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.

Brandt Krueger: Hello everybody and welcome to the Event Tech Podcast. I am Brant Krueger from Event Technology Consulting, and with me as usual is Will Curran. Hey, Will.

Will Curran: Hello. It's the illustrious ... Wait, did I use that one yet? It's the ever adventurous

Brandt Krueger. I am so happy to be here.

Brandt Krueger: He is of course the Chief Event Einstein at Endless Events. I always have to struggle a little bit to remember your title, because it's an usual one.

Will Curran: It's definitely weird. We like to get a little weird over here.

Brandt Krueger: That’s right.

Brandt Krueger: So today we're gonna be talking about AR and VR in events. Specifically, some of the controversy around these technologies, ways that we've seen it implemented well, ways that we maybe have seen it implemented not so hot, and possibly the future of these technologies as well. I'm pretty excited about it.

Will Curran: Yeah, definitely. I think before we even get started into this too, I think that a lot of times when it comes to AR and VR, specifically I'm gonna talk about VR to start off with because AR, I think everyone's experienced someway with their phone, whether it's using some sort of app or something, but not a lot of people I believe have really truly experienced true virtual reality, especially room scale virtual reality VR. When we say this, you might be thinking to yourself like, "Well yeah. I've put a headset on, I've looked around and did the 180, looked around."

Will Curran: Okay, cool. That's VR. I think you haven't experienced VR until you've gotten, for example, an HTC Vive, gone in a room and you can walk around the room. As you walk around, you move around in that space. I think that's definitely game changing. I think it should be a bucket list requirement for every person almost in life, I feel like, at this point. That was when I went from being, "Oh, VR's a gag. It makes me sick. It's boring. It's annoying," to, "Oh my gosh, it's game changing." That's why I think we wanted to do this episode.

Brandt Krueger: Well why don't you take a stab at just laying out the differences. Like you said, at this point most of us have probably experienced AR, some of us have experienced VR. Just for anybody that might still have some lingering confusion as to the differences between these technologies, how do you define AR and how do you define VR?

Will Curran: Yeah, it's definitely weird because now we're getting into this point where AR merges with VR too.

Will Curran: AR is augmented reality, the idea that you're taking an existing world, and you're augmenting and changing it in some way. Common examples of this is when you hold up your phone, it uses your camera to overlay and drop items in reality. Like for example, I'm looking at glasses. If I use my selfie camera, show it at my face and it overlays glasses over my face. It takes the reality which is me not having glasses and puts glasses on me. Or if you've ever used Google's phone camera app, it allows you to drag and drop Star Wars characters into reality, and then boom, you have a Stormtrooper standing in your living room. Super cool, augmented reality.

Will Curran: Virtual reality is more closed off. It really doesn't take into account the rest of the world. It creates a brand new world in a way. There are some times where virtual reality can mix with augmented reality. For example, you can be in a world, a black box, and all of a sudden it's taking the world around you. But really, virtual reality technically is you're in a closed loop system, and you're putting on a headset, and it's going black, and then boom, this new reality that gets mixed in with you, and you're in a blank box.

Brandt Krueger: Yeah. Just to nail it down even further, for me, augmented reality is anytime you're layering something over reality. You can still see the world, you can interact with the world, and you're layering something over it. Then like you said, virtual reality, you're dropping into an entire different reality. In the instances that you were talking about where there's walls and things like that, that are actual real physical walls, if anything, those walls are augmenting the virtual reality. It's the other way around where you've got live things that are in the real world that are impacting your virtual world that you can feel and touch.

Will Curran: Yeah, I think you definitely hit a nail on the head. I think that augmented reality is becoming really, really exciting right now because of its applications in work life. Whereas VR very much I think is stuck in entertainment land right now, where it's very much things like Beat Saber, which allows you to use light sabers to smash boxes to music, Guitar Hero style. Whereas augmented reality, everyone's going, "Well how can we use this for work, and making things safer, and guided instructions?" Oh, yada, yada, yada. I mean, we'll probably go down a million different examples of it, but yeah, I think it's really, really exciting and important to know the difference too because I think there's definitely scales as well for each one.

Will Curran: Like I said, there is virtual reality. Technically if you just take your phone and you put it on the Google Cardboard where you just look around, and you're sitting in one place, and looking 360 degrees, that is technically virtual reality. But then there's also total room scale, walk around a 20 foot by 20 foot area with throwing your hands up, and it tracks your body movement, and now they even have running tracking, and things like that. Then same with AR, there's simple hold up your phone and look through your screen of your phone to do augmented reality. Then there's put on a headset, walk anywhere in the world and interact with any object

levels too. Not only is there the difference in AR, VR, but there's also the scale, and depth, and interactivity of each one as well, if I'm explaining that in the right way.

Brandt Krueger: Yeah, absolutely. Yeah, there's just different levels, there's lightweight versions of both of these technologies, as well as more heavy duty, full on put a headset on. Or in the instance of augmented reality, something like a Microsoft HoloLens where you're seeing reality, but you're looking through a set of Googles that are overlaying something onto that reality.
Brandt Krueger: Then there's one more little subdivision that I'll throw in, just to stir the pot even a little bit more, that the purists out there will say, "When you're putting on one of these headsets and watching a 360 video, that's a different beast." You're watching what would be more an immersive video category.

Brandt Krueger: A virtual reality is a complete virtual world that you can walk through, fly through, whatever. But then there's these immersive videos that are essentially just 360 degree videos. You can't control it, you can't walk through it other than to play and pause like you would a normal video. There is that subcategory of 360 video within virtual reality, even though they're not the same thing.

Will Curran: Totally. Again, I think I'd stress the point too, if you've only watched a 360 video, or if you've only done AR through your phone, and you haven't done the full high-end experience of things, please do. Go give it a try.

Will Curran: This is coming from someone who was really, really skeptical about where this was going, and thinking it was definitely a fad. But then when I tried it for the first time in full room scale, I bought a computer, I bought the headset, it's literally five inches from me right now, and I do it probably every other week because it's just so exciting and so much fun. This is definitely coming from a skeptic for sure that I ...

Will Curran: It sounds weird too because you hear people say thing like this, like, "Aw, it's game changing. It's gonna blow your mind." But I'm telling you, every single person that's ever been a skeptic, and I say, "Put this headset on, play, for example, some game where you actually move around in space." They come out of it and say they all want to buy a headset. Definitely go give it a try, I think if you haven't yet.

Will Curran: That's my DJ. Let's remix this a little bit and talk a little bit about how does this apply to events? Because people might be thinking, "Yeah, that's cool. Yeah, I'll buy a headset to have in my living room for entertainment." But this is never gonna really change events. Brandt what's your thought process and it's application for events?

Brandt Krueger: Well I think you raise an interesting topic, which is the idea of this skepticism, 'cause you're not the only one that's been skeptical. In fact, I've seen some grumblings in the industry of people that relegate this into the toy category. Where like in the past at our events

where we've had a photo station, or a photo booth, or an oxygen bar, it's that thing in the corner that you bring in for your attendees to do while they're at an event.

Brandt Krueger: I think a lot of people have looked at this technology and thought of it in that way, where it's like, "Oh yeah, that's VR. That's just a fancy thing that you do in the corner of your event," and then you move on to a different station after a while. Then there's also this weird I think, and we've seen this in some of the other event technology in the past as well, where there's almost this, it's not fear per se, but it's more just this, "Well why would we ever want to bring that technology into our events? Because it's only gonna take away from the face to face."

Brandt Krueger: Literally you're putting a helmet on over your face, and some of the more purists in the industry really take home that face to face part of events, and wouldn't want to have anything to do with this type of technology because it takes away from that. I think that's a legitimate point. It's a legitimate skepticism of, let's look at our event whether it makes sense to incorporate some of this technology. But I think one of the things that we need to do to move past this idea that VR and AR is just a gimmick, it's just something that's in the corner, like a photo booth or something like that.

Brandt Krueger: One of the things that I have been keeping an eye out for is when people actually do implement these technologies on a larger scale. I'm seeing a lot of it in Europe, and for some reason, not so much here. Even as much as probably three plus years ago at this point, I was seeing some pretty amazing footage out of events in Europe where they were doing 100 simultaneously connected VR headsets of people walking into a room and sharing a group experience. It wasn't the thing where everyone went into their own little world and lost the human touch. When you watch this video, what was amazing to me is that people were laughing, and holding hands, and giggling, and having a grand old time, 'cause they're all sitting just like in a movie theater. A movie theater isn't a solo experience. Sometimes it's a little more public than you'd want, but it's definitely not a totally solo experience. Part of it is going to the theater and experiencing it with other people.

Brandt Krueger: This was the same thing where the people came into a room, they had the experience of the room. I think it was an Audi unveiling. The experience of walking into a room, it's a white room with cool chairs in it, everyone's handed a headset, and then they do a two or three minute virtual reality experience. Then when they took off the headsets, they'd actually removed the fourth wall, and the car was right there. Then they got up, and got to see the car, and have champagne, and all that fun stuff.

Brandt Krueger: It's the idea of you can have a group experience with this technology, but you still can blend in all of the other aspects of your event. I think the mistake is to believe that this somehow going to replace your events, that we're all just gonna sit down and have a virtual event, and then take off the goggles and walk away. But if you blend the technology into the various aspects of your event, you can have this fun group experience.

Will Curran: I was trying to find that link to the article.

Brandt Krueger: No, that's fine.

Will Curran: I'm gonna try to find it maybe and we'll post it on the show notes if I can find it.

Will Curran: But yeah, I think what's interesting you bring up a really good point is that about the idea that a lot of times we think that it's gonna create this non-shared group experience, but let's just look at general sessions, for example. We're all sitting in a room quietly. Sure we all laugh together, we clap together, we experience the same content, but honestly there's almost no difference between sitting in a general session and if 100 people put a VR headset on, and sat and watched something.

Will Curran: What I think is exciting about this movement is not necessarily its application onsite at events. I might be diverting a little too early, away from its use, and feel free to disagree with me, but I think it's exciting what it can do to bring either into events or also prepare, like the remote aspect of it, the idea that what could be done from your living room as a planner, but also as an attendee as well.

Will Curran: Let's go the attendee route since we're talking about the attendee experience, is that the idea that you could technically beam into an event. I think that's the ultimately goal and everyone goes, "Well then at that point, you're destroying the physical aspect of the event," which I think is so near and dear to so many event professionals because we make money off the physical experience. We're the furniture rentals, we're the food, we're the AV onsite, we are the content produce ...

Will Curran: I don't know if there's anyone who really, other than maybe the planner and maybe the technology company, that doesn't lose money from the idea of VR transporting events, but I feel like the same conversation is being had about this as was happening with virtual events, with things like live streaming, or even just listening in to a presentation or something via audio, or watching a recording.

Will Curran: People said, "No way, this is not gonna change events." Oh, it totally did. Look at live streaming now. Everyone can get the content online, they can watch it any time they want on YouTube. Now just having amazing general sessions where you get to see X, Y, Z celebrity that you might be within 100 feet of seeing, that's not exciting anymore because we can just watch their keynote on YouTube.

Will Curran: My thought process is, is I think this is gonna elevate for people that once it starts getting implemented that you can use VR to attend an event, that all of a sudden the event experience has to be elevated even further. What are your thoughts on that, Brandt?

Brandt Krueger: Well I think you're exactly right, that these are exactly the same things that were being said 10 years ago when we first started flirting with hybrid events, of having a virtual audience, a remote audience I should say. At the same time that we were taking baby steps into that world, all of these same things, "oh this will never replace face to face," and people were worried that somehow this is going to cannibalize and take away from their events. There was all this worry being generated around the technology.

Brandt Krueger: Everyone slowed down and said, "Okay, let's take a look at this." NPI at least released a famous report at the time that showed events that were actually doing hybrid, not only didn't see a decrease, but a lot of them saw an increase in attendance. This is just the next step in that. It's the ability to have a remote audience that can partake in your event. It doesn't mean that we're gonna throw away the in-person event, it doesn't mean it's gonna take away from the in-person event. What it is, is just creating a secondary audience, another audience that you have to plan for and take into account. What is that experience gonna be? Are you just gonna stick a 360 camera in the front row? 'Cause that can be a little weird too.

Brandt Krueger: I don't know if you've seen in some of those presentations where you can literally look around and see the person sitting next to you picking their nose. That brings up a whole other level of ... I think what people understand that there's a camera in the back of the room, they don't expect they are going to be visible. Do you have to start getting permission for those kinds of things?

Brandt Krueger: I think a healthy amount of skepticism is good. It just means we have to think through these things a little bit, but it definitely doesn't mean that we just throw out this technology because we're worried that it's gonna somehow impact our live event.

Will Curran: No, I agree 100%.

Will Curran: I got really lucky that two years ago or so, Dahlia actually invited me to attend, I think it was PCMA Convening Leaders via a driving robot. I don't remember what it was called. I don't even know if they're still in business at all, but basically the robot ... Essentially I could tune in from my computer and use my keyboard like a video game to drive around a physical robot that was five feet tall, had a screen on it with my face on it and a camera. I think the thing that's gonna pose this VR is how do we merge the audiences together. Because there's obviously a one-way, where they can attend the event, and engage, and then see it, but how can the in-person person come back and integrate well with the virtual reality? Maybe that robot is an option, for example, that I throw on a VR headset, now I can control that and move around in 360 space. That's an option.

Will Curran: I think then we take this to the next level which is maybe, for example, how does this then create new events as well? I think that's a major next topic as well because I don't know if you've ever attended a purely virtual event, I don't know how many people out there actually plan virtual events, but I'm not gonna lie, I don't think I've ever been to a purely virtual

event and stayed fully engaged. You watch one keynote or you watch what you came and you're out. Not to say, and this is coming from someone who grew up on the internet, who can literally say, "I'm a part of communities that only exist on the internet," but I feel like if someone was saying, "Hey, come to this virtual event," and it's purely virtual with VR, I might be way more engaged. Just look at ...

Will Curran: We were talking about this at one of our CET meetings recently was that, what was it, Marshmello had a concert in a Fortnite game, and something like two million people came and attended the concert. Granted I think most people did it because they wanted the free giveaway skin or whatever that they were giving away, but two million people went to watch a concert in a virtual space. Even if only 10,000 people were really there for the concert, maybe 30,000, that's still a ton of people. That's a gigantic concert and if you ever have that in reality. Will Curran: I don't know where I was going with that. A little mini rant. I think it's just the idea that we also have to think about this, as well as not just in the hybrid sense, but also the purely virtual sense as well.

Brandt Krueger: There's going to be some new types of events that are totally virtual. Yeah, a lot of the examples that have happened in the past were not very compelling, but it sounds like, by a lot of people that I've heard talk about that event that it was fun. It was fun, and silly, and part of Fortnite, which is already fun and silly. People had a good time. That's great. Isn't that what we want out of our events? But I don't think there's any ... It doesn't mean we're gonna replace in-person events.

Brandt Krueger: Well someone was just talking about this and I think it was on EventIcons, where we talked about ... I think it comes from a Corbin Ball quote. You can't share a virtual beer. If I'm remembering the lineage on that, somebody recently quoted Corbin on that, and it was probably on EventIcons. But I think it's a great point that as much as we are into technology, you and I, and Corbin, and people like that, we still freely admit that it's not gonna be a replacement.

Will Curran: For sure.

Brandt Krueger: It's gonna open up some new avenues, just like social media opened up new avenues, and opened up new ways of meeting people. I think of all of the cool people that I've met over the years through social media, how would I have met them otherwise, and those kinds of things. It was a totally new venue basically for gathering and talking.

Brandt Krueger: Like you say, it's gonna open up some new opportunities, it's gonna open up some possibilities for group experiences, it's gonna open up ... I'm looking forward to the more mundane uses of virtual and augmented reality, the more backend stuff. Like the attendee facing stuff, I think there is ... Let's be honest, there is a gimmick factor to it. It's something fun for your attendees to do, whether it's in a group, or it's a station in the corner. Either way, it's just

fun and exciting, and we can have an experience. But for me, the more mundane day to day stuff is where it gets interesting as far as event planning.

Brandt Krueger: We talk about the obvious stuff of marketing, marketing materials where you're at a trade show and you just get handed a pair of Google Cardboard VR goggles. You can very quickly go from just looking at an eight by ten glossy brochure to this is the sweeping vistas from the back balcony of our venue, in a much more immersive and realistic way, more than just any old photo's gonna be able to show you.

Brandt Krueger: That's the stuff that people are already doing, but what's interesting to me is where this technology has the potential to go. That's where we get into things like ... I love the idea of augmented goggles, or augmented glasses just built into my glasses. I wear glasses every day, so it doesn't matter to me.

Will Curran: Oh that's very exciting for me too.

Brandt Krueger: Yeah. To walk into a venue on a site visit, or something like that, and just go boop, and be able to bring up every single power outlet in the room, here are all the outlets in the room, I want to know what's the height from the floor to the bottom of that chandelier 'cause we know that the CAD drawings are never right. Just be able to have it do the triangulation based on my height and the floor, and go, "Okay, that's 16 feet off the floor." Where are the power drops? Where are the rigging points? All of that stuff overlaid over reality. To me, that's exciting, being able to really visualize a room as you walk through it.

Brandt Krueger: I was just on a site visit last week. Giant, empty, massive ballroom. It's really hard for your brain to visualize what is this gonna look like with 1200 seats in theater style, plus all of our AV and all that kind of stuff. The room looks massive when there's nothing in it, but as soon as you start to cram all that stuff in there ... Being able to overlay that and walk through it, and see this is how close the aisles are gonna be, see what it's gonna look like in theater versus rounds, or something like that, I think that's gonna be fascinating.

Will Curran: Yeah, for sure. I agree 100%. I think there's a great company making strides and switches, AllSeated, and I think we have an upcoming episode hopefully with them in EventIcons, sneak preview. Whew, crossover. Is that we're doing how to plan your event with never have attending your venue, and I think that's the most exciting thing in the world for someone like me, we're a remote company, we're all spread throughout the U.S. A lot of times, we honestly haven't been to the venue before we produce inside of it, which in my ... Maybe we could have an argument about this in EventIcons one of these days, but I don't think you have to be at every venue. Once you see a couple hundred ballrooms, you pretty seen them all. Usually you can tackle any problem at that point.

Will Curran: With AllSeated though, they created basically the ability to create floor plans. Really cool, right? That was game changing. But then they're like, "Yo, why don't we turn this

into virtual reality?" Slap on a headset and see it in 3D render. I'm just grabbing my computer screaming, "Yes, thank God. This is amazing," because now it gives a chance for yeah, you don't have to go to a venue and just so much cost savings.

Will Curran: Let's not get into the conversation of, "Oh my gosh, this is gonna save money on site visits, and duh-duh-duh." It's just gonna make peoples' lives easier. For me, on a marketing standpoint, it's also really cool because it's me as an AV company, a lot of times even though we do these full 3D renders of these setups, we have to take a picture of it and turn it into a two-dimensional thing because to be honest, trying to render it out in 3D, sometimes you don't really quite get to see what it looks like 100%. But if you could slap on a VR headset and walk up to and see this is what it looks like in the front of the seats, this is what it looks like in the back, mind blowing.

Brandt Krueger: Exactly. Like you said, even if you don't go down the road of saving money, there's still so many benefits.

Brandt Krueger: Let's say you were trying to decide between five different venues. If you could eliminate one of them by taking a virtual tour of that site, and you just look at it and go, "Uh, yeah. That's just not gonna work with our group. Those halls are too narrow," that kind of thing, just eliminating one of those site visits is gonna save you, yes, thousands of dollars, it's gonna have an impact on the environment, it's gonna have an impact on your time, which is very valuable as well.

Brandt Krueger: Just imagine being a planner and being able to ... Even if you can just knock one of those venues off of your list so that you don't have to fly all the way there. And some planners really like that. They love going to the site, and they get pampered a little bit as the site is trying to woo them. There's a little bit of that.

Will Curran: Yeah, let's be honest, that's gonna keep it from VR existing. At least the pampering.

Brandt Krueger: Yeah. You can get a vibe pretty quickly and go, "Yeah, that's a place where I don't want to go." To me, there's a lot of areas for us to play with on the backend of using these technologies, whether it's the marketing side, the sales side, the planning side.

Brandt Krueger: Like you said, before I even set foot on the show floor, being able to from my office put on a virtual reality headset and walk through it virtually. Event Tech Live, we're gonna be having them on an upcoming episode, Adam to talk about that show. They released a fully rendered walkthrough of their show floor. I just got so sucked in, just wandering around this ... It was the equivalent of Google Street View, only a show floor. You could look around in a 360 ball, and then you click on the floor, and you move further down the hall, and then you could look around.

Brandt Krueger: But it was fun. I even got sucked into trying to see could I go out the exits. How much did they actually do as they mapped it out? How did they get that done with nobody else on the show floor? They must have done it at 2 o'clock in the morning.

Will Curran: Yeah, that's what I was thinking.

Brandt Krueger: They must turn on all the lights and wander through. But it was really cool. Even something just as simple as that. I could look and see who the exhibitors were, and zoom in a little bit, and look at the materials in their booths, and it was fun. Is it replacement for the actual trade show experience? No. But did it make me go, "Hey, this is cool. I wish I was there." That's the whole point. Definitely fun tools available to us coming down the pipe.

Will Curran: Definitely. Definitely.

Brandt Krueger: Have you heard of anything else that's coming down the way that you're excited about?

Will Curran: I'm gonna get super hyper specific when it comes to VR specifically, but I don't think I've even mentioned this on any of the shows that we've done. I'm always following what HTC and stuff that's going on, 'cause I obviously own a Vive. I am usually the guy who likes to have the newest, coolest things, but when the Vive Pro came out, which is their enterprise, higher resolution version, gets rid of a little bit of the screen door effect, I didn't see it worth it. Also, I just bought my headset six or seven months before then. I was like, "I am not dropping another X, Y, Z," or whatever it was. It was like 1,000 bucks for it. I was like, "You know what, I'm gonna wait for the Vive 2," or whatever the next major iteration's gonna be.

Will Curran: But recently at CES ... Ah, you know what, I think I did mention this in our CES episode, is that they created the HTC Vive Focus, which at first seemed like a stupid iterative change. This idea that basically it uses eye tracking. Everyone thought like, "Okay, cool. So you can use eye tracking to look around and navigate menus." But then they used a demo with a BMW, I might have explained this on the show already, so I apologize guys. But basically the idea is because you use eye tracking, it can find out where you're focusing on, increase the amount of pixels and focus on it, and put the graphics power in where you're focusing on versus the whole image, which means that you get a crisper image exactly where you're looking at. I don't think it necessarily blurs anything, but that's how your eye works right now, is that you're not ...

Will Curran: For example, I'm looking at our recording software right now, and I'm looking at the word past, which is one of our tests that has to do. And I see that's in focus, but I can tell that all the show notes, and everything that we're passing back and forth are a little bit out of blur. I think that creates a really realistic experience. People said that when they looked at it, they couldn't tell the difference between the fake ... They didn't think it was a real fake ... Or they didn't believe it was a fake BMW. It looked real to them. I think that's where we're really going, is

the more that it achieves realistic, the higher refresh rates, people will get less sick, the more harnessing power that comes in.

Will Curran: Then I think now to pivot actually onto something I did see as a change, and I don't think we'll ever get to bring this up 'cause I don't think it will fully affect the events industry per se, but Google just announced Stadia, which is their whole cloud-based gaming system. I'm not sure if you've even had a chance to look at this yet. This was three or four days ago, they announced this. But basically the idea is that all rendering and computer gaming is gonna happen on Google's servers and it streams directly to your computer.

Will Curran: Now, this is where I think it's gonna change VR, is right now for VR, for you to do what I have right now, you need a super powerful PC, you need the Vive headset. You're looking at least a $2,000 investment, minimum. We're not talking accessories or if you really want the beefed out version.

Will Curran: Well with Stadia, the idea is that the computer and the gaming processing power, the graphics power is existing on Google's cloud server. You basically have the most powerful computer at your fingertips streaming directly to you. I think that's gonna change VR because now I don't have to own a $2,000 PC, I just need to have the headset, which works with Stadia. I think that's actually the future for VR, is that now we don't need people with powerful graphics computers. It means that now we can take leaps and bounds.

Will Curran: For example, one of the things that they mentioned is that they will be able to do 8K. Right now they're able to do 4K for sure, 4K, true 4K at 60 frames per second, which is really fast refresh rate. But they said in the next year, they are gonna hit 8K at 120 frames per second, which would be ultra realistic. That's higher resolution than the human eye can even perceive and I think that's gonna really change it for VR.

Will Curran: Now it's not gonna be, "Hey, come VR this event and do this huge thing." You know, you need a gigantic computer and all this stuff. Now it's gonna be, "Hey, connect Stadia, which is 10 bucks a month, and buy the headset, which yes, still might cost 400, 500 bucks, but instead of it being a 2,000 ... " That's a much bigger jump down in cost, I believe.

Will Curran: That's really exciting. We'll link down below more about Stadia, but that's made me really nerdy for a second.

Brandt Krueger: Yeah, and I think at this point is worth going back to Episode 5 and talking about 5G in the future of mobile events because one of the biggest problems that I have with that announcement is it didn't give a timeframe of when it's coming out, it didn't talk about cost, it didn't talk about the fact that the biggest problem with any of these streaming services is the last mile. Yeah, it's capable of delivering 8K content to your thing, but what it's not doing is accounting for the fact that my little connection here at home is not gonna be able to handle 8K streaming video, stream directly into my eyeballs. It's just not.

Will Curran: Ooh, wait. Are we gonna bet ... Do we want throw it down and debate? 'Cause I'm ready to defend this one.

Brandt Krueger: Okay. Granted this is a dangerous road to go down 'cause it's not the topic that we're talking about today, but maybe it's worth going briefly down that road.

Will Curran: All right, I got a one sentence rebuttal, but I believe that Google is a pro at compression technologies. It's like Pied Piper in that sense. They've figured out ways to compress websites through the AMP technology. I think that they have more processing power and server power that they can compress it. Yeah, at first it's gonna be you're gonna need a 25 megabit per second connection, but I believe over time, they'll figure out a way to compress it so it doesn't have to be as much.

Brandt Krueger: But if it's compressed it's not 8K video. That's my point.

Will Curran: They compress but then encode it on the server side. Like your computer. Yeah. Yeah, we're probably getting really nerdy for this one.

Brandt Krueger: So yeah, it's one of the things that for me, this is like Vaporware right now. When we start seeing it exist, then we can have that conversation. But right now, they literally announced a product that doesn't exist, and with no indication of how much it's going to cost. I think they still haven't accounted for the fact that not everybody is just gonna be able to grab this and go. It'll kind of work, but it's not gonna be the ultimate thing. But ...

Will Curran: We'll come at the end of this year and we'll do a studio update.

Brandt Krueger: Yeah, so let's take it back to VR and AR. What is gonna happen is that already this technology has come leaps and bounds in just the last few years, and that's going to just continue to accelerate because they're starting to see investment. We talked about this in relationship, probably in that CES show, that money is getting dumped into these products. The HoloLens has been sold. They've sold a bunch of those to the U.S. government for the purposes of the military, Walmart's starting to buy a lot of these types of things. With corporate, and military, and government investment in these technologies, it's gonna jump by leaps and bounds in the next few years.

Brandt Krueger: What is really cool right now, is gonna be amazingly cool. My understanding is that the new version of HoloLens that just came out incorporates a lot of the things that you were just talking about, where if you focus on things, those become crisper and clearer, and are really accurate as far as if I'm gonna look at this button and push this virtual button, being able to say, "Yup, he's look at the button. Yup, he's pushing that button," with the hand tracking, and the eye tracking and stuff.

Will Curran: Definitely.

Brandt Krueger: It's definitely going to get cooler.

Brandt Krueger: The other thing that I want to throw out before we wrap this one up, as far as what's coming down the pipe is I intentionally defined augmented reality very broadly with the idea that augmented reality is anytime you're layering something over reality. We tend to get caught up in the idea that this is visual. That this is something that is visual. It's a display of some kind.

Brandt Krueger: There's some really cool technology that's being worked on that is dealing with physical sensation, so touch. Layering ... I'm trying to think of a better ... Layering touch over reality, let's say that. You're touching a button that doesn't exist, you're turning a knob that doesn't exist, and they're doing it with ultrasonic sound waves that you can't hear but you can feel in your hand.

Brandt Krueger: There's been some initial tests on this and it hasn't been pushed out, but now we start to get into an interesting realm where you don't have to touch the nasty kiosk that's been touched by 100 people before, and you got to immediately go sanitize your hand as you're trying to do a virtual map.

Will Curran: Germs are good for you, Brandt. Germs are good for you.

Brandt Krueger: Yeah, sometimes. I'm definitely not the kind of parent thats like, "Yeah, go roll in the mud." Definitely. To a certain extent, yeah. But at the same time, I don't necessarily have to touch something that's been touched by 100 other people. Some of the examples are more useful than that. I was just trying to think of something event wise.

Brandt Krueger: One of the ideas was they'd show a guy cooking spaghetti sauce, and he's got spaghetti sauce all over his hands. Instead of touching the stove to turn it up, he just reaches over and hovers over an area, and can feel the virtual knob, and turn the virtual knob, and that turns up the stove. From what I'm hearing, this stuff is pretty cool.

Brandt Krueger: Now that's a couple steps away from the holiday. When you start being able to feel things that aren't there with a virtual reality headset, that's interesting to me and that's a technology that's coming down the way.

Will Curran: I concur. Obviously beyond touch too, I mean audio too. Like for example Bose just came out with their augmented reality glasses, which everyone went, "Oh my gosh, they figured it out. They're gonna layer visual." They're like, "Nope, just kidding. It's just audio." I mean, it is Bose, right? The idea is that it's essentially little mini speakers right next door to you. Will Curran: But I think that we're getting to the point where I'm not sure how many people love to do this, but if you ever put in your walking directions with Google Maps, and you're listening to

music, just having a simple, "Oh, turn left here. Turn right here," The precision which everything is coming is super duper helpful.

Will Curran: I think that when it comes to creating a true amazing augmented virtual reality, it's all the senses. For example, you can have just the visual, but if you're hearing people talking around you, and it doesn't add that effect, you can fully lose it a little bit as well.

Brandt Krueger: I'm hearing good things about these bone conducting headphones too. Your ears are open, and then they just rest right in front of your ears, and it's basically pumping the sound directly into your head via the bones that are right there. You're not gonna get the big deep bases or anything like that, but it's like what you're talking about where it's enough that you could safely ride a bike, and you're still gonna be able to hear all the traffic, that you can still hear your music, or you're walking down the street, and you can hear your turn by turn directions and still have full access to your ears. In a way, that's augmented reality too. You're layering over audio, over the rest of our environment that you can hear. I think that's how those Bose ones work too, that they're just conducting into your skull.

Will Curran: Yeah, exactly. Exactly.

Brandt Krueger: All right, well we should probably wrap this one up. We want to know what you think out there. Is it something that you want to incorporate in your events? Is it just a gimmick? Is it something that you think could potentially replace all of events at some point in time, where we all just sit on our Wall-E chairs, with our virtual reality headsets, and never go out of the house again? Or is this gonna be something that's gonna be something that augments and makes them better by layering over some of this fun? Let us know what you think using the #eventtechpodcast, or many of the other ways that you could reach out.

Brandt Krueger: Will, why don't you tell us some of this stuff? I feel like I always close the show. Why don't you give it a shot, man?

Will Curran: Yeah, absolutely. We've been enjoying doing this so far, so let us know what you think. Best ways to reach us obviously is #eventtechpodcast. You can find us pretty much on all the social networks and all that jazz. Also, you can always find me and Brandt, reach out to us directly as well. We're always available. Also, feel free to shoot an email.Then yeah, just continue to join.

Will Curran: One of the things that we really appreciate as well is leave us a review on your favorite podcasting software, and just let us know what you like the most about it, or what you don't like. We really want to hear your guys' feedback, so feel free to give us a shout and we'd love to chat with you.

Will Curran: Yeah, let's wrap it up, and we hope you guys all enjoyed this week's episode of the Event Tech Podcast. Stay tuned for some more amazing stuff that we have teased a little bit during this episode. But we'll catch you guys next week on the Event Tech Podcast.
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.