I want to show you some, the. Some videos. So here's a video made from again that original photograph.

And here is another video made from the same photograph.

These generally am making them at 6 to 700 frames. To make this takes quite a few hours in the computer to generate them. And I guess that's you know. I guess just I should say I'm I hope my presentation appreciate helps. You appreciate the power of mathematics as a fine art tool, and I want to found. Thank the texpressions leadership for the opportunity. And you can find me as the abstract

gardener on the web.

Colin Goldberg

All right. Thanks so much, Alan, and I'm gonna paste your Instagram into the chat as well.

Allen Hirsh

Sure.

Colin Goldberg

So anyone who would like to see more of your work can follow you. Awesome. So thanks. So much for presenting. I think it's really interesting. How you know in your work. It seems like it's as much a process of discovery as it is of intent, that is, you know, kind of playing with the code and seeing what? What it results in. So yeah, that's kind of been my experience when playing around code as well. All right. So the next artist up is Elio Ramos-Colón Colon from Garabo, Puerto Rico. Elio's work is actually one of the 1st bodies of work that I found on Instagram when I was looking for other artists to be involved in the group. I remember, you know I think he might have been the 1st Code based artist. Actually, that I noticed the work online and tagged it with the hashtag. And he got involved. Some of the early exhibitions and other things like that. So Elio has been part of the community for quite a while now, and I would like to introduce you and welcome you to share your work.

Elio Ramos-Colón

Okay? So I have. I prepared this presentation our creative coding. And of course, my name is Elio Ramos-Colón Colon, and my handle is Garabatos, Pr. In Instagram and Twitter. Also. I'm gonna begin talking a little bit about my inspirations for first, st for some of my work. Of course. The inspiration from many of us is, are the classics, Ilma. I think I lost. I don't know. Well, I don't know what happened.

I don't know what's going on.

Tommy Mintz

I see your screen just fine. Can you clean up a slide.

Elio Ramos-Colón

You can see my screen. Yeah.

Tommy Mintz

Yes.

Elio Ramos-Colón

I'm trying to. But I can see my screen. Okay, now, okay, now, okay. Sorry so some of my inspirations are the classic artists like Hilma Kandinsky Malevich, and also the contemporary artists and creative coder. Manuel Gamboan, which is actually the 1st word that I saw in creative coding was by this guy, and I was shocked, and I decided to work to do some work in that area. Of course my background is in is in coding. I teach computer science. But after I saw the work from Manuel I began to do.

I began to do work projects in creative coding. Some of the ideas or concept that inspire my work are based in my background, in physics. Particles, fields, noise, randomness, and also the aesthetics that is pretty common in math, like geometry, symmetry, patterns, and of course, asymmetry, recursion, and other things. And also I am very influenced by the open source culture. So you're going to see that I will. I would say that 100% of my work is open source. So you can. You can see the code and you can work with the code, and you can do forks and all kinds of things. The I'm trying to.

Okay, I'm trying to. I don't know what's going on. I need some troubles here again.

I cannot move my transparencies.

Sorry I'm having some problems. I don't know why why I cannot move my transparencies. You can hear you now.

Anton Dubrovin (MCHX)

Yes.

Elio Ramos-Colón

You can hear me now.

Colin Goldberg

Yep.

Elio Ramos-Colón

Okay. Sorry again. So some of the tools that I use are basically, I began doing creative coding with processing. But maybe this few project with processing at the very beginning, like probably 7 or 8 years ago. But then I began to work with p. 5 Gs. Which is the processing version that works online. So all the projects are gonna show you today are done with p. 5 Gs, which is a Javascript version of processing. I like it because you can share your work in online. And you can also in add some interactivity to your work. And it's my favorite language to work to do generative art and creative coding all the works that I'm gonna show you today are done in a platform called open processing. It's a paid platform. But you can. You can. You can work for free. And I'm gonna share some of my sketches from this platform in open processing. Well, now, basic, a typical basic code in p, 5, gs, then, as you can see, it's very intuitive in terms of from the perspective of an artist you can create a canvas, you can defend the background of your, the color of the background.

And then you have another function to draw things in your canvas. So in this case, it's just a simple circle. Okay? So the price I'm going to show you today are based on particles. Particles. Means it's an abstraction. Basically, it's a bunch of particles I throw on a virtual canvas, and these particles you can define how they move. Based on 2 mathematical formulas. One is related in this case. U is related with the horizontal movement, and the other one is related to the vertical movement. So you can define all kind of you can do all kind of math and define all kind of formulas for this.

Oh. A typical formula that I use for most of the work that I'm going to show you today is based on this trigonometric function. I'm not. Gonna I'm not gonna go too much into the details. But basically, is this guy here takes care of the horizontal movement of the particles, and the B takes care of the of the vertical movement, and depending on where you are located in the canvas, you're going to move in a different way. So basically, that's the main idea.

For instance, if I take this. Big particles and throw it in the surface of the canvas. You're gonna see something like this. It's a black and white representation not too interesting. Well, it's interesting. But you can see loops. You can see shapes that are close. And so that's the basic the basic movement of the particles in the in based on these formulas. So I began. Well, basically, my, my approach to art is to take basic ideas and try to see how far I can take a very simple concept or a very simple formula how far I can take it to produce something interesting.

So my one of after this my next experiment was to put color to the particles, and in the in this case, also, the particles you can have particles that are, you can change the particle, and like as a generic shape, like a circle, or even a line or a rectangle and stuff like that. So this is one of my. The 1st thing that I did is.

Yeah, I think I did this in 2,021 I put the QR code. If you want to point your cell phone. You can. It's gonna take you to the, to the actual animation. Of course, this is the final product of the animation.

But probably it's much in it's much more interesting to see the whole thing moving around. See, let's see, I can show you. Here. Let's see if I can find. Okay. Now here, you know. Let's see, let me new share. Okay, let me see if I can see my browser here. Okay?

Oh, yeah. So probably if you pointed your.

Okay. Here we go. Probably you're seeing the movement of the of the particles. Of course you are. In the transparency. I just I'm showing a snapshot of the actual animation has this retathetic movement Intense colors. There is some mechanical movement, but also something can that looks maybe like organic. I don't know, probably something like that. So basically, that's an extension of the basic particle model that I show you before. Then. I began.

Then I began exploring this idea of particles moving in this virtual canvas. And basically I took, I began doing stuff like connecting particles, adding transparency, all that kind of stuff. And so I'm going to show you another version which is around here. Here is this is okay. If you look, this is basically the same thing. But connecting particles and adding some, some, probably some lines connected the particles. And you can see it's something more looks more like an actual painting type of thing. Actually, I can show you the okay here is.

So if you I'm gonna share my presentation. You can see, probably the animation is also more interesting than this. The other. Another version, using a different palette of color based on the based on the same of the same on the same idea. And Ravi, I'm gonna show you some other. Let me go back to the presentation. Okay, here we go. So here is the original thing.

And this is the other. The next version is called Cardio Scorpio, 2,001. Let's see, let me move this here. Okay, this is the other version, and this one is. Working on the same principle of the particles, but changing direction. This quality, this one is called traffic is basically 2 lines all the particles emerge from the from these 2 lines, and the final pattern is like, look like looks like different type of layers of particles moving moving in opposite directions.

This. This one is the one of the ideas that emerged from that particle system. And actually, this one, this one was part of the exhibition in 2023. It's right here. And basically, if you see, as you can see, is also an animation. Sometimes the final product is in is the is the interesting thing. But sometimes it's good to see the process and see how the final pro you end up with the with the funnel product in this case. All. I made a selection of all these pieces in open processing. Of course, all these pieces you can look behind the scenes. Look the look up the code. You can fork the code. You can make copies of your core and probably modify, learn from the code, change the color, change the palettes and do all kind of cool things.

So in my case, I prepare a small courage. I created, basically, I put together a few, a few other example of my work some of their are here. So if you go to this link, you're gonna find the if you go to this QR code. You're gonna see all the all these pieces and some of the ideas are, as I said, one of I would say, that 50% of the pieces here are based on this idea of particles moving in different directions. But I also works on. I do some project with recursion.

But I prefer to use random recursion, because it's the patterns are tend to be more interesting and not that mechanical in that instance. I'm not. I'm not sure if I have additional time calling or.

Colin Goldberg

Yeah, you have just about 2 min.

Elio Ramos-Colón

2 min. Okay, so probably I'm gonna show you this guy here, which is probably maybe a friend.

Okay. So this one is also based on particles. But I'm going to show you the animation from the very beginning. Of course, at this stage. Basically, we have in this case, I'm using very simple formula, basically, our circles moving around The circles are expanding and contracting, and every with some periodicity, the color change. And basically what you can see here is layers, layers, layers of particles. I like it because it has a very interesting transparency effect.

So this one is also basing also in the on the same technique. So again, if you want to, if you go to if you write that about those Pr in open processing. You're gonna find all my, all my schedules. I have all 5 500 sketches. Some of them are experiment. Some of them are more polished like this one. So I'm open to. So you can go and take a look. And finally, finally, finally, finally, I'm gonna go to the back to the presentation here. And basically now, now, here is my contact information my email, Nicole at Gmail.

My handle caravato spear. And of course, my open processing account. So that's it.

Thank you.

Colin Goldberg

Alright awesome. Thanks so much. Elio. I'm gonna paste Elio's Instagram into the chat as well here. Very cool. And I also really liked how you used QR codes in the presentation. A couple of people commented on that. I think that's a really good idea. Especially because these salons are being recorded. So when people are watching on YouTube, they can still scan the QR codes you know, they're not going to be able to see the contents of the chat, but they are going to be able to see anything that's being shared on the screen. So I think that's a really interesting way to use codes.

So we have one artist left. That is Chris Bly from Portland, Oregon. I believe Chris's handle on Instagram is machine dot arm, and I found Chris's work. When I started to play around with a plotter. I got myself an Axie draw a couple of years ago and was playing with plotting some vector art that I drew in illustrator. And then I found Chris's work, which is generative work. And I thought it was really interesting how he used the plotter in terms of a way to execute his code based work. So without further ado, I will introduce Chris.

Chris Bly

Hi, everybody! I'm Chris. Like Colin said. I've been doing generative art for the last few years now. I got into it initially, I went to school for math and computer science. So I have a history of coding. But I didn't get into the art aspect of it until a few years ago, during Covid, when I bought one of the acts to draw pen plotters, I don't know. I came across somebody's account online. And I was like, that looks like a fun little hobby. So I got into it that way and then sort of discovered B, 5 js, after that, and then started playing around with that to create a lot of my work.

Because of the restrictions inherent with pen plotters, let me share my screen here. A lot of my work is linear based. As you could see. Some of it's difficult sometimes to do stuff that's outside of that realm. But I find that the restrictions of that are kind of interesting, you know. Having a little bit of a box to work outside of or inside of is often for me. Inspires more creative, more creativity than being, you know, left completely up to my free will.

But this is my Instagram page. I do have a lot of videos up here that can show the process firsthand. And you can see the machine in action. I don't have a camera hooked up to the machine in here, so sometimes it's better for me to you know, exhibit it firsthand through the videos that I've taken and. Similar to a lot of artists. My work is Heavily based in themes, you know, such as randomness and recursion patterns that aren't really evident all the time. I find Creative coding in particular, to be really interesting,

because. You know, it's 1 of those things where? Sorry here just like any sort of coding. The mistakes I make sometimes can lead to, you know.

Fun, little unexpected results, and can take me off in a completely different tangent. I like the idea of essentially collaborating with the computer. I see it as a as a partner for my work where it's like I come up with. You know, 70 80% of the program, and there's a certain amount of randomization and noise that goes into it that I leave up to the computer and so like it always creates for some unexpected results. Which I find really interesting.

This is just some examples of some stuff I've used in addition to pens. I've used acrylic paints. I've used Charcoal, which is kind of a difficult one. You have to go back and find that anybody who's used a pen plotter can automatically understand the. The difference between, you know, something like that and just a normal like inkjack printer and the possibilities that are there. And I'm looking to explore some more of those in the future. But right now I'm currently a little bit limited with space. And, as you can see. Let's see if I can open it up here.

Lately. I've been using P. 5 and exploring.

Some of the Midi functionality where I'll use a Midi controller to. I'll just show you here.

So this is an example of a simple sketch I did recently, and I don't know if you guys can see it. But here I have a just a little Midi controller that I can use to adjust some of the parameters on the fly as opposed to having to like.

Completely go in and rerun the program. And this has actually been a lot of fun. This is just a really simple example. Right now I did for this demonstration. And you scroll down to the bottom. Here it has all of the different variables that I can. You know, log in real time if I want to take notes or whatever. But I've been playing around a lot with that recently. It's I feel like it's a way for me to adjust. All of the variables on the fly. That way I can, you know, don't have to go in and type it into the original p. 5. Code and then rerun it again and everything. So that's been a lot of fun to mess around with, too.

And see here.

Most of my work is as you can see, is fairly abstract. I started as an artist in middle school drawing, painting, and then 1 point went to architecture school, and then later on, studied computer science and programming and math. So this has actually been a fun little marriage between, you know all of my different interests over the years, and an interesting way for me to express myself that I didn't actually foresee years ago. But yeah. And I'm gonna see if I can share. Let's see here.

So this is an example of this is that simple Midi Controller one that I recently did. As it's all written in p. 5, js, and it just has. Where is it? Everything's basically assigned to one of those channels.

Right here. And it's actually really fun. Because, like, normally, for instance, I would have to. You know, go through, and if I wanted to change something, I go in here, do it, run the program. See what changes this is this is a recent one I did that I was really happy with. Let me see if we can zoom it out for you.

One of the interesting things about working with the pen plotter is. The results that I see on screen aren't always what ends up on the paper. Various restrictions through color. The pens I use the paper a lot of times I get, you know, failed mistakes because there'd be too much density or something, and the pen will literally wear through the paper and the process, and I'll come back and it'll be torn up. But I don't know. It's something that I find extremely fun, and it's never gets old watching the plotter work for me.

But there are a lot of interesting restrictions that come with it. But let me see here, not sure if I'm hang on. Sorry I forgot I had to change windows here.

Yeah. So this is a recent one I did, which actually was deceptively difficult. The subdivisions here. We're

kind of tough, but you know, even getting the hatching, which is a random function starting in various random corners of each tile. And it's 1 of my most recent works. It's 1 of the 1st ones that I've delved into more color, as you can see by looking. If you ever go on my Instagram, most of my work is very monochromatic and black and white, and I've been trying to, subtly, you know, and slowly move away from that while maintaining, you know, a voice that I've already established, and this is one of the 1st ones that I felt really kind of accomplished that you can see it.

You can see the difference between the plotted version.

Something like this here and the you know. But yeah.

And then, yeah, this was this one's kind of a fun one. It's a recent few months back, I did a tried to do a stop motion. Video. And this is something I actually really want to explore further again to.

It actually turned out pretty well for my 1st one. That one was taken. I think it was 240 frames, if I remember correctly. I ended up using Hooking up my camera to my actual large plotter after the whole thing was plotted and programming the plotter to go incrementally and take photographs of every single frame. And that's something I actually got inspired to do by another artist, something savage on Instagram. He does a lot of time lapse or sorry stop motion stuff.

That's something I also want to explore in the future. That whole program was also a generative program. The waves and they're created were basically utilize the same sort of thing as some of these recent works that I do where they use a lot of perlin noise to you know, to create these curves, these undulations. This one is very, you know, landscape Oriented. But you can see there, it's very good for plotting and anything using a pen. So but yeah,.

See here.

One more. I wanted to show you guys.

Another example of this was a each January there's a community of us that gets together and does what's called January, where it's all. I'm sure some of you are familiar with it. Where it's all generative art based prompts for the you know, the whole month. This was an Annie Albers prompt that I did a little while back. It was one of my 1st times utilizing acrylic paint. And Paint's kind of tricky one of the one of the things I love about it. But it's also kind of frustrating. Is you really have to keep an eye on the paint levels as the machine goes through.

And making sure, like the brush width, and everything is all programmed into your actual Javascript script like it can be a little bit tedious, and there's a lot of trial and effort that goes into it. That's another thing that I want to explore more in the future. But Ideally, I'd like to get to a point. I'm moving into a new studio here soon. So I've been like, really busy. But I'd like to get to a point where my work becomes more of a hybrid, because I do have a painting background and a drawing background by hand. I like to get to a point where my work becomes more of a hybrid between the machine and myself.

Maybe even to the you know, some sort of situation where I'm working simultaneously on the same paper or canvas as the machine, and have it be like a real time collaborative effort. But I'm not quite there yet. But I think it could actually produce some interesting results. So.

But anyway, that's I guess that's about it for me.

Colin Goldberg

All right. Awesome, Chris. Thanks so much for sharing your work. I remember when I 1st saw the work involving paint. And I was like, How the heck are you doing that before I saw the process video, and that just totally blew my mind how you actually programmed in the motion of the paint.

Chris Bly

Yeah. The.

Colin Goldberg

Picking up the paint, going back to the spot it left off. I mean, that's pretty crazy. Very cool. And yeah.

Chris Bly

There's literally a dip function in my program for that, and it just draws a little circle. So it goes in and like picks up some of the paint and then goes back. But yeah, that took me a little bit to figure out, but once once it worked, I was like, oh, this opens up a lot of possibilities. So.

Colin Goldberg

Absolutely it reminded me. Somewhat of Roman Verostko's work, who's recently passed away. I'm not sure if you're familiar with him and his work. But he was used in the plotters, you know, kind of early on, and I think it's really interesting, like where you've taken that. So you know, we have some time left about, you know, 1520 min or so, if anyone has any questions, I was thinking also it might be interesting. We haven't really done this in the past to 1st ask any of the presenting artists if you have any questions for any of the other presenters. And then, you know, we could just generally open it up. But if any of the people here in the audience have questions, just go ahead and use the raise hand tool which is on the on the zoom interface. They keep moving around exactly where it's located. But yeah, it's somewhere.

The react button, maybe. Is that it? Yeah. And that little heart on the bottom, the react button. There's a raise hand function. So do any of the artists. Have any questions for any of the other presenters. Before we go into the general audience.

Allen Hirsh

Yeah, yeah, I. I have a question for Elio. In your motion equations for the X and Y changes. Did you only vary time? Or did you actually make the frequency coefficients, functions of position or time.

Elio Ramos-Colón

No? Well, I probably we can take a look to the code. But let's see if I can share the code. Because is easier to explain. Okay, okay.

Well, it's implicit that there is. Time, basically is the whole thing is running in a loop. So basically, the time is implicit, but the movement is based on the previous coordinate, so the particles is in one position. The formula move it to another position, and then repeats again, so that's so, you know that in a sense, is, isn't.

Allen Hirsh

Yeah, yeah, I understand that. But so, for instance, when you have an assign Kt function, The simplest thing is to have K be a be a constant, but you get more interesting or complex results of K as a function of U and V and Ti mean, in other words, it itself is a variable yeah. I just wanted to know whether you did that or whether they were always the frequency.

Elio Ramos-Colón

They are constant, they are constant. Probably in some other experiments. I tried adding noise to those contents, and Robbie some of my pieces somewhere, probably in some of the sprint. I have done that. But in this case it just be a deterministic motion. Basically, yeah.

Allen Hirsh

Okay. Just wanted to know. Right? Sure.

Elio Ramos-Colón

Okay.

Colin Goldberg

Alright, so I just actually pasted Chris's Instagram into the chat for any of you guys who want to give him a follow full disclosure. I'm also a collector. I bought a couple of prints off of this site, and they're very cool. And that's how I actually, you know, thought oh, he would be a perfect person to invite to this. So we have a few more questions. Patrick.

Patrick Lichty

Hi, oh, wait a second. Oh, okay. So there's gonna be a little bit of an echo. Yeah, yeah, no. I've got mine open. So the one thing that I think is interesting is that you know you're working with the. With the paintbrushes, and that as a as a function, and the thing is that I was very close to Roman myself. So and that's 1 of his gaia projects up there. So anyways, what happens is that what he used to do is that he used to take used to take the pens and actually rework them. And to the point of using

Colin Goldberg

You're muted, Patrick.

Negin Ehtesabian

Instead of instead of using the instead of using using a brush. And the thing is that where this kind of influenced me is that I wind up using when I go that approach I wind up using you know, acrylic or casing in a in a water brush or something like that. So you know, how do you think that something, you know, like that sort of approach, you know. Have you gone that way? Or do you think that you know you really like this idea of, you know using the brush? And how do you keep? How do you keep things consistent, you know, on long runs.

I'm as is that directed towards me. Yes, to Chris, yeah, no. I like the fact that using brushes and that sort of thing. So I said, you know I used to know Roman Brasco for a long. And the so the thing is, he wound up, using. You know, pens with casing in them, and the thing is that I went to water brushes, you know, with your watercolor casing and things like that. And, you know, have you tried that? And you know, how do you keep the consistency, you know, with your brushes and using, you know, in using brush based methods.

Chris Bly

I have experimented a little bit with water brushes. It's a little bit difficult. I have to come up with a mechanism to hold it on the plotter without actually squeezing the brush, but with as far as regular brushes. The most difficult thing is maintaining The paint level in the tray, because if it gets too low, the you know, the strokes can sort of like start to fade out, which can be a cool effect that I've utilized before. So in some of my videos where I've done the painting, you'll see where, like I'll even just after, like one or 2 dips, I'll drop a little bit more in the paint tray if I want it consistent. If I want it to run low, I'll do that. Sometimes I'll move the tray around. So there's a lot of different variables just on using a paintbrush alone that you can play around with. If you want to have it sort of like fade out and not go back and dip immediately after each stroke. You can do that, too.

It just depends on the effect that I'm going for. But yeah, I haven't. I don't have a whole lot of videos of the painting process on my Instagram. It's something I'm slowly still trying to dial in to be honest with you, and it's also difficult to find works of mine that are compatible with the painting process and not just

exclusively, pen. So that's also a challenge, too.

Patrick Lichty

Have- have you? Have you looked at the yeah, we used

Negin Ehtesabian

Used, you know, painting in their you know, in the process, I think there's a couple of artists out in Germany that were doing oil. And then I think Ben Grocer was also winding up. You know, having a specific, a very brush faced. You know, pen, plot. I'm pen plotting you know, system and that sort of thing. And I was just wondering what about your familiarity with the other artists who've gone into this approach.

Chris Bly

Yeah, I've seen a few other artists. Oh, I'm trying sorry I'm blanking on their name right now. There's a I'm sure if I pulled up my Instagram I'd be able to see them. There is an artist that I follow. Who does oil based. And he has an interesting setup to where is? He's even a couple of his machines are even set up vertically on the wall, and he sets up the tray so that it can go back, and hit he does a lot of landscapes, sort of stuff that ends up being kind of like, slightly pixelated because of the brush strokes and the palette and everything. But it's a really cool effect.

And then there's I've seen other people. Other artists that use sort of like a sponge type brush where it goes in and soaks it up, and then they'll let the marks sort of fade out. And yeah, there's, I mean, there's a lot of The possibilities are kind of endless. I mean, I've plotted on wood. I've seen people plot on glass. It's not even just the materials that you can use to plot with. It's also the materials you can plot on Fabric like. Yeah. So.

Colin Goldberg

Well, actually based on Patrick's question. It reminded me of Joseph Nekvital's work, who he's a friend, and he's also been involved with the group with Techspressionism for a while. Now, I'm going to just paste a link into the chat, too. So Joseph has been working with basically like they're described as computer robotic assisted paintings. But it's like a plotter that's on a very large scale. So the piece I pasted the link in, I believe, is in the collection of the Brooklyn Museum, and it's 64 by 44 inches. Computer robotic assisted acrylic painting on velvet and that was back from 2011. So his work is definitely worth taking a look at, too, when it comes to the handling of media with those sort of tools. But he refuses to go on zoom sadly. So you know. But you, you could definitely see his work online.

Negin Ehtesabian

Exclusive.

Colin Goldberg

So let's see, we have Cynthia Didonato up next.

Allen Hirsh

I just wanted to say thank you to all the presenters today for sharing such fascinating use of coding as a medium. And I have a question for Elio. I went to the open processing Techspressionism subset, and looked at all the lovely pieces that are there, and I noticed that it says, Submit your sketch. So I'm assuming that any of us, because this is open processing could submit a digital file there. Or am I wrong.

Elio Ramos-Colón

Yeah, the thing is that in open processing you can create a correction. And you can tell other people to submit their code, basically so they can submit. If you are in open processing. If you, if you have an

account in open processing, you can add your call to that creation. So basically, it's inside open processing.

Allen Hirsh

Okay. So the submit. Your sketch is to submit code.

Elio Ramos-Colón

Yes. Yeah.

Allen Hirsh

That's what I needed to understand.

Elio Ramos-Colón

Yeah, okay.

Allen Hirsh

Thank you.

Elio Ramos-Colón

Thank you. Thank you for your comment.

Colin Goldberg

Alright, great and now we have Michael Pierre Price.

Michael Pierre Price

Thank you. Yeah. I want to give kudos to all the 4 presenters. I think. What you've done and what you're doing is really inspirational I was. This is kind of an open question to anybody who of the 4 who might want to answer. But I was curious about The nature of the math that you're using. I'm got a good math and physics background myself. And so I was just curious whether or not using higher order mathematics, or if you've explored certain areas that are more fruitful using math than others. And, for instance, Elio, I saw that you were mentioning not only particles but fields. And I didn't know whether or not those fields that you might be using are dynamic in a certain way, which might interact the particles together in ways that might not be obvious. So I'm just really kind of curious whether using linear math is more productive than saying using complex functions. But so I'm just really kind of throwing that out there because I was really curious. In looking a little more under the hood of what you guys are actually doing.

Elio Ramos-Colón

Yeah, I'm gonna comment on that. Yes, in my case, of course, is, everyone has their own artistic process. At least for me in the doing doing creative coding. In my case. Basic, very simple ideas and extended these basic ideas. When I say basic ideas, I mean, basic basic equation basic formulas and trying to extend it to different kind of scenarios. For me, that's the way. Well, that's the way that works. That's the Refer to work At a certain stage when I was beginning to do this type of creative coding things.

I used to start with huge big ideas I'm gonna have. I'm gonna use this very complex interaction. This very complex equation. But bottom line is, I end up with very basic things, just basic things, basic ideas, and try to see how far I can take them. Yeah. But in some cases I think about probably some kind of higher mathematics in some cases. But I for me, it's more productive to think in, in very simple rules and very simple formulas. Yeah.

Allen Hirsh

I guess I'm the opposite of Elia. I try to make my systems as complicated as I can to see if I can still get art out of them. And I guess of all the functional systems that I use, the one, the one that was the biggest leap forward in terms of increased quality and interest, was doing numerical integration, on, on the mostly somewhat on positions, but mostly on the on the color, the color. Dimensions, I mean, in a certain sense.

Each one of those is a separate manifold. And so you start integrating them. 1st of all, you eliminate all kinds of noise that way, because as the integrals get bigger changes become minor. But then, when you start mixing them. And then you do recursion on the numerical integration. You have 2 numerical integrations, and they feed into each other. You really start getting really interesting results. And what for me. That since the ultimate goal, aesthetically, was to get as close to manual painting, because, after all, I think about when a manual painter puts a brush into into a mixture of paints and then puts the brush on a canvas.

The individual flow of die elements of the of the Of each, each thread, each, you know, thread in the brush is not controlled. All this kinds of complex patterning that's going on that Rembrandt can't control, nobody can control it. So there's all this stuff. But then there's also order to it. And so I'm sort of trying to get at that, but at the same time controlling everything. But yeah, so I really like the complexity. I think The difference between me and Elio is that I'm a I'm a biologist, and biologists are in love with complexity.

Michael Pierre Price

That's a good answer. Thanks, Alan.

Colin Goldberg

Okay, so we have 2 more questions. We're kind of getting close to time. We'll take one from Lee Day. And then I saw in the chat. Gregory Garvey has a question. So we'll do those 2 questions before we close. So, Lee, you're up.

Lee Day

I was just wondering, whether anyone had considered using open frameworks or whether that's just sort of overkill for that. This kind of work.

Colin Goldberg

Anybody.

Anton Dubrovin (MCHX)

I, personally don't use open frameworks. But it's just because I'm I like I like doing everything myself.

Elio Ramos-Colón

In progress right.

Anton Dubrovin (MCHX)

And but I feel like it's not something that you cannot do. I think it's really cool, and a lot of artists do use. And this kind of work frameworks. And Yeah, but for me, I'm just I really like being knowing what I what I do, what I can do with, and all only rely only on my own knowledge. And yeah, this is why I approach.

Allen Hirsh

I'll put it in more explicit terms. I'm too self-centered to do that. Like Anton, I just want to explore my own. My own mathematics my own approach, and develop that on my own.

Colin Goldberg

Alright!

Anton Dubrovin (MCHX)
Yeah.

Colin Goldberg
So we'll take one last question from Greg Garvey.

Gregory Garvey
I have a very brief question for Chris, and then a general question for the 3 artists. For Chris. The question is, how often do you have to? As a brush is used, or a pen? Does it begin to break down, or the bristles spread too much? And how often do you have to replace it. And then the general question, is. Art movements, such as color, field painting, conceptual art. Or an artist like separately Ellsworth Kelly sought to remove the artist's hand from the work.

And how much is that kind of ideological position? Influence your approach.

Allen Hirsh
People.

Chris Bly
For with regard to the pens and brushes and stuff it, it is. I mean, it isn't issue having to monitor those tools, especially in. You know a longer plot. You know, there's been times where I've walked out, and. You know, gone to have a cigarette come back and the pen is out of ink, and I got to start all over again, or, you know, like the something like that. But you know, depending on the size and the length of the plot. I do have to monitor to those things pretty carefully.

And you know, sometimes I think the density of some of the line work can also create a problem. So I've had times where it'll it'll draw so many lines and one space or 1, 0, so many overlapping lines that'll wear through the paper, or whatever surface that I'm on. So it's always like there's a lot of back and forth between. Once I get like an image that I like, and that I want to plot a lot of times. It's like a matter of seeing if like, if it can be plotted and if not, then what do I have to go? Do and change in the program to, you know, either get rid of some of the density, or get some of the roadblocks that are preventing me from plotting the image that I want to plot. So there's kind of a back and forth sometimes I've got. I've been doing it long enough now to where I can kind of like look in an image and see which ones are gonna cause me problems. But yeah. Yeah.

Colin Goldberg
Great. And do we? Wanna let's just ask any of the other artists if you'd like to speak to greg's second question.

Allen Hirsh
For me. It. The complexity of the math means that, you know initially I don't know what it's going to do. And then I try to manipulate it through manipulating the various aspects of the equations. But I think for me, I think philosophically, I'm closest to candid photographers. The candid photographer goes out into the world, and the person doesn't know what they're going to see, and their talent is to be able to capture something that's very interesting. It might be dynamic, it might be static, and all their talent is how they use the camera and how they use post post capture processes in the modern world. And so there's a huge aspect of mystery to it, and Unanticipated discovery, which is, of course, somewhat similar to the idea of not having.

You know, really tight manual control.

Anton Dubrovin (MCHX)

Any of the other artists.

Colin Goldberg

Speak to you.

Anton Dubrovin (MCHX)

Yeah, yeah. It's a great question. And I've seen a lot of actually artist in Web 3 are also discussing it. And talk about like generative art and gold art. But I personally feel like it's impossible to eliminate the hand of artist from the artwork. Even like all the iron in this moment, we still see the personal style and approach of the artist. And yeah, so even if it's really minimalistic or conceptual work. It still has this kind of aura. And like.

I don't know this story of the artist. It's it goes within the artwork. So. But I get that. It's it is in abstraction. It there is a like. It's a good. Maybe it's a great way to approach to the abstraction to the obstruction work. But still, yeah, thanks.

Elio Ramos-Colón

Yeah.

But it's always an experiment. I feel that I like that. For instance, all these parameters that I use are in most cases I have some idea what's gonna happen. But the final word is running the code and begin to think in the aesthetics of our Hungarian. So it's that's most of the time. That is my approach. So in comparison with, let's say, scientific computing. When you know what you want to get, you're waiting for some result. You're waiting for some solutions. In this case. The final word is the screen. What you see in the canvas, the harmony of the colors. And so it's like you have all this background in computing, or probably scientific computing. But you have to.

Sometimes you have to forget some of that stuff when you're doing art. So that's my feeling. That's my approach.

Colin Goldberg

All right. Thank you. Elio and Chris, do you want to close out if you have any thoughts on that as far as the artist hand goes.

Chris Bly

Yeah, I think the I mean, obviously, I agree with what Anton pointed out there is that, you know, even in even in a genre such as generative generative art. There's artists that have a very clear voice. There's artists out there that I could immediately recognize their work Without knowing, you know, without a label next to it. So I believe that the artist hand is still very strong even in this field. One of the personal things I enjoy about it is the, again, the collaborative effort between myself and the computer. I can randomize a certain number of variables. It's almost like being in a band with another person. Where I have, I can decide how much creative control I want. I have, you know, I can make it like 99% is up to me. And 1% is the computer. I can make it 50 50 up to the computer and in those cases, it's really interesting to find out what the computer.

What decisions it makes, what you know, randomness, what recursion, what noise that I interject into the program, and how that comes out on the other end. And a lot of times, you know, it comes out with something that I didn't particularly foresee, or some sort of variation on my original idea, and then you just wind up going down this rabbit hole so like. I believe that you know, as far as the artist hand. It's still there, and then it's a matter of, you know. Sort of curating my work. Sometimes, you know, I'll run a program a

hundred times before. I even just find a composition of that form that I like. And then I'll you know, send it off to the plotter. And that's you know.

Yeah, the artist's hand is absolutely in there. It's the, I think the really great artists that I've come across, and my favorite artists are the ones that, like, I said, you can immediately tell their work without even, you know seeing their name next to it. So.

Colin Goldberg

All right. Well, that brings us to time. I'd like to again. Thank the 4 artists who presented Anton, Alan, Elio, and Chris. Great salon you know. I think that there could be you know, multiple chapters on this topic. I also was thinking it would be a pretty cool exhibition to organize. At some point. If anyone's interested in curating or putting together something that's based on code based work, I think that'd be kind of cool because it could be experienced by people all around the world in their browsers versus necessarily having to be done in a physical space. So just a little food for thought. There. And we're coming up on next month the 1st Thursday Of the month is September 4.th So it's looking like that will be our next salon. For those of you watching on YouTube. We meet the 1st Thursday of every month at noon, Eastern time. And I do not believe we have a topic picked out for September. Unless I'm just forgetting.

So we do have basically an after party. Aka, the Advisory Board meeting, or whoever wants to hang out after the recording stops. It's usually a brainstorming session of like. If anyone has any ideas of what the topic for the next salon would want to be. There's a general rule of thumb that if you suggest the topic you also will be the moderator. That's just a little caveat there. But other than that I wanna thank you guys for a great salon, and all of the attending artists and members from the public. So without further ado, I'm going to stop the recording in 3, 2, 1, and cut.