

Speaker 1:

Welcome to the Event Tech Podcast where we explore the ever evolving world of event technology every week. This show is brought to you by Endless Events, the event AV company that doesn't suck. Now let's talk tech.

Will Curran:

Welcome back everybody to another Event Tech Podcast. That man over there is the brief Brandt Krueger of Event Technology Consulting.

Brandt Krueger:

And that guy over there is the nutty Will Curran of Endless Events.

Will Curran:

Feeling real nutty today. I'm feeling a little nutty today because we're going to be talking about a very small subset of a topic that we've discussed almost feels like ad nauseam sometimes our event technology world, but augmented reality, but specifically the audio component and audio augmented reality. Brandt, can you give everyone who may be first-time listeners or maybe not very familiar with augmented reality a quick reminder on what augmented reality is?

Brandt Krueger:

Yeah. I mean, usually in today's context when we're talking about augmented reality, we're thinking of some kind of glasses or something like that that we put on. But really the simplest definition is that it's reality augmented, right? You're layering something over reality, so it's not replacing reality. It's layering it over. When we talk virtual reality, right, we think of these like immersive worlds or immersive storylines or maybe even just 360 video, those kinds of things. But it's meant to put you someplace else compared to augmented reality, which is where we're still firmly planted in the world, but we're getting information or having some kind of sensory input layered over reality as we see it and know it.

Will Curran:

I know a bunch of experts that we've had on the show before and on event icons and things like that have said that augmented reality will probably have a larger impact on the physical event space more than virtual reality will in the future. I figured this would be a good one. It's kind of sparked from me actually being interested in a couple of different products and kind of trying to figure out how maybe this might fit into my daily workflow, but then I started thinking about, man, this could be used for events as well. Kind of talk about, Brandt, you actually have one of these products I think to start off with, which people might be starting to see more often, which are these bone conducting headphones that kind of like wrap around your ear, but don't actually cover over your ears.

Will Curran:

Can you explain a little bit about how they work and how it allows you to kind of sense the world as well around you?

Brandt Krueger:

Yeah. I mean, in this context, right, if we're talking about audio, augmented reality, that means we have to layer on top, right? We're not replacing. When we put on big giant, big muff headphones or noise canceling headphones, the goal is to block out the rest of the world and go into our little podcasts or whatever, music that we're listening to. Really get into our own head. Much like virtual reality glasses versus augmented reality glasses, when we start talking about augmented audio, we're talking about layering audio over realities. These "headphones" that I have, because they're not really headphones, sit just in front of my ears. They do wrap around kind of the back of my head. They sit quite comfortably and then they sit right in front of my ear.

Brandt Krueger:

My ears are actually still open to the world. I can hear everything that's going on. What these bone conducting headphones do is they're actually vibrating a little bone right in front of the ear and that just wiggles its way through and activates your eardrum as if you were hearing it being broadcast out loud. Now, the technology is because you're not hearing it, you're not hearing it through speakers or bouncing around, you wind up getting... It's a little tinny. Honestly, I describe it as when I was growing up, the little earbuds that we had were pretty awful, the headphones that would come with a Walkman or something like that. They were pretty awful in that they didn't have a lot of base response.

Brandt Krueger:

Much like today, if you want good bass response, you need to have like the big over the ear headphones in order to get a decent sound. That's why the Beats and things like that are so popular. That's kind of how these sound, right? You can listen to music. They're perfect for podcasts, right, because it's just spoken word.

Will Curran:

Yeah, for talking.

Brandt Krueger:

Yeah. You're able to go... I can take the dog for a walk or something like that and not be worried that I'm going to get run over by a car or something like that because I can't hear. Again, excuse me, I can hear everything going on in the world and then just have my podcasts or whatever layered on top over it. I think it's a pretty fun technology that some people might not really think about being augmented reality, but I would consider it to be.

Will Curran:

Definitely. I know a bunch of my technicians love it for onsite because for safety reasons, it allows them to continue to listen to music or an audio book while also being able to hear if someone says like, "Heads up or Hey, Byron, I need this." I'm just thinking about him because Byron is always wearing his. He's the one who was like, "Oh man, these are awesome."

Brandt Krueger:
Is it the AfterShokz?

Will Curran:
Yeah, the AfterShokz or whatever it is or something like that.

Brandt Krueger:
We'll drop a link into the show notes as to the kind that I have. I've been very happy with them. They get great battery life. They're Bluetooth, so they're wireless. I can for sure get a whole day and sometimes more worth of ramming around the house, listening to podcasts.

Will Curran:
That makes sense too. Important I think to say is that you still need your phone to be the transmission device, just like normal Bluetooth headphones whatnot, for these bone conducting headphones. I've been looking at those for a little bit and honestly I'm just like debating, do I really need it? Does it really enhance what I'm going to do? But a lot of times like I don't have this ability. I'm not one of my technicians who needs to be on site and talk to people while listening to things, but then I also like kind of struggle a little bit with the sound quality of it. But interestingly enough, I was in Best Buy. I'm just literally randomly walking around as one does when you have a free time for the first time in a long time.

Will Curran:
I saw these Bose AR glasses as they call them and literally just googled Bose AR. They're touting them as augmented reality glasses and all these things like that. They're updating their SDK software developer kit so they can do more augmented reality things and always crazy things like that. But honestly, they're sunglasses. They have like... I don't know how to describe it. I think it's a mix of the bone conducting mixed with actual speakers that go so close to your ear, but I put them on and they sounded incredible. I mean, I was expecting tinny sound. I was expecting meh, not to be impressed. I was blown away almost to the part where I was like, "Oh man, maybe I should get these right now." What was funny is I was like, okay, these got to be like super loud.

Will Curran:
They are basically speakers on your ear or whatever it is. I took them off and immediately the sound went away. I made my buddy Brandon, who I feel like I talk about all the time on my show, put him on and I said, "Crank it." He put it up to 100% volume, I couldn't even hear it. I was like, okay, these are really, really interesting. I'm interested. The thing I struggle with is the sunglasses, but now I've realized that you can pop out the lenses, so now maybe I'll get them and turn them into a regular glasses to wear, but super duper cool. Better sounding. That's what kind of I think inspired me to think about, okay, now we're moving beyond just tinny sound. We have potentially the opportunity to create deeper audio experiences using glasses like this.

Will Curran:

I figured it'd be cool to do a little bit of a brainstorm and talk about how potentially having audio, always on audio, that allows you to hear the rest of the world augmented and how we can apply this in the events industry. Brandt, I know you got an idea for how potentially this can be used and maybe we do a quick fire back and forth and talk about how they can be used and brainstorm with them.

Brandt Krueger:

You should know me better. I don't do quick fire. I can't say anything less than 1,500 words on any particular topic. No, I'll start with my own experience with these bone conducting headphones. One of the interesting things to me that really kind of only started working well with my Pixel 4 is using the assistant, the Google Assistant, through these headphones. It just never seemed to work right with my Samsung's for some reason, but ever since I switched over to the Google Pixel 4, when I say the magic words, if I have those headphones on, my phone will b doodle and I can respond and the assistant responds in the headphones.

Brandt Krueger:

Even if I'm in a room that has a Google Home or something like that in it, the most immediate response is the one that comes in my ear, which I think is kind of the way you want it to work, right. You don't need necessarily to... If I'm asking the assistant to set an appointment, set a reminder, set a timer or something like that, it doesn't necessarily need to be broadcast to everyone else in the room. I just need it to go into my own ears. That's something that I found very interesting to me was how much I'm starting to use the assistant to the point where sometimes if I've just got them on my head, if I actually just push and hold the big Bluetooth button on the thing, it will activate the assistant. That's kind of a nice thing.

Brandt Krueger:

You don't even need to say out loud the keywords or something like that. Yeah, I'm starting to find ways to fit that into my workload or workflow, like especially for calendar appointments. That's super handy. Sometimes if I'm not on my Mac... I haven't found a good calendar program that I love on any other platform. Being able to just say, "Set an appointment for this time, call it this," just out loud really works pretty well.

Will Curran:

I have a feeling I'm going to end up buying these glasses after I do this episode. That sounds incredible. I love that. Another idea that I have potentially for how this can be used as well is something that's already being done in the events industry, but is using more traditional technologies of headphones, which is translation. Translation typically is done in two ways. You can do it where there's a bunch of radio transmitters and then put headphones in and they're like a hardware physical device that people carry around with them, right. That's being done in and recorded and broadcast from a different area of the event. The other option that's becoming more popular now is, hey, you just log on an app or a site and you plug in your own headphones and use it.

Will Curran:

Well, I'm almost thinking like augmented reality allows you to hear a little bit of the world with a translation over it is important versus just hearing the translation. I find my audio engineers are doing this all the time that they're like, look, we want to make sure there's a little bit of the... They call it the bed, a little bit of the English speaking original below it, so that way you hear inflection, you hear pauses, you hear them laugh, that sort of thing. Then also as well, the room needs to be put into that mix as well because you're putting headphones in. You're eliminating a lot of sound going on in the room.

Will Curran:

Whereas I feel like this could be really, really improved because what you do is instead of saying, room audio, sending a little bit the English, they just put on the translation on the augmented reality headphones or whatever it may be and they hear only the translation. It allows them to hear the music and the and the laughter and all those things like that mixed in with just the translation of the spoken word. I feel like it would make a lot better of a translation experience because also as well they're not putting headphones in. If someone, their friends, sits to them and goes, "Blah, blah, blah, blah, blah," and comments to them about something, they can hear that.

Will Curran:

Rather than, "Let me pull an ear off, okay, now I'm out of the experience, now I can hear what you're saying," I think it just makes it a little bit more of a seamless experience.

Brandt Krueger:

Exactly. I could really see this being even just a single ear thing that you can just put almost like a hearing aid over your ear so that, again, you're free, you're there in the environment, you're in the space, like you said, you've got the bed. So much can often get, pardon the pun, lost in translation when you don't have that immediate connection to how someone is speaking, what their tonality is, whether or not they're really emoting. Then if you're just concentrating on that translation and you're able to kind of go in your own head, I think a lot of that can get lost. I think it's a fantastic use for this technology.

Will Curran:

I'll challenge you a bit too about the one ear thing. I don't know if you ever have done it in a long time. I just bought a new Bluetooth headset for calls and it's a one ear thing. I found that I can't concentrate in calls as much by it only being in one ear only. I almost think that actually it's better for it to be both ears because we hear with both ears, right? If the translation was done or if someone was talking on stage and you're hearing it in let's say for example English like normal, you'd hear it in both ears. You wouldn't hear it just in one ear. I feel like it's kind of weird when you hear it only in one side because you really have to concentrate on that end.

Will Curran:

For example, I'm using my calling headset that uses both ears, I'm laser focused, and it allows me to really concentrate on it. I almost want to challenge that, but I'm guessing we probably would have to do like an augmented reality audio face off to probably determine which one we like more.

Brandt Krueger:

Before I went these bone conductors, I had just kind of a standard set of Bluetooth headsets. I think they're a Monoprice or something like that. I had multiple pairs of them because I really like them, and I usually would have one dangling off, so I would just have the one, but I would do that so that I wouldn't be completely closed off, right? I can hear if someone talked to me or if the family needed... Someone who's asking me a question or something. It's tough to say because now I get it in both ears and I can still hear, so I don't know if it was better or if my retention's any better. I don't feel like it's any better or worse. But I don't know. That's a good point.

Will Curran:

Interesting. Interesting. All right. Should we go onto the next idea that I randomly put onto this list of ideas that I have for augmented reality? The next one I was kind of thinking... I almost like rendered these in terms of amount of work needed for someone or what... Like existing technologies and start to get a little bit more farfetched as we go along, but we obviously all have event apps, right? These event apps are constantly pushing notifications, "Hey, this area is now closed. This session's full. Hey, the time has changed for this." Safety announcements, things like that, right? But we're also pushing for this like white space and disconnection world where we're not looking at our phones, right?

Will Curran:

We even talk about it in the past podcasts like how can we use event technology that's more seamless with the normal experience and not busting our phones all the time. But at the same time though too, there is something really important about the ability to send notifications to people to say, "Hey, this is what's going on." The way I imagine this is let's start with like a really easy one. You have an event app and there's an emergency. If someone has augmented reality headphones on and has the ability to hear the outside world, right, they're not hearing things, they're not constantly listening to things, they... An emergency happens and you could say, "There's an emergency happening."

Will Curran:

Usually you'd have to do that by piping it through the whole venue, putting all the speakers around, all this things like that. I know exhibit halls that do that just for that one reason, right? Talk about the like, "Your next appointment is starting in five minutes," and they have to bust it out for everybody and ruins this other experience. What if you could do that via augmented headphones instead? I'm also thinking about it as well in a personalized way where, for example, your event app has your schedule. It also, let's say it's using beacon technology, knows where you are in physical space. Let's say it knows you're not in the room for the general

session. General session is about to start in five minutes and you said you were going to general session.

Will Curran:

I would love if I'm having a really deep conversation with someone and I said I was going to go to this thing, sometimes I miss it completely because I was so involved and not looking at my phone and didn't want to be rude. But a notification, that could just be like, "General session starting in five minutes," that's not disruptive enough where I would get pulled out of a conversation, but yet I'm notified of what's going on. I was just thinking like event app companies could easily do this where you could say like, "If there's no headphones connected, don't make noise on my event app. But if you do push an audio notification, kind of like an assistant, through it as well." I thought that'd be kind of cool. I don't know if you want to expand on that, Brandt.

Brandt Krueger:

Double edged sword, right? Like all these things, like actual phone notifications and other Bluetooth, things that we've talked about in the past regarding beacons and things like that. It all depends on how you implement it, whether or not you're adding to the attendee experience or you're taking them away from the experience. I've seen notifications being used excessively. I've seen over use of phone notifications. If someone wasn't being strategic about how they use it, that could really be a bad thing. But I can definitely see what you're saying that just a little reminder in your ear saying, "The next session will begin in five minutes," as long as you're not overdoing it or abusing it, maybe that contextual awareness could be used in the other way, right?

Brandt Krueger:

We only want to send this to the people that are in the general session. Anyone whose geo located outside of the general session doesn't get it, right? One of the things that drives me nuts is when you're wandering around at a show and you're seeing all of these notifications that are specific to the show floor. Stop by booth 306 for a drawing in five minutes. Okay, well, I'm down the hall in a breakout room or something like that. I'm not going to be able to get there in five minutes. That's a wasted opportunity or a wasted text, a wasted notification on me, or it's being sent to everyone at the show as opposed to just the attendees versus the speakers versus the exhibitors or something along those lines. I think you're right.

Brandt Krueger:

I think you just have to be a little strategic about it and being careful not to abuse the power that comes along with it.

Will Curran:

Totally. As I was trying to do a little bit of research into this too, I found this term that kind of got coined called asymmetrical information for participants. For example in this case, they use it as like a multiplayer experience. Imagine you're playing like a murder mystery party. What if you

could show different clues to different people or give different information to different people? That's essentially what we're talking about too is that personalization experience through the event app to deliver asymmetrical information. Right now I think the events issue is very much born on symmetrical information. You see the same banner that everyone else sees, but let's be honest, I think the future of events and, I mean, life in general is this customization, personalization.

Will Curran:

But we've talked about it before, wouldn't it be great if you walked up to a screen and it knew your schedule and said, "Oh hey, here's the signage that you need to see. Your next session is this way." I think that same thing can easily happen with augmented reality audio through our phones.

Brandt Krueger:

That's exactly where my head went as well, talking about like what Delta was displaying at CES with the individually assignable signage that is the same physical sign, but depending on who's looking at it, you see a different thing. That could easily be combined with audio technology so that, like you said, you're getting your reminders and things like that, but maybe you're getting them in your native language based on what you've selected at registration as your native language, further customizing and tailoring that experience.

Will Curran:

I fancy these other ones. This might be appropriate time to mention, but one was like attaching sounds to specific locations or objects too. As you were approaching a different area, audio starts to play about something different, right. Almost like... Man, I don't even have a good example of this, but I definitely experienced it before like... Yeah. Do it, do it, do it.

Brandt Krueger:

Yeah. Think back at IMEX this last year where I think it was Hilton had the waterfall in their booth.

Will Curran:

Yeah.

Brandt Krueger:

Wouldn't it be great if you were a vendor around that and you didn't have to listen to rushing water every day for eight hours a day. But everyone else who just as you slowly approach it, it would get a little bit louder and a little bit louder in your ears, so you could experience it as an attendee, but then you would have the ability to turn it off if you were a vendor or if you walked away from it, you wouldn't continue to hear it and then that would just be not then filling that space. Those expo halls can get so loud just because of the echoing and all of the sound just from the people, right?

Brandt Krueger:

Much less all of the demonstrations that are being given and then having that kind of white noise going in there had to make it difficult to talk to anybody around that space. It was a beautiful booth. I'm not meaning to knock the booth, but I'm just exploring where this kind of technology could help take that kind of booth without maybe making all of the vendors in the neighborhood have to go to the bathroom every five minutes.

Will Curran:

Yeah, definitely. Definitely. I think you bring up a really good point too talking about like we've been seeing more and more of these events move into these open floor plan festivalization kind of styles where, for example, what we... Brandt, I have done this a ton of times. It's present with people wearing headphones. I think that this can also help fix that as well. We've talked about we loved how people could literally go walk the entire trade show floor and switch between sessions as they're going along, but what if you could do that via an app and what if instead you could still hear the world around you as you were listening as well? I think that could be hugely beneficial. You kind of mentioned it and I think this is a good pivot to this one is making you feel like you're in another space too.

Will Curran:

For example, let's say you're listening to a keynote, someone's giving a presentation. Let's say, for example, you're like, "Whew, I really need to calm down while I'm listening to this finance talk." Let's have some waves crashing in addition to listening to the keynote or-

Brandt Krueger:

Usually you wake people up during the finance talk.

Will Curran:

That's true. That's true. Just amazing some rock and roll music or something like that.

Brandt Krueger:

In the third quarter, we have the stocks went up .5%.

Will Curran:

But I mean like you could go to another space. I think that's when a lot of people are kind of like when you're exploring, when you look up augmented reality, you go to Bose AR website, all it talks about is bringing you into another space, in another experience. I think that's very much possible to be done at events as well for sure.

Brandt Krueger:

Yeah. The level of customization that that opens up is if you've got the ability for each attendee to be able to individually control their own volume. I can't tell you the number of times, and I know you've dealt with this too where one person's coming up to you telling you it's too loud and the next person's coming up telling you it's too quiet.

Will Curran:
Oh my god, yes.

Brandt Krueger:
You got the person on stage, "Pump up the volume. Pump it up because we want to be loud. Play thunder struck," and then you've got someone in the front row just covering their ears because it's so dang loud and they're sitting two feet away from the stacks because they couldn't fly them. That kind of level of customization is another thing that all of these types of augmented reality technologies are going to allow us. Now, Will, before we move on, I just want to talk about another level of customization. I want to talk about what if you could go to a conference and the problems that we have with the conferences is you've got 150 different tracks that you could go down, all of this different education, but you've only got one day to do it. You got one day to do it. How do you do it, Will?

Will Curran:
Well, it'd be awesome if there was like some sort of platform where you could pick and choose what you want to do. What if you could even, to tie in augmented reality, listen to this stuff while you're walking down the road onto favorite coffee shop or between your next meeting, things like that?

Brandt Krueger:
You mean like getting education when it's convenient for you as opposed to having to like fly somewhere?

Will Curran:
Yup. Yup. Yup. It's like as if there was an institute for leaders of the events industry.

Brandt Krueger:
Yeah, like an Event Leadership Institute. What? Wait a second, the Event Leadership Institute can do all of that. It's a chance to hone your skills as a professional or maybe if you're just starting out. They've got over 180 video courses, interviews with industry leaders, white papers, e-books, and so much more. It's something that you can do on your own schedule, right? Even busy are busy people. I don't know if you knew that.

Will Curran:
Absolutely.

Brandt Krueger:
Event folk or busy folk. They ain't got time to be taken out this day or that day, taken out a full day of their time to go get educated. That's when the Event Leadership Institute is really going to shine. It's going to be simple pricing. It's going to be cheaper than going and attending a conference. There's no contracts. You can cancel at any time. It really is kind of like the Netflix

of learning, right? Whatever happened to Lynda.com? I feel like that kind of got absorbed into LinkedIn and then never saw again. Very much that kind of style where you can subscribe to individual courses.

Brandt Krueger:

You can take like a five week course, like my technical meeting and event production course, or you can just take little bits and chunks for here and there on a monthly subscription plan. You can either just pay for a single course and be done, or you can get that subscription model going and take things, all of the kinds of topics like business and sales, creativity and design, career building, planning, logistics, strategy, ROI, all of these big picture things that we talk about on these podcasts all the time.

Will Curran:

And it's for CMP credit. You get CMP credits.

Brandt Krueger:

You get CMP credit on them. A lot of the courses qualify for CMP credit, so you're going to be able to apply those hours for your CMP. Find out more at eventleadershipinstitute.com. Special address just for you listeners out there though, it's eli4.me/etp. That's eli4.me/etp. That way you are going to get a 20% discount on individual courses or a 20% discount off of your monthly membership. We want to be sure and thank...

Will Curran:

ELI, Event Leadership Institute, for their support of the Event Tech Podcast.

Brandt Krueger:

I kind of left that hanging on me.

Will Curran:

Yeah. I was going to say, I thought maybe we're going to have a syncope moment where we're going to talk, but then the ping between us was just too much, man. Too much.

Brandt Krueger:

The ping. The ping. Well, thanks, ELI. We really appreciate it. All right. Back into it.

Will Curran:

Yeah, definitely. Back into it. Talking a little bit about education and kind of listening as you go, also audio tours, right? We've talked about how audio tours can be great for the exhibit halls and how people can walk around and listen to different exhibitors and things like that. But again, that was with headphones on. You are completely isolating the rest of the event, and you're kind of like almost virtual reality, putting a headset on, and can't see anything else going on. This would be great if you could hear more about it. Also, again, if you can tie into the app or beacon

technology so it pops up as you are walking around rather than just a pre-recorded track, heck yeah, that would be awesome.

Brandt Krueger:

Now, I will say just kind of the state of technology, I haven't tried the Bose on yet, but at least as far as my AfterShokz go, they get a little almost uncomfortable at loud volumes. You imagine like a noisy trade show floor because it's physically vibrating. The louder it gets, it just kind of buzzes your head a little bit as it goes. That kind of thing gets better with time. The technology will get better with time. Let's be honest, if everybody was doing this, what we just talked about a moment ago, the floor wouldn't necessarily be as loud, right? Because you're not going to have all this extra sound and whooshing waterfalls and all of that kind of stuff being broadcast out loud to the show floor.

Brandt Krueger:

That should kind of help that idea, but definitely love the idea of being able to wander a trade show floor and get that audio experience without having to go so much inside your head.

Will Curran:

Absolutely. Absolutely. This one's a little bit more out there I think for the future of augmented reality for audio, but also triggering sounds based on user's head gestures and movement as well. Imagine, for example, I don't know. I have no idea how this would be used in events. Voting maybe, for example. Someone's like, "Okay, for A, shake your head yes. If you say no, shake your head no," and boom, the vote goes automatically to the Slido count and does the vote and everything like that. That'd be pretty cool. Maybe it's something like as your head is nodding down to fall asleep during the finance presentation, it starts playing some rock music underneath or maybe it vibrates your head a little bit to wake you up.

Will Curran:

I don't know about that. Just saying. Obviously someone's going to come out with a better idea than us.

Brandt Krueger:

You can use it creatively, especially if you have the ability to split the audio, right? I can imagine like, okay, this left side of the room gets told one thing, right side of the room gets told another thing, and then you can put cheers together and things like that without... You could have some fun with it. You could have some fun with it definitely. We already kind of touched on the user's position though, right? I mean, so talking about their position in the room, their position in the convention center. I'm not sure if that's what you meant by that or not, but.

Will Curran:

I'm thinking about like head position.

Brandt Krueger:

Okay. If you start to fall asleep, it...

Will Curran:

Yeah, it jolts you. It gives you a good after shock.

Brandt Krueger:

It's like a Tesla driving mode where if you start to not pay attention, it starts buzzing and dinging.

Will Curran:

Put your hands back on the wheel. Put your hands on the wheel.

Brandt Krueger:

I think I might need a headset that does that sometime for some of the shows that I'm on. It's like, "Drifting off. Drifting off. Nope, we're good."

Will Curran:

Nope. Nope. Nope.

Brandt Krueger:

Like we talked about on the show not too long ago, maybe there's some audio engineers and camera people that might need that stuff as they start to drift off.

Will Curran:

Absolutely. Absolutely. I know that obviously this can be combined with something else too, Brandt. Kind of want to leave everybody off on a final idea that you have?

Brandt Krueger:

Yeah. Well, I think a lot of these technologies, right, it's not that it's that technology in and of itself that's going to be so magical, right? It's not necessarily display technology that's going to change the world. It's when you combine it with something else. Much like that, it's the ability to start including this technology in other technologies. As we start to talk about augmented reality glasses, maybe ones that actually look like glasses as opposed to weird Google Glass type stuff, and then combine that technology, the visual technology with the audio technology so that you're able to hear that digital assistant in your glasses and then get visual feedback combined with it.

Brandt Krueger:

When a notification comes in, you get a little blinky light or something like that up in the corner, which sounds terrible as I say it, having a little blinky light up in the corner for notifications. But something along those lines where something comes in and then just do like a quick tap on the side and it gets to play a text message or something along those lines without having to pull your phone out. Much like a lot of the vehicles now. You can have it read back your text

messages and things like that. Having that beam directly into your ears without having to be broadcast to the rest of the world I think could be kind of nice.

Will Curran:

Totally. Totally. I think one of the big challenges that this will probably also ensue as I start to think about the feasibility of this is that we talked a lot about if everyone had aftershock headphones or everyone had these Bose glasses, right? They're obviously expensive right now. The Bose headphones I think are 200 bucks. The AfterShokz's like what? \$100, 150 bucks, 120 bucks, something like that?

Brandt Krueger:

Yeah, they go on sale quite a bit at this point.

Will Curran:

Obviously we're not going to drop that \$200 headphones to every single attendee and then say, "Hey, you have to connect us to your phone." I don't know. Maybe that's right for you guys, but there might be ways for this technology cost to come down over time. Who knows? Maybe also as well like more and more people will have these glasses and these headphones and you can offer this as a solution for your attendees.

Brandt Krueger:

Yeah, it always comes down in price over time. The technology is going to get better. It's going to get cheaper. It really wasn't that long ago that this idea of bone conducting headphones was still kind of somewhat theoretical, and now it's already a consumer product. Less than 10 years ago, Daniel Suarez's Daemon was talking about having these bone conducting headphones and that was like future tech at the time. Same thing with beamforming. That's another way of... We've been focusing mainly on headphones, but I think similarly as we look down the line, they're doing some pretty incredible stuff with audio beamforming where if you're sitting in front of the TV, you're getting full surround sound and you move five feet off to the left and you get nothing.

Will Curran:

Yeah, that's crazy.

Brandt Krueger:

That kind of incredibly tightly formed waveforms. There's a lot of pretty cool things there, and then that also, Will, has the ability to kind of seem like magic as well. If you're standing in a certain position, you can hear announcements and music and things like that, but then no one else can. In years past, we would call that you're crazy if you're hearing voices and music and things that no one else can. But that's the way the technology is moving and there's a whole lot of fun I think that can be had with that as time move on.

Will Curran:

A great place to demo that beamforming technology is a Verizon store. I don't know if it's every Verizon store, but I know for a fact the one in Chicago off of Michigan Ave had a really good sounding beamforming setup where you walked in, you only heard it if you're standing in front of the display. I remember getting a little small speaker you could buy for like 100 bucks that was like beamforming. My gosh, it hurt your ears. It was so high pitched, but definitely the technology has evolved over time as well. Well, Brandt, thank you so much for taking the time to explore down the technological road with me when it comes to augmented reality for audio. Anything you want to leave our audience with before we sign off?

Brandt Krueger:

Yeah, just a reminder that when we talk about these technologies, one, be aware of how they're going to combine in interesting and unique ways, and two, be aware that when we talk about augmented reality, it's not just visual, right? It can be anything. It can be audio. It can be any of the senses. They're already working on augmented reality touch that we've talked about in some of our presentations where they're using essentially like audio waves basically, like a high end... I'm blanking on the actual term, but it feels like you're touching a button that doesn't exist. I mean, this stuff is being worked-

Will Curran:

Haptic touch.

Brandt Krueger:

Haptic touch, right. It was haptics, but it was called ultra haptic because it was using ultrasonic pulses. That's what it was. It was using ultrasonic pulses to simulate touching a button in midair even though there wasn't actually anything there. Folks that have tried it say it feels really cool. There's just nothing there, but you feel like you're touching a button or turning a knob. We're rapidly approaching Holodeck era. Being able to feel things that aren't there, see things that aren't there, smell things that aren't there, and hear things that aren't there. It's going to be a brave new world as we move forward.

Will Curran:

If you go back 20 years and then look at the future, you're going to be like, "These are a bunch of crazy people. They see, hear, touch, smell all these things that aren't already there. They're crazy. They're seeing ghosts." Well, thank you so much, Brandt, for being here and joining me again. Thank you to our amazing audience for listening as we have all these awesome crazy ideas when it comes to technology. I hope that you got a ton of value from this. Let us know too if you have an idea for augmented reality audio, send us an email, eventtechpodcast@helloendless.com, or feel free to hashtag #EventTechPodcast on any of your favorite social platforms. You know we'll find you and we'll reach out to you, leave you in the comments, all that sort of stuff.

Will Curran:

Also, make sure that if you are listening to this on your favorite podcasting platform, we always appreciate a rate and review so that way we know we're doing a good job, but you can also head over to eventtechpodcast.com and enter your information to subscribe because that's where you need to show notes, all the resources, and also some of these back episodes that we're now starting to reference so much. You want to head over there to get signed up for that right away. Well, thank you guys so much. This has been another Event Tech Podcast. This has been Will Curran and Brandt Krueger, and we're going to get out of here. We'll see you next time on the Event Tech Podcast.

Speaker 1:

Thanks again for listening to the Event Tech Podcast. Be sure to rate and review us on your favorite podcasting app. Also, be sure to head to eventtechpodcast.com and leave us a comment about this week's episode. We'll see you next week on the Event Tech Podcast.