



Diversity and Making: A Podcast and Video Series
A Collaboration of Purdue Libraries and School of Information Studies and
Purdue Asian American and Asian Resource and Cultural Center (AAARCC)

Episode 5: Making Audio Visual Art from Data with Esteban Garcia Bravo and Aaron Zernack
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SH: Sarah Huber

EGB: Esteban Garcia Bravo

AZ: Aaron Zernack

PS:

Hello everyone and welcome to episode five of Diversity and Making. Diversity and Making is a collaboration between the Purdue Libraries and School of Information Studies and the Asian American and Asian Resource and Cultural Center, also known as the AAARCC. My name is Pam Sari and I'm the director of the AAARCC.

SH:

My name is Sarah Huber, and I'm an assistant professor in the Purdue Libraries. For this month's episode, we are fortunate to have the audio visual artists art collaborators, Esteban Garcia Bravo and Aaron Zernack joining us. Esteban is an associate professor at Purdue and in the computer graphics technology program. He researches and specializes in computer art history and digital media art practices. Aaron is the owner of the graphic design business, Mine-us, where he runs the entire process of designing the artwork, preparing proofs, setting up the press and producing the work. Esteban's visual art and Aaron sound art combined to play with relationships between light color shapes and sound. It utilizes computing and technology with different mediums, such as wood, fiberglass, and textiles to name just a few. Viewers are often invited to interact with their installations. An example of their work includes bodygraph, where dancers were connected to sensors that directed graphics and sound technology. The dancers created an entire visual and audio performance through their movements. Thank you for being with us today, Esteban and Aaron. We're excited to learn more about your work.

EGB/AZ:

Yeah. Thank you so much for having us. Thank you so much for inviting us.

SH:

So first question, can you tell us about the work you do and how you two met? And as a follow up to that, can you talk about your work dynamic, who focuses on what, and how does that inspire the other?

EGB:

Do you want to start with how we met or because we have, I guess like every, we have like two versions. I mean I arrived to Lafayette in 2005 and I was doing video work back in Colombia. And I was trying to connect with like-minded people here at Purdue, and there was really not- nobody doing, you know, visuals for a live performance. I was very interested in electronic music scene. And during my first six months, I met Chris Toliver who is a musician also here in Lafayette and through his network of friends, we book these first show on main street, on an empty store front for a radio station that I was starting. And, and that's when I first met Aaron. He was one of the artists that Chris Toliver invited.

AZ:

Yeah. We met and had coffee at Knickerbocker. Not Knickerbocker... what's the... Java Roaster.

EGB:

Yeah, the Java Roaster. Our first meeting I met Aaron and I immediately thought, I want to be your, I want to be your friend forever. There was like so many things in common with, you know, his interest in music and the way that he was using the technology that you were using back then was relatively simple. Like you were using guitar pedals, but you were producing very interesting abrasive techno, I would say.

AZ:

There's the drum machine and guitar pedals, because there wasn't really a lot going on in that style either. So finding Esteban and it kind of like the show that he set up kind of built this new network of like a new kind of like electronic arts that wasn't really happening at all. So town?

EGB:

So we started doing a lot of these shows here. Like it was really busy. I mean, I, we were just going back into our calendars and, you know, we would sometimes have, you know, two or three shows a month or even in a week. And this is while I was doing my graduate studies, in the art department. So we became roommates like a year after I moved here. And I think that that really enhanced our collaboration. I think of one of your questions was how do we feed off each other's work? And I think that we just spent so much time together living together that the boundaries of, you know, like I would be making a drawing while Aaron was practicing his sound. So he'd already kind of became the soundtrack of my art. And I think, I don't know.

AZ:

And Esteban was running a radio station out of our apartment. So we were making mixes. So you were, you were handling audio on that side. I had only been screen printing on my own for a couple of years. So I was kind of picking his brain as an artist. So I was, you know, getting, you know, artists tips and he's running the radio station and kind of like everything we were doing was just one thing, it felt like.

EGB:

Yeah, very, very solid. And the venue that we used to perform a lot of was called downtown records. It is right next to my chords and right now he's just like empty again, but we used to perform there all the time and then we lived across the street, so it was very convenient. And then we, I mean, I

think that we were focused a lot on party playing. I think that at that point we were thinking things very living the moment and like, not really thinking about like creating a portfolio or anything like that, but we got to do some interesting travels across the United States, going through very strange houses and playing house shows in Chicago and Boston and Philadelphia.

AZ:

Yeah.

SH:

One thing, I'm kind of fascinated with Lafayette as a transplant. Aaron, are you from here?

AZ:

Yes. I'm a townie.

SH:

Okay, I'm really interested in this artist scene that- of locals. I mean, there's just some really cool stuff. So when you were doing your music, were you having to travel other places? Or were you just doing your own thing here and just kinda like move over, you know, make some space for me, I'm going to do this thing.

AZ:

Yeah. It was like, right before I met Esteban is when I was starting to play out and experiment with what I was doing because nobody was- there wasn't really anything happening like that. Like I played an open mic night at Greyhouse with a drum machine and pedals. And it was like, it just like was not supposed to be happening in there. And it was very strange. And it was like you were saying, I was just like, this is something I feel like I need to do, I'm chasing it. So basically, but right when we met, when the downtown records happened, that's when a lot of people met all at the same time and it kind of just exploded.

SH:

It does seem like there was like, when I hear people talk about the music scene, there was like this moment in time where a lot happened.

AZ:

Yeah. And strangely I kind of tie it to like, it was right around the time of Myspace. And I think Myspace really leveled the playing field out. 'Cause anybody could put up music and if it was good, you'd get plays. And it, I think that really helped put kind of everybody on an even playing field, even at a small town. So you could take it as like more of like, Oh, this is a real thing. Like I'm actually like reaching people outside of my city. So yeah.

EGB:

So like booking- a lot of the shows were booked via Myspace. So I remember a time where Dan Deacon was supposed to be coming here and I don't know what happened, but we made a flyer for it. Like Dan Deacon-

SH:

Dan Deacon?

AZ:

They're from Baltimore. They have this, like, huge, like art collective there's a whole scene based around this art collective. And they were going to play in Lafayette. It was like, it fits so much with what we were doing.

EGB:

Yeah. We're like so excited that they were coming and then it didn't happen. But things like that did happen. I mean, we got to meet some really interesting bands that were just passing through because our friends were booking shows and they would stay at our place actually, because we had, we live at the Lara apartments. So we were hosting a lot of these bands. Which kind of like led to our eviction, very quickly. So we started with, well, I remember like we, we did party criminals after that, which was about getting evicted and trying to raise money to pay for the core fees. But I think, I think that for us, it was kind of like a new beginning to, you know, start kind of like taking our work more seriously and trying to find venues for maybe like more permanent things than just for the party. Like we, I mean, years kind of like pass by. So we, I guess wanting to do something more permanent.

AZ:

How many years have been like?

EGB:

I mean..

AZ:

2006 or something?

EGB:

Yeah. That was 2006 to 2007. And then we continued like playing locally and then Downtown Records went out of business. And then all that kind of like moved to the Black Sparrow. So they Black Sparrow used to have like many, many shows and Paul Balwyn kind of became like a sort of like a mentor of the things that we were doing.

SH:

I think of him as a businessman in town. So can you explain how he was an influence on your guys' work?

EGB:

You know, when, when the Black Sparrow started, he really jumped in to, you know, support our work or music and support our audio/visual work. So when there were shows available, he wanted us to do those shows there. And like, he was like the first time that we got paid in town, like he was actually pretty cool about that. Like making sure that like, if we were organizing these events that he made sure that we were treated like very respectful of the artists, valuing what we were doing. Later when he started the foam CD project, which, you know, was a co-working space for artists. We had a deal with him where we were trading our work for a studio rent and things like that. So he, and he's hard. Like he really wanted to make this town better and try to support the artists as much as he could.

SH:

And I didn't, I just didn't know the background of the Black Sparrow. I've only known it as the restaurant, but I think of the Spot, all the art that's there and music it brings the artists that gathered there - it's unique to this town.

EGB:

So, so, so the Sparrow used to be the Spot crowd essentially. Like, and then once when foam CD ended, all those shows- it started transitioning to do the Spot, but I mean, the Spot is, is the after thought of foam city. But I think that what happened, it was the progression of projects or establishments that supported artists first. Like we did Black Sparrow and then foam city, and then moving all that to a Spot.

AZ:

Like people around the Midwest love Paul is because like, they basically get treated like you do in Europe, where you come to play a town, you get paid, you get food and you have a place to stay. And there they say, like that just doesn't happen in the States. And to find this place, like one stop after Chicago and you just completely get taken care of, like people would come back three or four times, all remember each other and hang out. It was really special time.

EGB:

Yeah. I mean, it's been really good for us. Also as artists to meet their touring artists, like touring bands, like it's been extremely beneficial to us because we have expanded over network by, you know, just being there, being in this town. And it also gives us exposure outside of Indiana to, you know, have positive experiences with bands from all over the world.

SH:

What was this radio station? Yeah, it was something that I was doing for my MFA and what he was a private radio station running from downtown. So I had a radio transmitter that covered one mile radius. I was using a transmitter from a collective in Chicago called Temporary Services. And it was basically these portable machine. So a lot of it was trying to give this message of freedom and empower the Lafayette community to become creators. So I really, you know, wanted all these great music that was coming out of Lafayette to become a community and become known. They had like a local component, but everything that was playing in the radio life was also being broadcasted on the internet. So we had like this idea of local, which was, yeah, just sharing local creations.

PS:

How much of it was influenced by previous, perhaps, live music scene in Colombia or even your identity?

EGB:

Oh yeah, absolutely. It was very influenced because as I said, I came here and I was doing that kind of work there. So I was, I worked in a collective that on Fridays, it had a radio station. So, you know, I really liked my interaction with musicians and we didn't have a visual component, but I was like the person doing the flyers for the events. And I just really liked potential of collaborating with musicians for my visual art. So when I moved here, I felt like a little bit of loss because I thought, I don't know anybody. I need to find the musicians here. So, yeah, it did influence like that electronic scene. And I kind of wanted to bring that here, or I guess I wanted to connect with people that were doing that, or were interested on doing something like that here.

SH:

And that, that leads us right into our next question here. Aaron, can you talk about the background that led you to your work with soundscapes? Is soundscapes, the right word? What would you call your work?

AZ:

Yeah, I mean, I'm always like trying to reach doing more just soundscapes because yeah, I didn't start with really like techno and stuff that was really synchronized and everything. And yeah, I would say I have been trying to find a soundscape outlet. I basically just like decided to stop using drum beats at some point, I think after we, our shows slowed down. So I was using a sampler and just taking any sounds I can record and then kind of like collaging them together and stretching them out and making them work together, doing some like circuit bending and recording those sounds and realizing that, you know, sound was malleable and I could kind of make whatever I wanted out of it, probably around that time I got into, Brian Eno and his like ambient music, which led me to learn about FM synthesis. And then I went into like, I wanted to learn how to program FM synthesizers, 'cause it's all computerized.

SH:

You were doing something different in this town. And we're just curious how you got there. Like, what was it that put you on that path, that direction?

AZ:

To do, yeah. To do the stuff on my own. I mean, I was playing, like, in bands and playing guitar. It's funny. Before I met Esteban, at Purdue, I was in a death metal band right out of high school. And our guitar player was a Purdue student from India and he taught me how to completely shred on guitar. His name is Prashant Shah. He lives in India again now. And he's, like, pretty big in, like, the death metal scene over there. But yeah, like, so I learned to play guitar with him and we had a pretty solid band, like it was right after high school. And that's what kind of launched me into making music. And that kind of, like, all fell apart a couple of years after being advanced in pretty tough relationships. So that's why I just was going solo. And I was like, I have all this equipment and I kind of steered away from guitar, but still using like the effects and the, all the equipment I had for completely experimenting all on my own and trying to find other things that were similar. Cause that was, I feel like early two thousands, there was all kinds of weird experimental noise music happening in Midwest and just finding it on, experimenting.

SH:

Esteban, you introduced me to Aldo Giorgini, is that how you pronounced it?

EGB:

Yeah, Giorgini.

SH:

Okay. Um, can you tell us a little about, a little bit about his work at Purdue and how he's influenced your work if he influences your collaborative work?

EGB:

Or, I mean, he, he influenced my visual work tremendously because, but I guess I'll tell you first about who he was. He was a Professor, uh, in the Civil Engineering department. He got here at Purdue on 1968, I believe. Yeah. 68, 67 or something like that. And he was one of the first people in

the world using computers to create images. So, you know, he came from, uh, the National Center for Atmospheric Research in Colorado and he came straight here and he started using the Purdue's mainframe to create computations of, uh, fluid mechanics. And he had been, uh, kind of like an arts enthusiasm when he was a kid. He was a war refugee in Ethiopia during the Second World War. So he, he was the apprentice for an artist. I was very interested on, on what he did because, uh, at some point he realized that two things connected, like his interests for painting and his work as a researcher in fluid mechanics.

EGB:

So he started making art out of his visualizations that he was making. And this is kind of taking into consideration that it was a moment where there were no screens. So he was just basically plotting things out and all these things that he would, you know, he had like an ability to create some very complex visualizations. Uh, one of them is one of the, in the Civil Engineering labs, it's kind of like a simulation of different light sources. What was really beautiful about knowing about his work is that I spent two years just going to his basement. Like he died in 94. So his garage, uh, and his basement had been untouched for, you know, 20 years. Uh, so I got to really see firsthand and unpack, you know, with access from, you know, his son, uh, Mass Giorgini, who happens to also be, have a connection with the music scene.

EGB:

He granted me access and I found all his manuscripts. And I found like all the artwork and all the time that he spent painting and the type of work that he made was, uh, sort of like optical very, you know, it was, it was, it was optical, but he was also computational. So it had like something that, you know, um, it was, it was very interesting for me because I came from a school that art had to be conceptual all the time. Art always had to be about saving the children or, you know, like, I mean, that's, that's great. Like, I love that and I do want to save the children, but, but I like that his art was free from that. Like, he was a good person. Like I could see that from the letters that he received, like he had fan mail and his students love him.

EGB:

And like, you know, he was doing good in his daily life where he didn't have to make his art be like that. He could make his art be free, give another, a different type of message, the message of, um, the piece that he could give you to like, see one of his works. You know, I think that that was like a better use. So you kind of like, it framed, it was, it shifted my frame on how I produce my own art, because then I didn't have to make my things conceptual. Like they could just be pretty or they could just be cathartic, optical colorful and not really necessarily have to mean anything.

SH:

It was just a quick thought. Just saw this quote from Nina Simone and then a quote from Chick Corea, the jazz fusionist that recently passed away. And he is like, the only thing an artist needs to do is just express their heart. They just need to go to their heart and whatever that is, you know? And then, you know, Nina Simone, she's like the, the duty of an artist is to reflect the times, which I think is speaking to a little bit of what you're saying. Like, I just need to be myself and express what's in my heart or what's true to me versus what I feel I'm supposed to do.

EGBN:

Yeah. And that becomes like the most anti-establishment thing to do, is to express your heart and express your feelings. Seeing all those work, I really could feel that it was very heartfelt because of all the hours that he's paying, like painting by hand, they were computational things, but, but he painted them by hand. So it was kind of like that, that feeling, I could feel like all the emotions and it

was about himself, you know, a lot of the titles were, you know, there was one whole, uh, terrible end communication. So it was like buried, like reflecting things about his own feelings. And I thought, wow, that's that's, he was very inspiring for me.

SH:

Yeah, you're right. You don't like, it's like we don't want to think about computation or numbers and art together.

PS:

And also when I think about data visualization today, right, it's a storytelling too. So using, um, it's an art of curation also to make data perhaps more easier, easier to understand to a lot of people and combining it with arts, I feel like it's another form of curation. How, how do you explain to your students when you know this person, um, inspired you, how do you also perhaps try to explain to students who are interested in both engineering, for example, and art.

EGB:

Yeah. No, that's that's yeah, that's true. You know, I think, I think that they really need to think about aesthetics because, you know, we are naturally attracted to, uh, beautiful images. So, so even if, you know, I think, like things can be more communicative. And if you can, if you can grab the attention of a person, you know, and, and I, and I think that people dismiss aesthetics as like something vain, but I see them, I see aesthetics as speaking to, to your subconscious, you know, like it is a speaking to it is a speaking to like the laws that govern your perception, for example. So like, if I am really smart about the way I connect, I combined these colors, I can make you look at these things. So you can't like really like dismiss or, uh, or like these shapes, like if I make these shapes, you know, rounder or like the spaces between them, I mean, you can really communicate more about the story that you want to tell as opposed to, you know, uh, running everything through Excel or pre-made, pre-packaged tools for visualization, where everything looks the same. And then it stops communicating. I think that when I talk about data visualization in my classes, I encourage the students to, like, really be creative and try to engage the audience, you know, through those like methods, like, like colors and shapes and to not use the software necessarily to do that.

PS:

So your collaborative work Machine Aura is really interesting in that, it emphasizes this coding or visual element, and then there's the sound element. I like how you both seem to combine the rigidity of geometric shapes and then the fluidity of nature, and even in the sound as well. Can you describe this word Machine Aura to the listeners please?

AZ:

Yeah. Um, I came up with a name, uh, just cause I was trying to, uh, I started using pure data for, um, creating audio. And so I was doing, starting a new coding and incorporating that into music. So it was like, I want this machine to kind of like generate the sounds. Um, I was using a lot of randomization to make the sound and the patterns. And um, so something about like, if I could program this enough, I mean, I wasn't fully thinking AI, but like kind of like give, give the computer where it was kind of in control of, of this thing. So, um, I was already starting to do that and we've, we've always been making music and visuals together. So it's like, we decided to start kind of this new project of doing live streams and that was after COVID started. But yeah, it was more about like putting more of the weight on, on the process and the creation using computers and then getting together and kind of just unleashing that and, and more just like letting it kind of go where it wants to go.

SH: You said giving it control. I'm just wondering if you could give us a little more information on that. Like, are you talking a little bit about like a feeling of letting go? Is it something you're, you're trying to release or is it something that you're putting on the machines or a little bit of both?

AZ: For me personally, it kind of lines up with becoming a parent and having less time to, um, just sit around and design sounds for hours, you know, spend like an entire Saturday making music. It's like, I've got to do this at night. How can I make this more efficient? And it's like, let's, let's build something that'll, like, reach into the, the sound designer and kind of make a, make my own sounds through, through programming and less through like sitting there doing it.

EGB: So yeah, like designing the system. Yeah. And that way you can spend more time with, with your son...

AZ: I've even, I've even set up sometimes where I would just be playing and recording and I'm like, Oh, that sounds cool. So I'll like freeze it and let it kind of like record that, whatever it's doing at that moment, I go, this is cool. And then, then let it keep going and go back to like playing with my kid.

SH: I get a sense of freedom from that. Freedom of time, but also like a release of, I don't have to control this in a certain way. I can let it do its thing.

AZ: Exactly. And getting away from like making albums and things that are like finite, you know, it's like, I've got to work on this for six months and make it perfect. It's like, let's do something in the next weekend, do what we can, you're using computers to help with the process.

PS: So your project Aurora Almanac seems to exemplify the important connection between artists, local government, community partners and funding agencies. Can you tell us about this project and what do you hope to contribute, especially for underrepresented communities? And why are you specifically drawn to the impact for underrepresented communities?

EGB: Yeah, so I think they, you know, making these workshops, uh, reaching out to, you know, a diverse audience, uh, it is a set of murals made out of tiles. And what I want is to encapsulate different identities and, you know, so each tile is a design made by community members from Indiana. So I'm reaching out to different organizations in Bloomington and here in Lafayette to run these workshops where, uh, people can find, um, ways to represent themselves in a geometry form. So, you know, I, in the workshop, I tell people, things like, think about how you would, uh, represent a feeling or a moment of transition or, you know, so I give examples of, you know, some people like to represent themselves, uh, as a circle and then, you know, like kind of, um, make people imagine how they were going to be represented or they could be portrayed in an abstract way and then kind of put that in, in a permanent place. So, you know, they're going to be able to come throughout the years and say like, Oh, this is me on that particular moment.

EGB: So we have about 216 tiles, uh, that we need to design. I mean, there's different reasons that, um, I do want to reach out to underrepresented minorities as a teacher, you know, seeing what's happening in the world, you know, it really makes you wonder, like what can I do to, you know, help people and change like the economic, racial and social divide that exists not only in this country, but in the world. One of the things that makes a huge difference is education and more specifically STEM. Like I do, you know, I'm an artist, but I think that there's a lesser chance for an underrepresented minority to succeed in a STEM program, for example. And it's like, well, why is that? And, and I'm thinking, well, can I make programming more interesting? Can I make programming more approachable to an elementary school student?

If I show it as like something creative, something easy that they can get involved with and that creative coding could be something that they can do, and that is not boring, you know, it could, it could really kind of like open like a new world to, uh, I think to anybody really that wants to be exposed to coding. I think it gets portrayed as something difficult and boring and hard, and, and that is not true at all. Like coding can be a lot of fun if it, if you're exposed to it in the right way.

SH:

Just made it interesting sounding to me.

PS:

I think what I like about that also Sarah, changing the deficit mindset, right? What you said that only certain people can succeed in STEM fields, into an asset asset mindset, where if introduced in a, in a fun way that speaks to the heart that you spoke earlier, um, people can be successful in coding. This is, um, I was also smiling to Sarah because, Sarah, that reminded me of our quilt project, except no, we work with material things, but also there's a, a piece of,

SH:

It was some, I didn't do any event, but there was some coding.

EGB:

This is going to be very much like a quilt. It's kind of like the similar approach.

SH:

Yeah. Piecing together. We did this, uh, we took archival photos and new photos of students at the AAARCC and they printed it on fabric. And then if it was new photos, they recorded it, you know, just to Camtasia and then we programmed it into Arduino. So on the quilt accompanying a picture, you can press a button and it tells that story, but it's like, I am scared of the, the coding stuff. That part, I liked the printing on a fabric and drawing on it and stuff like that, you know, but I love the end product. So I'd like to be more part of the process.

PS:

Our next question is what is your assessment of our public and campus art? So this is a question for both of you, how can right Purdue and greater Lafayette public art speak to the contribution of our diverse communities.

EGB:

I think that there's these, there's these thoughts that there isn't a lot of going on, but I think, I think the, one of the things that I liked about being here is that, maybe there isn't as much, so it makes it easier to become part of it and to be active and like to, you know, really be, you know, reactive in these arts community, I think is, um, is very beautiful.

SH:

I remember I was walking after what happened with George Floyd in Minneapolis, and I spent, I lived there for over 20 years and feeling disconnected. Like I wish I was there. I wish I was at the Memorial. And, and I drove down. I can't remember what street it's on, but it was a, there was a George Floyd Memorial, or, um, mural in downtown Lafayette. And I was just like, damn, there really

is some cool stuff here. And it immediately made me feel connected.

EGB:

Yeah. Um, I'm, I'm completely a hundred percent in debt with Lafayette for like making me the artists that I am now because I mean, organizations like Tippecanoe Art Federation. Like they put all the trust in us and they've like, given, given us, you know, grants in several locations to develop, you know, ideas like, like one of, uh, where, um, audio visual projects **GEOD?** it started because the Tippecanoe Art Federation like really trusted us with, because we only had like a really small, crazy mock-up, but having that support really helped us take our work to the next level and start doing public arts.

SH:

What do you mean by **GEOD?** Can you explain what **GEOD?**

EGB:

GEOD was or I think, I think that, like, I think in **March**, we're transitioned from doing, uh, events to actually doing installations. So we did a series of **GEOD**. I think that was like the breaking point. I don't know if you agree.

AZ:

Yeah. That's when, cause we had that's when we had the studio space and it was us and Max Carlson all contributing on a project that was more like to have a finished product. And it wasn't just about like a show or something. Is that simple?

EGB:

So we created like, uh, like a sculpture that had video mapping. Um, so we did, we, we got these public arts grants to do, uh, three different, uh, shows in Tippecanoe County where we would do these public art interventions with sound art and music and, and it was or first one was up there walking bridge, uh, in 2016 and it was amazing. I mean, like we, I think that we promoted it a little bit, but it just, the, the walking bridge was full of people and people were like driving through the bridge and like, they saw these like glowing structure and they were, they would like park, you know, or slow down as they were like, uh, driving.

AZ:

It was like, it was like the last Friday of the school year too. So like everything was happening downtown that night and just the whole city was like buzzing with people. So it was in, we were in the center of the city. So people were just seeing it from a distance and hearing it and coming to see what it is. So it was the one that really had the most impact, I think. It started out where I was like playing music and it was reactive and it was live and by the last installation, the **Petowsky** is like, that's when it was, I programmed it and sent it with him and maxing it, it, it played music on its own and that triggered the visual. So by the end it was, it was all self contained, like

EGB

Automating.

AZ:

Yeah. So that was definitely like, that was a project that was like, where we've figured our process out a lot.

EGB:

So, yeah. So we develop our own software. Um, I had a graduate student, uh, from Pakistan, uh, Isa Tariq. She developed a video mapping tool. Uh, I guess I, uh, under research in my department, I said, you know, I need you to develop a video mapping tool under these parameters. And she, um, created a, sort of like a system where we could project to the specific geometry. And also, um, we, we use an open source, uh, software called processing, uh, which was developed at MIT and that's for the animations. And then on the sound side, we have different ways that we connect the audio to the animations. So the animations are data driven.

AZ:

So it was the same square visuals that was put on each pane of the **GEOD**. And so the mapping would stretch it to each face that was on the **GEOD**. So it was the same visuals. So each one's moving the same way. It made it look like the whole shape was, you know, like shimmering and stuff. Now sync to the data from the sound.

EGB:

So we are using the sound as the data that manipulates the animations. So we use, I mean, with processing, we use many different sound ways of connecting the sound like we use open some control was the first one where we were sending the information, uh, wirelessly

AZ:

Bluetooth. We also need to processing,

EGB:

We use Bluetooth and we also use direct cable connection. And then the last one is pure data, which is kind of like the one that, uh, Aaron is going to teach us today in the workshop. Yeah. Also with open, we connect that with open sound control as well.

AZ:

Yeah, that was, yeah. The final thing was just the two computer programs, just communicating, you know, that was the best one.

EGB:

It's all open source. We gravitate around, uh, open source.

SH:

Well, we have a final question and I asked this because of some kind of things you say at the edge, Esteban but I'm curious, Aaron, if you have a perspective too, can you explain the personal reflection and spiritual aspects of your work?

AZ:

Yeah absolutely. Um, I mean, just with, I mean, mine is definitely like a, a personal escape and it provides peace for me to sit and generate these calming sounds also to be able to share it. And like, we put it up for streaming. Like if, if people can find it on YouTube and put it on, if it, if it helps them escape for, you know, even a few seconds to just kind of like, I don't know. I feel like the world is really hectic and you're just bombarded with information constantly from every angle. Yeah. If you can find a few minutes to reflect peacefully while you watch all of our streams, I think that's, you know, that would be a goal of mine. What we do,

SH:

Your latest projects, machine aura, like just how hypnotic it was. And even though it's, it's, um, a lot of visuals and sound, it is calming. Pam said it awhile like this juxtaposition of all these angles and geometric shapes with a lot of fluidity in nature, like that listening seems to really connect in your work.

AZ:

Yeah, Esteban is definitely has plenty of different layers in the visuals. Um, some stuff that's like hard coded like 3d objects, but then using video feedback and adding textures over the top of that, and then I'll look up and all of a sudden, it's just like this ocean going on. And it's, it's, it's not really, it's not chaotic. It's definitely like really peaceful, like to see these things like swirling and it all like, not completely by chance, but you know, that's stuff that happens in the moment when we're doing what we're doing together.

EGB:

Yeah. But I agree like your music really helps you be in the moment because sometimes like, silence is not enough. You need like, something like that would really push you to the edge. And I think that the music that you make does that because it kind of falls your senses. It just completely overwhelms you with all these waves So you can really like, Oh, this is a truly new experience, so I can really be here because it's new. So I think that that really helps you. Um, you know, he's not like pop where, you know, like, okay, now let's take chorus and now there's probably, this is now it's kind of like winding down. So you meet some maybe the end, like, no, this is really like a new experience.

AZ:

And there's a little bit where we, I don't know exactly what I'm going to do next to. So, or it's also a computer influence too. So it's yeah.

EGB:

It's sometimes the machine goes out of control and, and like, I, yeah. I mean, it's, it kind of like does its own thing. So it's kind of like trying to control here,

AZ:

Like balancing.

SH:

Another quote I heard once. I can't remember who said it, good music is original. You don't, you don't, you don't expect what's coming next, but you recognize it. And I felt that with your music, it's original. I don't know what's coming next, but there's something in me that recognizes it. So that's what, why you can fall into it. But at least that's my interpretation of it.

PS:

It's like, it's like identity too. I feel, you know, in diversity and making, we talk about, you know, how identities personal stories influence the way we make for, for me, it was, I'm from originally from Indonesia, Esteban and Aaron. So I think my entry to soundscape is influenced by a lot of in fact government programs to it's his heritage, you know, sound, um, but also efforts to combat pollution and noise pollution as well. Um, as you know, in big cities like Jakarta. So actually soundscape is used as one of the promotion government efforts to combat that.

EGB:

So did they like played like on speakers, like in kind of public stations or

PS:

Yes. Um, public libraries thinking about libraries?

SH:

Wow. That's interesting.

EGB:

Sounds so much better than putting radio.

SH:

Yeah. Instead of, instead of music,

AZ:

There was a band that played near in town at the spot who was on vice news, talking about the noise in Indonesia. They just done a tour there. And, u ---- m, just, uh, he was talking about how the, uh, there's all these one man bands that do noise on the street and it's called noise bombing. And they, they just play it right out on the street, pretty much to like fight back against the noise of the city and the, the chaos around them. So it's a different way than noise canceling with white noise and happy sounds. These guys are out using noise in a different way.

SH:

Just on a final note. Um, we want to talk a little bit about the projects that we're going to have available on the website so look on the website, we're going to have a link to the Bloomington Project, Aurora Almanac. Esteban, if you would talk a little bit about that, what they'll find with, that link.

EGB:

Um, yes. So there is a sheet of paper that you can print at home and, um, you can draw your own geometry. There's like some slides too, that, uh, guide you through the, um, the idea of the project. I'm going to be holding some public workshops too. So, uh, where I will talk about it, but you can also just make a drawing and take a picture of your drawing and you can upload it through their website. And there's a big button that says, check your design, uh, with your should be contained in the square. And that's pretty much it. You just use that format and draw it and upload.

SH:

Great. We'll have that link below this podcast. And then Aaron has generously offered to teach us all a little bit about, um, soundscape through free software. Aaron, can you talk a little bit about it?

AZ:

Yeah. Um, I'll be using, uh, it'll be a pure data, uh, patch and I'll, I'll walk you through how to create the patch. There'll be a note generator, like a sequencer and using probability to influence what notes play or don't play and what timing and as free software to circle.

EGB:

We're very thankful for, uh, for you to give me, give us this opportunity to like, get together, like,

reflect about our work and, and like also like shared like with the community.

SH:

Thank you so much for joining us. We're very grateful. You took the time to talk with us. We learned a lot about the local art and music scene, your influences, sound and visuals, this data, and we really look forward to seeing your future work. So thank you again.