



Speaker 1 - 00:01

I guess it's. It's holdable, if that makes sense. Yeah.



Speaker 2 - 00:20

Okay. I'm gonna just move it a little bit because it came undone, of course. So let's put the Velcro back on. I think if it's a little bit higher, might be easier. So do you feel like. See, when you play, try to maybe push some of the buttons and move the slider.



Speaker 1 - 00:39

Okay.



Speaker 2 - 00:40

So I know it takes. I was doing a user study yesterday. He was like, it's impossible to play with it. Playing with it, no problem. But, yeah, I get it. So this is why I would do this. So the idea is, like, you would play and then you could push a button, could move the slider, push another button.



Speaker 1 - 00:58

Okay.



Speaker 2 - 00:58

And then you could. There's a force sensor here that you can squeeze and, like, see if you can do sort of, like, these actions and play legato and maybe some staccato and see how that feels. And I'm blocking the camera, of course.



Speaker 1 - 01:11

Oh, I see. Okay. I mean, just. Oh, I see. Okay. I guess this will eventually be different. Oh, I see. Okay. I see.



Speaker 2 - 01:27

Okay.



Speaker 1 - 01:35

I mean, it's like anything, right? Take some practice.



Speaker 2 - 01:37

Oh, yeah, of course. Yeah.



Speaker 1 - 01:39

Okay.



Speaker 2 - 01:41

And the material is getting looser, too, as I do the studies.



Speaker 1 - 01:44

Yeah.



Speaker 2 - 01:45

And it's becoming a little bit more difficult.



Speaker 1 - 01:49

See, this I find harder, like, to. To play and manipulate.



Speaker 2 - 01:53

Yeah. Yeah.



Speaker 1 - 01:54

But I mean, I'm sure you can prove that. See, this to me, just feels like I'm not even holding away. This just feels like. Like, before, I kind of had, like, the cloth on the wood, and so therefore, it just felt like a covered bow. Whereas this

feels like it's completely different. And as I go towards the tip, that feels quite hard. Maybe, like, it's easier in lower half, I guess, like, just the. The comfort of, like, my fingers being so far out.



Speaker 2 - 02:24

But yeah. Yeah. So you wouldn't like, be pressing the bar as you play. You would sort of click and then rest.



Speaker 1 - 02:30

Like, you'd be clicking not while you're playing, but in between.



Speaker 2 - 02:33

You could. You could. But you could.



Speaker 1 - 02:35

But you could change something and then, like.



Speaker 3 - 02:37

And then play.



Speaker 2 - 02:38

Yeah.



Speaker 1 - 02:38

Okay.



Speaker 2 - 02:49

But it's difficult. It isn't.



Speaker 1 - 02:52

Yeah. At this point. Yeah. And I guess, like this.



Speaker 2 - 03:06

Yeah.



Speaker 1 - 03:06

Obviously, the weight of it feels easier to manage in the lower half.



Speaker 2 - 03:15

Should we do a quick demo? Sure. So there are, like. It moves around in steps, so the first two is just, like, audio. So it kind of works. Like, it has a lot of functionalities, but this is just using it like an effects pedal.



Speaker 1 - 03:31

Okay.



Speaker 2 - 03:32

So is it okay if you use a microphone?



Speaker 1 - 03:35

Sure.



Speaker 2 - 03:39

I turned it off. A charge string. Okay. So this just clips onto the strings just below the bridge. Is that okay? Your batter is so much cleaner than.



Speaker 3 - 03:56

Me.



Speaker 2 - 03:58

So I'll put it on someone else's. Yeah. And then you can put this in your pocket. Just want to make sure it's not muted. No. Okay. Just check. Okay. Do you want to have to focus me one second? Just want to make sure that it's actually turned on. That should make it better. All right. Do you want to try clicking a button, like, any button? Okay, cool. All right, so you know how the buttons are split into two? So there's two and two. So when you hold the bow, your pointy finger, the top, like those two buttons will give you some audio effects. So right now it says harmonizer on and delays off. And the harmonizer is doing octave above. So see if you play whether you get some. The audio's coming in, but it's not coming out.



Speaker 2 - 05:41

Let me just adjust the audio status. Okay. All right, let's try the Almondama. Oops. That's okay. Pressed.



Speaker 1 - 05:58

Oh, it's fine.



Speaker 2 - 05:59

Just press whatever you want. What's up? Why don't you behave? You're doing something with today. Okay. Yeah. Do you want to try another button?



Speaker 1 - 07:03

Okay.



Speaker 2 - 07:16

Try the one underneath it. Okay, so now you have a. Okay, I see. Sorry, one sec. So. Oh, why are you doing this? It's weird. When in doubt, turn all openings. Take a deep breath. Okay, Just came up. H. Let me just. I'm not sure why it's not. Because whenever you test it with someone, everything always breaks. Okay. Do you mind just clicking any button? Okay, so that's cool. And then one of the. The ones under your pointy finger just gonna quit. This is gonna start the. Yeah. So if you'd like to try one of the buttons again. Still not working. None of them are working. What about the slider? It's just not coming in. Did you change the ports? Just check it. Okay. I'll manually push them.



Speaker 1 - 10:02

Okay, sure.



Speaker 2 - 10:03

And then maybe it will wake up and decide to behave. But that's okay. This is just one of the demos. All right, so I'm gonna push, see if I can find the cursor. So in the icon. Fly maker. So everything's going wrong. Oh, there we go. Okay, so pretend you push this. Now there's a delay and wet. So. So if you push it down, the audio won't work, of course, because the interface is not sending data into it. I think it changed ports or something. Okay. So if you keep clicking, it will change a different preset. So this is the delay preset too. And then delay preset three.



Speaker 1 - 11:26

Okay.



Speaker 2 - 11:26

And then when you push the harmonizer button, it closes the delay. And then you have your octave below, you have the octave above. And then the last one is fifths. Do you mind moving the slider on the top? The slider is fine. Okay. And then the other thing that it can do is you can record yourself and play it back. And so that's the other buttons, not the pointy finger, the ring finger. So that top button lets you record and then stop recording, but for some reason it's just sticking.



Speaker 1 - 12:39

So it's like a lip pedal for fighting.



Speaker 2 - 12:43

It's like a multi effect pedal. You can customize whatever this is. Just like I chose these ones because they're more familiar. Okay. So if you record yourself, you can play anything you want. Okay. And you can trigger when it plays back. But right now, because the slider is being stupid, I'm just going to trigger it myself. No, I'm going to turn it off now. I can trigger it. So basically plays back and then you.



Speaker 1 - 13:26

Can do that however you want.



Speaker 2 - 13:27

You can also adjust how long you record it for. But you kind of have to do it in the system. So that's one of the ways

that you can use the interface. I'm going to quit this one and show you a different one. But if the parts to work, it's going to be very hard to do it.



Speaker 1 - 13:48

Okay.



Speaker 2 - 13:48

So the other one uses the system as like an improvising partner. So so you play and then the system plays like responds to you. So let's hope that just need one button to work for this one. Okay. Is it starting to feel a little bit more natural or not really still.



Speaker 1 - 14:31

Yeah. I was like, I was wondering just now, like, what like is the. Is the purpose of having on the bow rather than externally just to like, is that for the immersiveness of the performance or the fluidity of the changes and things like that?



Speaker 2 - 14:48

Yeah, because having played with a bunch of effects pedals, I also felt like just the motion of hitting something with my foot was really disruptive. There's a paper written about it how it sort of gives you the hint of the action before the action happens. So it ruins the magic of the performance. Yeah.



Speaker 1 - 15:08

Interesting.



Speaker 2 - 15:08

But this is still a struggle. Okay, so the sound's going in, so let me just get. Okay, so let's try hitting a button. So the way it works is there's the buttons. I kind of numbered them. So 1, 2, 3, 4. So yeah, the pointy finger. The top one is 1 and then 2 and then 3 and 4. So 4 is always a kill all button. So it resets the system. So no matter what happens if you press kill all, it's all working a second ago. Like some kind of system failure. Okay, just check one more time. If you press a button, any button. No. All right. It's okay. I'll press the button and then all you have to do is just play and then it will tell you when to stop playing. Okay. Just making sure that the sound is coming in it.



Speaker 2 - 17:12

I'm just gonna turn it on and then it will tell you give your accountant. It will say play. And so the slider will tell you

what to play for, and then the system will play back. So the things that it listens out for are like note on note of pitches and then also things like dynamics, but not so much in terms of volume or like. So it listens to density. So how fast things are, how busy they are. Like if you. I guess if you play really softly, it's more like attack. So that if you have a really gentle attack or a heart attack. So but first just play.



Speaker 1 - 17:51

And then if you want anything, like.



Speaker 2 - 17:52

Yeah, anything. And then the system will play back. It might sound a bit weird, but then see if you can change. And it will change with YouTube. Okay. Hello? I don't mind. Oh, no, sorry. Oh, my God. Okay, here we go.



Speaker 3 - 18:30

Sam?



Speaker 2 - 19:21

Yeah, I think it timed it incorrectly. So this is where we play the. This is where we put the key low button and we try it one more time. Okay. So if you want to change or. So slurs are a little bit hard because like, see if you can play more separated and if that makes it more responsive to you.



Speaker 1 - 20:11

Okay.



Speaker 2 - 20:13

It.



Speaker 3 - 20:40

Sam.

Speaker 2 - 21:23





It's not doing it. It's miscounted. I think it's. I need to fix it. It's like the. The loop is done incorrectly, but it works once and then it doesn't work.



Speaker 1 - 21:38

Is it always that sensitive sound? That's a bell.



Speaker 2 - 21:40

Like you can put whatever sounds you want in it. It's just the sounds are coming out through logic. So I'm just using those particular sounds. But you can use whatever sounds you want. So you can like it's fully customizable. It's just depends how much of a headache you want to, you know, spend how much time you want to than customizing it. Okay, so I'm going to move on to yeah, there we go. Quit. So now I'm going to show you some visual examples. So this. The. The next couple, they don't. You don't need to press anything. Thank God. So they will react to things like volume, both speed, and pitch. So we'll. Maybe we'll do pitch first, because I changed it yesterday, which is always really risky. Okay, so. So the idea is that when you play different pitches, the bees will move.



Speaker 2 - 23:20

But just give me one second.



Speaker 1 - 23:23

This is so cute.



Speaker 2 - 23:25

When they behave. They're cute. They're like kids. Okay. All right, so she needs to make sure that the audio is on. Okay. And let me just put this on. Okay, so try playing on different strings and see if you can make the bees change flowers.



Speaker 3 - 24:09

Sam.

Speaker 2 - 24:33



No.



Speaker 1 - 24:35

They're supposed to go higher. My B's.



Speaker 2 - 24:37

Yeah, but they're not. Because. Let me just. Do you mind just playing on the E string? Okay, I'm gonna try a similar one, but this one, because it seems like the pitch is not coming through. I don't want to spend. I don't want to waste time. So we'll do the same one, but it will be reacting to the boy position rather than pitch. So let me just close this one and Looks the same. So can you play on. On the G str. So slide it to the top. Should turn it off. Yeah. Okay. Emma, can you play on the E string a little bit lower? Like, sort of more toward. More vertical and. Okay, and now on the. On the G string, maybe like, even higher on the tuning.



Speaker 1 - 26:50

As in higher pitch or.



Speaker 2 - 26:52

No, like. Sorry. And then E, so. And then G. It's funny because I trained it on me. And so the thing when I was using it with a guy yesterday, and every. There's very little. Like, his E and G strings are almost the same position. And so it would just. Like, everything was just. And D for him. And then he said, no one plays like this. And then I was playing, and I continue playing up and down in the E string. And so the bizzer would respond to me. He said, change it to pitch. And it didn't. For some reason, it's not registering the pitch. So anyway. Okay, so that's the visual. We'll do another one. This one will be just before we do it. Do you mind playing really slowly? And now medium. Now fast, like, cool. All right, so this was.



Speaker 2 - 28:37

Should be reacting to your bar speed. So they should be sort of relaxed and then a little bit more agitated and then really agitated. And also. Actually, no, I'll just. Yeah, just leave it at that.



Speaker 3 - 29:17

Sam.



Speaker 2 - 29:52

Yeah, it takes a little while to react. To react. Okay. And then the last one is volume, but let me just test it before. So if you play really softly. Okay. And not really loudly. Sorry. That's for a different thing, which you will test in just one second. Okay. So this is volume. And then the other thing with volume is. Do you mind just pressing the FSR so the. Under your thumb there should be a sensor. What happens if you squeeze it? Nothing. Okay, that's fine. So this one just reacts to volume. So the louder you play, the more bees there are. Okay, cool. That one works.



Speaker 1 - 31:22

All right.



Speaker 2 - 31:22

So the last thing is. It's like an ecosystem. So it combines all the demos, the buttons too. It's not working right now. And the way that the slider works is. I'll just show you. If you wanna just open the ecosystem, you're opening in the wrong window.



Speaker 1 - 32:11

I'm just wondering what the feedback the bees is used for in your work.



Speaker 2 - 32:17

So this thing is explicitly for expert user studies, so that you can. The users can see the functionalities. But when I'm performing, I write like, each composition is an individual thing, so just depending on. But it's always audio, visual.



Speaker 1 - 32:35

Yeah.



Speaker 2 - 32:36

So the aim was to create for each composition to the visuals to have agency and autonomy. Because I wanted like a virtual performance partner.



Speaker 1 - 32:48

So the audience is experiencing this as you're playing it.



Speaker 2 - 32:52

This particular thing was done for an installation that people interacted with. They had controllers and they were able to move the bees. So it was for a festival. And there were robot bees that they also played with that my husband made. So I never actually performed this. These visuals as a piece. But we always thought like, okay, eventually we might turn it into performance when we never have. But yeah, there's always a visual aspect to all the. All of my compositions.



Speaker 1 - 33:20

I just think about, like, its pedagogical applications. I've had students in the past who really struggled to play loud. And they used to be this app that I made them download that was just. Was just told them how loud they were. But yeah, anyway, I think it'd be really like, kids would really love to play with that.



Speaker 2 - 33:34

I don't know. That's why your feedback is so valuable because, like, my kids always really like playing with the systems, but they just like to mark around and then tell me things to change it. It's always like, change it on the spot. And you're like, it's like 50 lines of code.



Speaker 1 - 33:51

Yeah. I think they're being really useful for a particular age group. For like, for volume. Just like getting into practice, playing louder and being able to see the.



Speaker 2 - 33:59

Yeah, well, I think if the. Usually the pitch is really responsive, but I think having like the different bow angles as well, like going. Okay, you're on the G string now. No, you're on the easy. Yeah.



Speaker 1 - 34:11

Being conscious.



Speaker 2 - 34:11

Making it gamified, I guess. I don't know.



Speaker 1 - 34:14

Yeah, no, I can definitely see the. I can see students enjoying.



Speaker 2 - 34:18

Okay. If you. Yeah, I mean, I don't know right now I'm just like, I need to finish this.



Speaker 1 - 34:23

Yes, yes, sure.



Speaker 2 - 34:25

We can think about kids. So if you move the slider when it's at the top. Yeah, it's one. And then if you move it to the middle. So that's three. And if you move it to the middle, it should be number two. So one is you have full control. So the system responds to what you do. If you move it back to 1, it should press button 4.



Speaker 3 - 34:52

It should kill all.



Speaker 2 - 34:58

Yeah. So there's no audio from the system in slider one. So you play if you. Hopefully if you press the buttons, you'll have audio effects too. If the buttons are working, then when you change to slider 2, the system is a little bit less responsive to you. More agitated. Like it's very sunny, the bees are getting irritated. The system does a little bit of improvising. And then when you move the slider to three, it's more autonomous. So it has some memory and it reacts more to your mood. So when you go to slider 3, you might want to do like different gestures. So play. Muck around playing like legato Playing staccato playing More dense, more sparse. And see how the system reacts.



Speaker 2 - 35:45

So if we start on button on slider one and if you want to see if you can push the buttons like one and two. Okay. It.



Speaker 3 - 36:22

Sam.



Speaker 2 - 36:58

So the buttons are clearly not reacting and the pitch is not working either. So it looks all right. If you go to the middle, squeeze the force sensor. I should give you some feedback to. Yeah.



Speaker 3 - 37:45

Sam.



Speaker 2 - 38:17

Okay. You want to try the last one? Cuz this one's not really acting like.



Speaker 1 - 38:26

Am I expecting to hear noise like.



Speaker 2 - 38:27

Or just it is meant to play with you. I don't know why it's.



Speaker 3 - 38:44

Sam.



Speaker 2 - 39:10

Sa.



Speaker 3 - 39:37

Sam.



Speaker 2 - 40:26

This whole freezing I've ever had.



Speaker 1 - 40:29

I don't like your machine by me, man.



Speaker 2 - 40:31

No, you're doing such a great job. Let me just. Do you mind booting the slider up again?



Speaker 1 - 40:37

Yeah.



Speaker 2 - 40:37

And then they will turn it off. Yeah. I don't know why I changed the Audio so that it was reacting to it. So. Yeah, that should turn it up.



Speaker 3 - 40:48

Maybe. Can you try pressing button number four?



Speaker 2 - 40:51

I don't know why the buttons. That's the keyword. Let me just shut up. Yeah. So the buttons just completely died and they're not responding. I just have to go and sort them again. Do you mind just pressing 1 or 2 or whatever? No, just nothing's coming. That's a nice. Yeah. So I think if I kind of almost at a time, but I just. Is it okay if I just change one thing and then I just wanna. Should not have changed it the night before. But I think if the bees react to. To your bow position rather than. Oh, actually you know what? It doesn't matter. You saw it from the other one. Yeah. I think the slider 3 seems the most responsive and there's obviously some issues with the buttons and then mapping pitch. The machine learning models just didn't recognize pitch today.



Speaker 2 - 42:11

So I have to retrain them. But yeah, so I guess this idea that, you know, in the system you can have full control where things react and you know what's happening. Like the one to one and then sometimes as a performer you want to give up that control and then you want the system to react to you. Kind of like when you're in a jazz ensemble, you know, people are improvising. So there's that kind of balance of mappings. Yeah, but so you were talking about like educational benefits and I get that. What about as a performer or as a. I don't know if you write music.



Speaker 1 - 42:50

Yeah, I mean, I don't really. I mean, look, I will say that over that period of time it's become less cumbersome.



Speaker 2 - 43:02

Yeah.



Speaker 1 - 43:03

So I feel like it wouldn't take very long to get to used. Used to it, I think like, I mean, you know, like I used to play a lot of electric violin and like one of the terrifying things about that, I don't know was like we often needed another technician to be there because we had no control over the sound. So I can see like, you know, even things like where we needed more reverb or whatever, things like that. Like so in that situation where like you're on stage playing electric violin and the sound desk is a long way away. I don't know if it's like that anymore. But yeah, it would have been amazing as electric violinist to be able to up or down the reverb, for example. That was often an issue. Or just people who couldn't. Yeah. Couldn't be heard, like.



Speaker 2 - 43:48

Yeah.



Speaker 1 - 43:49

So, like, in that situation, when I did that job, I could see, like, a real benefit for having some sort of, like, localized control over things like reverb and volume and possibly effects as well, like, depending on. Yeah. What you. I guess, you know, it would give you more scope to play, like, have more timbral variety, I guess, if you could change things around and. Yeah, even things like adding the. Dropping things down the octave, I think, or even up. Like, that could be. Yeah, in that situation, that could be very useful in terms of, like, you know, the interest in a performance or something like that. So I can see. I can imagine it in that situation. And I'm just trying to think, like, she really, like. My husband Nick, does a lot of work with the. The loop pedals and the.



Speaker 1 - 44:38



That's his bag. So I feel like he's probably a instrument, but, you know, he's always experiencing that.



Speaker 2 - 44:47

What about the visual aspect of it.



Speaker 1 - 44:51

Having this going while you're playing?



Speaker 2 - 44:52

Yeah.



Speaker 1 - 44:54

Well, I mean.



Speaker 2 - 44:56

I mean, this is a very specific visualization. Yeah. It's not always bees. Yeah, I like the bees.



Speaker 1 - 45:05

Yeah. I mean, I find it. I find it really nice. I find it really useful and probably creatively useful and. Yeah. In a performance situation. I like the concept of it, that it's sort of interactive and it's moving and you're working with it and people also experiencing that with you. It seems like that would be a really good experience. Sort of takes them. Almost takes, like, the intensity away from you. Almost.



Speaker 2 - 45:39

Yeah.



Speaker 1 - 45:39

But I guess it's like having a. It's like having an improvising partner or having like a. Yeah, yeah.



Speaker 2 - 45:47

I mean, that's. It's still obviously in development, but that's the idea, I guess. I think more of it is an extension to, like, a visual and audio extension to what I'm playing, but also hoping to build a performance partner. It's really cumbersome with all the different softwares that have to run at the same time right now.



Speaker 1 - 46:09

Yeah.



Speaker 2 - 46:11

But. Yeah, I mean, I noticed there were things that didn't work, but the things that did. Did it feel like it was responding.



Speaker 1 - 46:19

The things that were working? Yeah, I think so. Yeah. I guess there were times where I was waiting to see it, and sometimes it just seemed to take a little while. So I guess it was more. If it was more immediately responsive, I think it would be more impactful. Like.



Speaker 2 - 46:31

Okay, so you think, like, more or having a balance of having immediate. And then, like having that balance between immediate response and surprise.



Speaker 1 - 46:42

Yeah.



Speaker 2 - 46:43

Or do you think immediate response is better?



Speaker 1 - 46:46

Well, I guess it depends what. What its function is. Like if it's. Is the surprise for the audience, like, is that supposed to be sort of.



Speaker 2 - 46:56

Like you as well? Yeah. Performer.



Speaker 1 - 46:58

Yes.



Speaker 2 - 46:58

So you're kind of giving up some of your control.



Speaker 1 - 47:00

Yeah.



Speaker 2 - 47:01

But then you have the option of gaining it back. So you're giving some of that control to the system at points where you don't have control over it, just like you don't have control over other musicians. Yeah, sure. Then there are parts where you come together.



Speaker 1 - 47:14

Yeah.



Speaker 2 - 47:14

And it is responsive.



Speaker 1 - 47:15

Yeah. And that's based on your settings. Like what I choose to say for this.



Speaker 2 - 47:19

Yeah. That's the way it works is like. Yeah. Where you can have full control, then a little bit of control and then not. No control at all.



Speaker 1 - 47:27

Yeah. And does that, is that reflected in the visuals? Like, in terms of like.



Speaker 2 - 47:35

It has the idea.



Speaker 1 - 47:36

Yeah, yeah.



Speaker 2 - 47:38

It's very successful. No, no, that's okay. Yeah, yeah.



Speaker 1 - 47:40

That's what I'm just trying to understand.



Speaker 2 - 47:43

Yeah. So the third setting for the slider is more like mood based. So it has a memory and like say if you play the tache and it's loud for an extended period of time, then the beats will be more bunched up together.



Speaker 1 - 47:58

Yeah.



Speaker 2 - 47:59

And the color I think becomes more red. I can't remember. Because the system just does its own thing.



Speaker 1 - 48:05

Yep.



Speaker 2 - 48:06

It also. So when you play the slider one, it records snippets of you playing and then it like, then it plays bits of it, but it's improvising on. On it's training on that data and then it's making its own thing. So the bits that you heard were like little snippets of your playing before, but it's changing them slightly. But having heard you play through it, I think maybe it's better that it. It doesn't stop and start. That maybe it sort of continues playing and evolves rather than sort of coming in and out. I think it sounds a bit odd. So I think that's something that will change for future. But. Yeah. So I'm not sure whether you felt any difference between the sliders.



Speaker 2 - 48:48

I think not having the beast move up and down makes a really big difference because usually like that's a big part of the direction. Yeah. So let me just kill it. Like why is it suddenly start doing that? I don't know. I just decided. Yeah. I mean that's. That's all that I need from you today at all. Yeah.



Speaker 1 - 49:18

I hope it was helpful.



Speaker 2 - 49:23

Keep playing. It wants some attention, I think. Yeah. Cool. Thank you so much. I have some chocolates for you. No, no. Because they don't give us anything to give. They have some old wine.



Speaker 1 - 49:41

Oh, my.



Speaker 2 - 49:42

But I don't recommend drinking uts wine.



Speaker 1 - 49:44

That's very kind. I'm sure the kids will get excited for that.



Speaker 2 - 49:49

That's no problem. Yeah.



Speaker 1 - 49:51

I guess, like, a lot of things I do are not that creative in that. In this way. I guess so. But it's interesting. Like, it's interesting to imagine what.



Speaker 2 - 50:01

What do you do with your creative practice?



Speaker 1 - 50:07

Yeah, it's interesting. Well, don't have it interesting.



Speaker 2 - 50:10

Well.