Sam Williams: Welcome to the UP Tech Talk Podcast. Coming to you from the new academic multimedia studio on the University of Portland campus. Produced by Academic Technology Services. With your hosts, Maria Erb and Sam Williams ...

Welcome to the UP Tech Talk Podcast. Today we have with us Dr. Eric Anctil with the University of Portland School of Education. Thank you for joining us.

Eric Anctil: Great, thanks. Great to be here.

Maria Erb: Eric, it's always so much fun having you. You're just one of our favorite guests. Let me just say that I always feel like I've got Bruce Sterling right here in front of me, like we got this front row seat to the future every time you show up. We've been having a little pre-conversation about virtual reality and artificial intelligence. In the K12 landscape, can you set the stage for our audience? Because I think a lot of people just don't know what it's like out there in the trenches, and what's about to happen.

Eric Anctil: Sure. I think a couple of things: schools are notoriously slow to change. They're big organizations; they're diffused across big places. It's hard for them, I think, sometimes to get ahead of things when it comes to innovation. Because they have a lot of things that are laying down their ability to be nimble. They're not market driven the same way that private companies are, and they're trying to satisfy a lot of different constituencies with a lot of different needs. When you're trying to get a kid at grade level, in terms of reading or mathematics, sometimes it doesn't leave a lot of room to explore what virtual reality would look like in that kids life. I think that, as a base line, it's important to remember how slow schools can sometimes move.

They're not often the ones that are driving the change. It's usually private industry that will come in and drive that change. Sometimes it'll come in through laws, or regulations and mandates. But a lot of times, it's private industry saying, "Here are some really cool toys, here are some cool tools. Here are some things that you guys should think about using and how might it work in your classroom?" Then what'll happen is you'll have an educator in the building, maybe it's a media specialist, or it's just a teacher who has an interest in technology or in media. They're the person who becomes kind of the evangelist for that technology and whether or not it'll start being used within a school.

How quickly leadership backs that up, and how quickly money comes in to support those things will often times dictate whether or not something's going to be adopted and be used by other teachers. But you really need that one teacher to kind of show people that you can use something cool, and how might it be used in the classroom. Kind of demonstrate it, almost, for them; kind of be the beta tester in the room. Then other teachers will sometimes come on board.

A good example of this right now is Google and their virtual reality glasses, and them having what seems like a pretty formal program for bringing virtual reality to classrooms. Being able to supply the glasses, and the smartphones that run the software to give kids a virtual field trip. Then a teacher to invite them in. When other teachers hear kids talking about the national parks virtual reality field trip, the excitement's pretty palpable. Then other teachers are like, "Oh, maybe virtual reality is something I'd want to see in my classroom." But that is what I see as sort of the progression of how these things are used in schools. Whether or not people adopt it, or whether it can be adopted, is kind of another matter.

That's what you saw with things like iPads, you saw with Chromebooks, you see it with teachers who are willing to have smartphones in their classrooms and use them as an instructional tool versus teachers who just say, "No, I'm not going to have smartphones in my classroom and here's why," they just close the door to it. There's a lot of human behavior behind what we're really seeing.

Sam Williams: I think it was interesting, Google's most recent experiment with this, and kind of their launch into, I'd say, back into that world. Because we had Google Glass and you've had some of the others. What was interesting is the Cardboard, they almost chose a purposeful approach. Very inexpensive, like $2 thing to augment your phone.

Eric Anctil: Yeah, and you can build it yourself.

Sam Williams: Yeah!

Eric Anctil: Yeah. You don't need an engineer to come in and put this together for you.

Maria Erb: Yeah. (laughs)

Eric Anctil: All you really need is to be able to get that smartphone in there.

Maria Erb: (laughs)

Sam Williams: I think that it was an interesting approach, especially for the classroom, when you have people with no budgets for the most part in the, especially, K-12 world, to be able to do this DIY.

Eric Anctil: Yeah.

Sam Williams: I think versus the Google Glass, at the most expensive side, which was tried out in a few classrooms. It just wasn't- you're not able to replicate those things.

Eric Anctil: Yeah.

Sam Williams: That was one thing that I noticed that was pretty interesting.

Eric Anctil: And it's another example of how I feel humbled by trying to predict the future, because when I first saw the Cardboard, once I thought, "Ah, this isn't going to work." My first inclination was, "This is just hokey."

Maria Erb: (laughs)

Eric Anctil: It kind of reminds me of when I remember, in the olden days, of having a cellphone you could buy ringtones for $1. I thought, "No one's going to pay $1 for a ringtone. This is just ridiculous."

Maria Erb: (laughs)

Eric Anctil: (laughs) And it ended up being like a billion dollar business.

Maria Erb: Yeah! (laughs)

Eric Anctil: Like, I totally missed that. I also thought text messages were kind of a fad. Like, "Who wants this?"

Maria Erb: (laughs)

Eric Anctil: We probably shouldn't say too many of them, because you're our expert on right now. But I am humbled sometimes, where I really think the market will go a certain way, or I'll think, "That's never going to work," and then it really does work. It surprises me. The Cardboard was really genius for the reasons that you talked about. Google Glass was such a big investment up front, and the payoff was interesting but it wasn't like revolutionary in the way it feels. But when you put on even just those what are probably $3 virtual reality cardboard glasses, but then you throw a phone in there and you put headphones on, and you have a virtual reality experience, you realize, "Oh, this is revolutionary."

This really is going to change the way that I experience a video game, or a movie, or the civil war in school, or a whole host of things. Maybe I'll shop this way. What will it be like to walk through a virtual reality store? What would virtual reality dating look like, and social relationships. There's so many things in that $3 cardboard box, in that phone, kind of opens that world up. I wouldn't have thought that was going to work, but I only had to try it one time to realize, "Holy cow, this is for real."

Sam Williams: Well, then we have Microsoft coming on board with their- is it [Holo 00:06:25]? I always get it wrong. Ben, Holo?

Ben: HoloLens.

Sam Williams: HoloLens. I always get it wrong. They have their HoloLens, and we've got Facebook that bought-

Maria Erb: Oculus.

Eric Anctil: Oculus Rift, yep.

Sam Williams: Oculus Rift. I think everybody's preparing for this. I even saw on the news last night here in Portland where Microsoft is jumping in with augmented in the grocery store. I'm just like, "Oh my goodness, this is getting-" Like, what is going to be real? Where's that line?

Eric Anctil: Yep.

Maria Erb: Well, but of course, it's been on the verge for, what, 10, 15 years now at least? Is it kind of like the solar panels of- (laughs)

Eric Anctil: I don't know.

Maria Erb: We're just around the corner.

Eric Anctil: Because it so naturally [inaudible 00:07:10] into entertainment, I have to think it's not a fad. It's going to really have traction. Virtual reality, I was describing a scenario- I love to snow ski, I love skiing. It's incredible. It's the most fun thing I can do in my life. But I have thought when I've been skiing, and I'm wearing goggles already to keep out the snow, what would an immersive game-like environment be like if I was on skis? If I was up at Meadows and I'm skiing down a hill, what's to prevent a dragon from chasing me in that experience? Or what's to prevent me from feeling like I'm going through some kind of video game while I'm skiing? And if I were to have that experience even just once, maybe I would be really addicted to it. I'd think it was awesome, so that normal snow skiing wouldn't be the same anymore.

In the same way what sound, when it got put into pictures, at first people were really, really worried about that. We were used to silent movies, and then when sound came in and we realized, "No, this does beat the orchestra in the front row. I don't want to go back." Now you go and watch the most recent Star Wars movie and you don't think twice about the incredible audio that's there. I feel like that's what virtual reality might- is going to do for entertainment. It's going to spill over into education, or it needs to. Otherwise, education's going to feel really irrelevant.

Sam Williams: I was just watching recently, it's not true augmented reality, but it just made me laugh when you were- the skiing thing. Because I just saw a video recently where people animated in after the fact. They have people falling down and everything, and they animated people, like this monster chasing them down and killing them. But it was animated after. Also, we have a gentleman that's doing the transparencies where he's animating on transparencies and putting them up in our world. He's actually animating something into the world, but you see his hand holding up the transparency that's being animated. I think we're definitely- I think people are ready for it. They're ready for having foreign objects in their world.

Eric Anctil: Mm-hmm (affirmative). At first, it'll feel unnatural; it'll feel weird and stuff. Then you'll just get used to it. Then it'll be something that you expect, and then when it's not there you'll be disappointed.

Maria Erb: Then they'll be the backlash for the weight, right? For the vinyl records.

Eric Anctil: I was just going to use that example.

Maria Erb: (laughs)

Eric Anctil: Yeah.

Sam Williams: Especially in Portland.

Eric Anctil: Yeah.

Sam Williams: We'll have whole coffee shops dedicated just to computers.

Eric Anctil: (laughs)

Maria Erb: (laughs)

Sam Williams: We'll have computer labs popping up all over the place for the good old days.

Eric Anctil: So, virtual reality, augmented reality, then the third leg of the stool of what I see really coming is artificial intelligence in the classroom. I demonstrate this now with an Amazon Echo, and it's crude technology as far as a sophisticated artificial intelligence goes. But when you demonstrate that you can communicate back and forth with it, and you can ask it questions, and you can do things like project the echo app into your classroom and build a list, for example. You're doing it by talking to it, and then all the sudden you see it populate on the screen. You start thinking, "This could just be the cassette tape of where we're headed," we just can't even really imagine the iPod yet of what that will be, and then the smartphone of what that would be to be able to stream music.

But I feel like artificial intelligence right now is that cassette tape. It's moved past the eight-track, move past vinyl in terms of it's portability. It has some stuff. But it still has a long way to go. I think that educators who ignore the potential impact of artificial intelligence are being really, I don't know, ignorant. Ignorant's the wrong word, but they're denying that it is going to really change things. When you walk into your house and you can talk to your home, and have it be responsive to your needs, why wouldn't that be in a classroom?

Sam Williams: It's almost like the classroom assistant. While the students are asking questions, you can't get around to every student in an efficient way in a large classroom, so it'll be interesting. You also had another one that you were putting on the network. What was that one?

Eric Anctil: Barbie?

Sam Williams: The Barbie!

Eric Anctil: Yeah. This is one that if your listeners haven't gone and seen a video of the Hello Barbie, it's one of the creepier things that is out. I think it's going to be in a bunch of toys. But what it is, is it's a conventional Barbie, and she has a little bit of an artificial intelligence flavor to her in that you can talk to her. She remembers things. She's attached to the cloud so she's got predictive analytics working for things like remembering your interests, remembering where you live, and then being able to feed these things back to you in a kind of conversation. It's pretty- real's the wrong word, but it's a very surreal experience that, again, is one step closer to being able to talk to your toys and have them talk back to you. There are some really creepy possibilities for the conversations I guess you can have with Barbie.

Sam Williams: Well, and in two years it'll be the horror movie down the road.

Maria Erb: (laughs)

Sam Williams: The doll horror movie.

Eric Anctil: Yeah, yeah.

Sam Williams: That'll be the next one.

Eric Anctil: Yeah, but Hello Barbie, she's kind of creepy. My next door neighbors, our next door neighbors have two girls and they're five and six. They want to talk to Barbie. They come over and they say, "Where's Barbie?" They want to talk to her. They get kind of frustrated with her, and one of the girls actually threw Barbie-

Maria Erb: (laughs)

Eric Anctil: -and I said, "What are you doing? What happened to Barbie?" "Well, she's behind the door because she wouldn't talk to me right."

Maria Erb: Wow.

Eric Anctil: But she will get better. They way that she talked about her wasn't as if though she was talking about a regular inanimate doll. It animates a kind of relationship that existed before, but it was always one directional. I had a Barbie and I would talk to it, and I would tell it my dreams, and maybe I was one of those people who felt pretty comfortable talking to my Barbie as an imaginary-ish kind of friend. But that Barbie never talked back. When Barbie's actually asking me questions now, if I say I'm going on a trip and she says, "Well, where are you going?" And I say, "Well, I'm going to New York city," then Barbie will say, "What do you think you'll eat there? I love to go out to eat. What's your favorite kind of food?" Then you say, "Well, my favorite food's Italian." "Oh, I love Italian food." That's a relationship. That's in a toy, and that's with a five year old girl.

How long will it be before it's put into girls and boys toys, toys that are just designed for all kinds of situations. I just have to think that that's when kids start getting used to their toys talking to them, that they're going to expect that. In the same way that today, when you buy a little race car or something, you expect it to make a noise if you press a button.

Maria Erb: (laughs)

Eric Anctil: You guys have to walk around Toys R Us and you can see all the Try Me! Little stickers on so many toys, because kids and parents have come to expect that you can touch the toy and have it do something. Make a sound or whatever. This is just the very beginning of what that's going to be like.

Sam Williams: Definitely when you start thinking about- immediately in my head and I needed to bring it up- but it's this whole idea of having a tutor in the classroom. Barbie can be your tutor in math, are you going to listen to Barbie or are you going to listen to your parents? It's just interesting how language acquisition, learning a foreign language from Barbie-

Eric Anctil: Yeah, because I often wonder- You're going to take a French class. You go to French one a day, like in high school, and you kind of, sort of learn how to speak French. With some luck, you have some people who are speaking French around you and you're able to have a kind of immersive French experience, at least for that hour or so. But what if you had an artificial intelligence that just taught you French? That when you woke up it was talking to you, when you went to bed it was talking to you. It talked to you about the [pantaloons 00:14:37] you were putting on. You can kind of see all the times in your day where it would be really convenient to have this. It would switch to English. It'd be kind of like the movie Her, where you have an operating system that is really forming a relationship with you.

I think if we're not thinking about this in terms of child development and the way kids are oriented to their world, the private sector will dictate to us what those relationships are. In the same way that it's dictated to us that we have to have our cellphones in our pocket all the time. We need to be thinking about these things.

Maria Erb: Well, not even the kids. I mean, in Her it was a perfect example of adults forming relationships and/or Wilson, right? Survivor. It's just all over the place, this idea, this attraction that people have just to form relationships with whatever will form a relationship with them.

Eric Anctil: Yeah, and I've seen the example of a pet as a similar kind of relationship. If you really deconstruct what a pet is, a pet is something that you attribute affection to. You assume that it loves you back, but it really loves you for the food you feed it. It becomes a companion, and you have a relationship, but what is the relationship really? The relationship, a lot of times, is the human projecting onto the pet all of the terms of their relationship. Oh, he just loves me. When he licks you, he's just giving you a kiss. No, he's not. He's gross.

Maria Erb: (laughs)

Eric Anctil: Maybe it feels like affection, it's happy, theirs that response, but is it really affection? Deep down, am I really conveying a kiss the way two humans do and I know as a human I'm kissing you. There's real purpose and attempt behind that. Artificial intelligence might feel that same way. When I demonstrate the amazonecho, the Q word for the operating system is Alexa. When you're talking to the Echo you prompt it by saying, "Alexa," and then you give it a command. I'll say, "Alexa, play OPB." It'll respond by saying, "Playing OPB on iHeartRadio." Then OPB Radio starts playing. It's great. I can ask it to play Led Zepplin, I can ask it who the president of the United States is.

When I'm giving these commands, if I want "her"- in quotation marks- to stop talking, I'll say, "Alexa, stop." I'll say, "Alexa, volume up. Alexa, volume down." When I've demonstrated this for people, I'll ask them afterwards, after showing about a ten minute demonstration I'll say, "Did anyone notice themselves feeling a little frustrated with me that I was giving commands but not being very polite?" And people invariably will say, "Absolutely." Like, "I thought you were kind of being a jerk."

Maria Erb: (laughs)

Eric Anctil: I say, "Well, am I being a jerk when I'm highlighting a word in a word document and hit delete?" Is that me being a jerk? It's the same command. But I've formed a relationship with Alexa, she has a female voice, and it's pretty pleasing. It's not a bad voice. I like it. I much prefer it to the Siri voice as an example. But I kind of have a relationship, now, with her and I've formed it in front of people. Those people now have expectations for how I should be civilly discoursing with this operating system.

Sam Williams: That is fascinating.

Eric Anctil: It's really interesting. We attribute an intelligence there, and we attribute a personality. We do it to our dogs, we do it to our cats, and we will do it, I think, to artificial intelligence. I don't have to stray very far from where we are today to imagine a world where we attribute affection or loyalty, and these kinds of things. It's explored in science fiction a lot. A great place to see this is in the show Humans that wrapped its first season in [crosstalk 00:18:06] it's an import from the BBC. It's about synthetic humans and artificial intelligence. It's a fascinating show. They kind of tackle some of these issues.

Sam Williams: I think we're also putting the artificial intelligence into things like a Barbie, which has already had issues through it's lifespan, it's 50 plus years. I think so.

Maria Erb: I think so. 1962?

Sam Williams: Where in the past, we put it in something like a Firby.

Eric Anctil: Right.

Maria Erb: (laughs)

Sam Williams: It was in this object that didn't look from here. It was comical.

Eric Anctil: It's an R2D2.

Sam Williams: Yeah, exactly. But we're putting them, now, into the objects that a kid could identify with.

Eric Anctil: Right, yep. And project onto a little bit more. But even looking at R2D2, I've always wondered when I watch the Star Wars movies they give R2D2- C3POs not a good example- but any of the droids that you see in those movies that don't use English. You always think, "Has the technology not advanced enough that there would be some sort of translation?" Like the code wouldn't just populate into the native language of the people who created it. It makes these sounds and these [birps 00:19:14] and these little whatever those are, but it will respond with emotion. The tones go in the pitch- and there're laugh lines in the most recent one. There are a couple of laugh lines where the droid will do something in its droid speak, and we will, as an audience, recognize the emotion behind that. We also know that that's a laugh line, or a joke, or a punchline, or whatever. We will laugh appropriately. That is us putting it all onto the thing. I think we're going to continue to do that.

When it comes to toys, or if it comes to the artificial intelligence we already carry around, as crude as it is. It won't be long before it becomes much, much more convincing. Passes a [turing 00:19:55] test really, really quickly without much effort. We will attribute a lot of emotions to these things. Then what do we do? Do we recognize them as- they're not sentient beings, but do they have some kind of a civil rights? That's an ex machina. That's the theme that's explored there when it comes to artificial intelligence. Does that creation have some rights to it fundamentally. I think you might have little kids who grow up with this stuff going, "Yeah, they absolutely do have rights."

Sam Williams: My brain keeps going back to more of the immersive world, like what you said earlier about the skiing and some of the other stuff. My want is to bring other things into my world versus, I think, interacting with Siri, Cortana. I still don't use Siri. To me, it just feels, I don't know. It's like, "I don't know what to tell you to make you do what I need you to do." Like, "What's my list of things that you will listen to?" Versus when we get to a more sophisticated version of it that I don't have to prompt.

Eric Anctil: Right.

Sam Williams: I can just speak freely, or the moment where I can put on my glasses and I have things that are being brought into my world. I also immediately think, "What's going to happen?" We can't text when we drive. What's going to happen, I have to take off my glasses when I drive? Because I'm sure that's going to distract me if I have a bunch of things flying into the screen.

Maria Erb: (laughs)

Eric Anctil: (laughs)

Maria Erb: I'm sure it will.

Sam Williams: It's one thing to be on a ski slope, but another thing when I'm driving my car reading the paper. I don't know. Well, I guess with Google and Apple and everybody, the cars are going to drive themselves. We have to do something in the car.

Maria Erb: (laughs)

Eric Anctil: Yeah. It will become a media-rich environment for us to do all kinds of things. I have to think that that's the direction things are going to go.

Sam Williams: Then we could say, "Siri, take me to-" and just go there.

Eric Anctil: Right. And, "While you drive me, why don't you make me a dirty martini."

Maria Erb: (laughs)

Sam Williams: You're trying all these things in the classroom, which we need to go- I need to go into your classroom sometimes when you're actually showing this stuff, so I can- I'm really fascinated to see everybody's response to the technology. Have you found that you found actual assignments that have been very helpful? Have you been able to apply it to your curriculum really well? Or is it just more of like show and tell?

Eric Anctil: Introducing ideas. Yeah, at this point it's show and tell. One of the things that's interesting is I feel like- lets say we walk into an average freshman class at the university with traditional age college students. 18-year olds for the most part, 19-year olds. You would think that they would have open arms and be kind of clamoring for this. They grew up in a digital space, and a media-rich environment. A lot of them are really, really reluctant to think about ways that they could implement this into their own classrooms. It's hard because they don't have their own classrooms yet. Some of them are much more traditionalist than I would have expected. Like, "What happened to cursive writing?" Things that I would kind of expect them to say, "Oh no, lets get rid of cursive. Are you kidding me? Whose going to be using cursive in twenty years?"

Maria Erb: A lot of them were like that when we talked with them last year, Sam and I did. We [inaudible 00:23:12] read on a Kindle, because why wouldn't you do that? Really, not that many do. A lot of them stated reasons of, "Well, it's too distracting." Because there's too much else going on on that device or tablet for them to just read. A lot of them said things like, "I want to hold a book in my hand. I like to turn pages. I want to be able to mark it up and highlight." Just read it if I can't charge my device, or whatever it is.

Eric Anctil: Yeah, "That interface is what I prefer," would be how they would kind of think of it. What'll be interesting, for me, is when you have an operating system. Right now you have all these things competing for your attention kind of across these broad platforms, and you know what you want and you don't want. There are programs like, I think, Freedom for the Mac is one. It's very simple. It just takes whatever program you happen to be working in, and it'll time you into that program so that you can't depart that program without restarting your computer. Lets say you want to stay in even just a text editing, so you can just write. It'll keep you in that and you can't go anywhere else until you restart the computer. You won't be going onto check your Facebook or anything like that. No Instagram journeys while you're trying to work.

We know that our human nature is to be distracted. We know that we'd make, basically, a pact with ourselves that for the next 60 minutes you list these- [pacts 00:24:29] is what they're called- "I won't do this. I won't go off from the text editor." But what will it be like when the operating system will help you do that so you don't need an add on software?

Sam Williams: I do not need my computer scolding me for playing video games. "I'm trying to write a paper."

Eric Anctil: That is one way that it will feel, but maybe it'll also just feel like an alarm clock. I don't need someone telling me to wake up, I'm an adult. I'll wake myself up. But I actually do need to be woken tomorrow at 5:20 in the morning. I wonder if it'll feel that natural.

Sam Williams: At 6:00 and 6:30.

Eric Anctil: Right, exactly. But will it feel like that? Will it feel like, "Oh, thank god I got that calendar alert telling me I needed to come over for this meeting." What will the operating system look like when I can express nuanced things that I need? "I need you to help me manage my time. I need you to keep track of how much I am on social networking sites." Or, "I need you to help me keep track of how much I'm writing-" or whatever the things that I might be doing that are sometimes really hard for me to do.

People do this around weight and nutrition, or exercise and nutrition for weight management pretty naturally. You have an app that tracks your calories, you have an app that tracks your exercise, you have an app that tracks your weight every day. You have all these things. It's the same kind of your externalizing out responsibility and accountability for those things. What will it be like, though, when the operating system can be like, "Really? Are you sure you want to do that? Are you sure you want to do this?" And will help, maybe, keep you honest. I sometimes feel like maybe that's appealing to the better angels of our nature in helping us with things. That's for good.

Sam Williams: Or in the workplace, it'll end up being all of your operating systems are going to track your every movement all day long.

Maria Erb: Wow.

Sam Williams: You will stand at that desk and you will not do anything but produce.

Eric Anctil: It goes back to surveillance and accountability, which I think that if you- when I'm talking with groups-

Maria Erb: You just got to chill.

Eric Anctil: I know, well that's the thing. I have a sliding presentation I have, that one of them is it has a picture of the DeLorean in a really artistically done way. The DeLorean from Back to the Future. The slide is, "You are more responsible for you past than any generation before you." Then, another side I have is, "You are more surveilled than any generation before you." If you're more surveilled by nature, you have to be more accountable. There's no just sneaking off to the next town over to be their town drunk which you might have done in the olden days, because there is no next town over. You don't get to sneak away and just be someone else or do something else.

If you're talking about work, you think about the people who go off an take an hour nap, or a two hour lunch, and have that three martini lunch. Because where were you? You're accountable for that time. I'm not advocating that we shouldn't have places where you can have a three martini lunch all the time. But to know that you could sneak off, or you could do this, or you could do that, or you just are your own person out there, I feel like when it comes to being accountable, what does that mean, that's a really big one. And surveillance. Think about the Barbie. Barbie is now suddenly like, "Is it working for the parents?" What were the things that was being said to the Barbie. If Barbie was like turning you in to child protective [crosstalk 00:27:39].

That's one of the things that has come up around the Hello Barbie, is if a child discloses that they're a victim of abuse, or like, "I wish my mommy wouldn't get so mad and twist my wrist like that, or my arm." Things like that. At what point is there some sort of duty to notify threshold that Barbie suddenly would be in if she were a professional. Because she's not. She's not a teacher, she's not a counselor, she's not a doctor. She doesn't have a duty to protect or to notify. But you're in that territory now. If you're running the operating system, or the company that runs these systems, and something happens and you are "put on notice" in some way, should you have had some sort of liability in that.

Sam Williams: Yeah, especially if the Barbie's giving advice.

Eric Anctil: Yeah, making recommendations.

Sam Williams: Making recommendations. It's the smallest thing.

Eric Anctil: It is. If I had Barbie- if I was the manufacturer of Barbie- I could kind of see here are some market penetration points where we have Barbie recommending shoes, and recommending clothes, and recommending cosmetics.

Maria Erb: [crosstalk 00:28:44] Cereal. (laughs)

Eric Anctil: The sky could be the limit with that kind of stuff.

Sam Williams: It really is that subliminal stuff, even. The slogans, the just do it's, and the stuff like that that become part of it. Just inserting language, certain types of language, to get you to do certain things.

Eric Anctil: An inculturation into a kind of lifestyle that Barbie is- that you're slightly more [inaudible 00:29:02]. That happens all the time when you go into a web browser, and it records any of your history. You're looking at something, a handbag on amazon, and that handbag will follow you all over the internet no matter where you go. Populate into targeted advertising. I can't imagine Barbie's not going to do some of the same kinds of things.

Sam Williams: It's pretty spooky.

Eric Anctil: I was going to say, we've explored- demonized everything. [crosstalk 00:29:26] But as far as I-

Maria Erb: But it's great to bring up these issues, though, it really is.

Eric Anctil: But now that we've explored the demonic side of it all, and the darkest parts of where we could go, I still remain optimistic. I think that if we recognize the power of what's here and we appreciate our own human nature and our relationships to these things, I hope that we use them for forces of good as we go forward. That schools begin to see the value of things like a virtual reality field trip, and why that's so cool. To get kids excited about being involved with it. I don't think we don't want to be in a place where the private market is always telling us where we should go. We should be the ones leading it. I am really optimistic about that, and that's why I like to bring the work in that I do with the teachers and the pre-service teachers I work with.

Sam Williams: I'm glad that you're a thoughtful leader out there in the school of education and bringing this technology in. Having people question, and how this is going to be used. I just thank you for all the work you do here.

Eric Anctil: Absolutely. Thanks a lot. Yeah, it's been great being here. I always enjoy these conversations. We could talk forever.

Sam Williams: I know. We'll have you back. This is one of our longer podcasts, but we'll definitely have you back because we just love to talk to you. So, thank you so much for coming.

Eric Anctil: Yeah, and you're welcome.

Sam Williams: All right, thank you for joining us for another episode of the UP Tech Talk Podcast. Just a reminder that we post a new podcast every Friday morning. You can find us at techtalk.up.edu