[00:00:02] All right, so, yeah, it's not it's not it's not going to be too long, it's just like a maybe like five, ten minute. I just have a few questions and I'll preface with my topics about virtual reality. So kind of a niche part of technology. I'd say it's definitely still up and coming, but that's kind of like one of the reasons why I chose the topic, because there's still so much more that can happen with it in the future. So, yeah, would you like to say anything first or, you know, I mean, you could just have some questions and I can answer.

[00:00:35] I have I have also have some things that some materials share with you. Let me put this in.

[00:00:42] I have some some YouTube videos that.

[00:00:48] About how we've used our setup, you know, so you can look through those hats.

[00:00:54] Oh, yeah, I was going to ask me one of my questions I to ask you, but I'll definitely throw that like in my project.

[00:01:00] So, yeah, I guess my first question is, what is virtual reality in general if you had to define the subject.

[00:01:10] So, yeah, virtual reality is is a phrase that is applied to a lot of different technologies.

[00:01:16] But, you know, I guess I would call it putting yourself somewhere where you're not let's say it's and and but the way it's used today, virtual reality would be differentiated from other things like mixed reality, augmented reality. And that specific sort of definition I would call virtual reality an environment that completely closes out everything else in the environment. OK, so like something very similar is mixed reality, where you have maybe a hollow lens and you can see the actual world, so. Virtual reality is in my definition, and that's the flavor of of augmented reality in which you can't see the real world and you can't hear you're completely immersed in a virtual world.

[00:02:23] Yeah, yeah. That definitely makes sense. I feel like that that is pretty consistent with other definitions out there. So then my next question is related, and I'm sure this is addressed in the. I mean, how does VR play a role on our campus? Maybe in education, but it has to be through education just in general on campus?

[00:02:45] Sure. We have there's a few different levels of things that we do. You know, like we use virtual reality just as a as a demonstration of the technology we have off the shelf applications that we do.

[00:03:01] So on the lowest end as people come in, they do. They see what it's all about. We run them through some some pre-built things. We also use off the shelf applications for four classes. So like, for example, we've done a few different iterations of sculpture assignments where we have we use something called Masterpiece Yards. It's a commercial VR program that lets you occupy a synthetic sculpture studio. And then students can create create sculptures in this in this environment. And then what we do an IQ center is we take those the output. In some cases, we take the output exported from the virtual world and we 3D printed into it into an actual object. Let me show you one of those. I have one right here at. This is not the best example, but this is something that I created. Yeah, perhaps some. It's kind of crazy, but you you can make crazy shapes and in the virtual world and then you can export them in 3D printing or we have uploaded them to like 3D sharing services like Sketchpad and but. It's a it's a great way to compare how you can create something virtually within the real world. And so. So that's one that's something we have a number of classes where students use off the shelf would be our packages for different purposes.

[00:04:53] And then we also have the capability of creating a virtual reality experiences in the lab. And that's the most difficult thing to do. We use a piece of software called Unity to to build. It's it's a game development engine that allows you to rapidly create 3D environments that you can have that you can occupy in VR. And some examples, most of the examples of that have been in the sciences where there's a class called molecular mechanics of life, where those students create like a like almost like a course on how different proteins interact with each other. And then it's all done in virtual reality. So you're going to put the VR goggles on. You you grab a protein, reassemble it, or you see how something happens, how different proteins interact with each other. And it's all done from scratch from biology students. We have done other protein assignments with different biology classes where students find the structure on the protein databanks. They manipulate it somehow they and then by the end of the class period, they can put on the VR goggles and pick up their protein, rotated around, put their head inside of it, too. So. So everything from just, you know, here's what VR is to actually create in VR environments and music program.

[00:06:29] Those are some really neat examples. I don't know how long you've been at Blake. Is there? I like what would you say? Or maybe time like year. Did VR start having an influential role in tech, as I like, on campus?

[00:06:48] Yeah. So on campus. And it was when the when the Oculus came out and when the wind was that that was.

[00:07:00] Twenty twelve, I think.

[00:07:06] I mean, you're going to have to check me on the spot, but no, no, no, I'm sorry. Well, two thousand sixteen twenty sixteen was when the the Oculus Rift and he survived came out. Those were the first to the two commercial products that were there were commercially viable. And that's when we got into it. We we experimented a little bit with the idea for that, using Google Cardboard with the phone and stuff like that. But in 2016, we got the GC vibe and that's what we started. We built some environments for some faculty to try to try to generate interest in them and then some faculty included in their classes. And we started doing demos and things that right now. Now we don't do anything because, yeah, we're not going to clean it stuff, but. There's not a long answer to how long he has been around a huge area in the history.

[00:08:10] I mean, I don't know. My question was just for the campus. So that was a good answer. And then I'm going to guess shift more towards the future. So for you personally, like where do you see we are going in the future? Because it is still relatively, I guess, in the early stage of its development.

[00:08:31] Yeah, I don't know. You know, it's.

[00:08:35] I thought it would have been further along by now, it's really kind of, you know. A holding pattern. I mean, it was like really ramped up and and now it's not it's not really accelerating. I hope that it sticks around because there is it's it's really great for some of the stuff that we do here, who we generate a lot of 3D content.

[00:09:01] And it's the best way to show off three dimensional stuff that we make in the U.S. But I'm not I don't know. I'm a little I'm a little confused why it's not why it's trajectory hasn't kept going. I mean, it was really accelerated in 2016, 2017, and I don't see a whole lot of development. But there are new new headsets coming out talking about the new one, which you see has a couple of new models. What I see in the future is.

[00:09:41] For the technology is making it easier to access and making it less cumbersome. So right now the best experiences are all tethered. So our industry survives. We have a 60 foot long cord. It runs with what are called lighthouses. You have to mount on the walls, so you have to stay within it within a certain volume there.

[00:10:09] But in the future, all of the computing power will live on the Gödel's and they will use what's called inside out tracking. So currently, to get good, solid tracking, you have to have some external input. And in the future, the the and this is this is here already, but it's not it's not great. So InsideOut Tracking is aware that there are cameras on the headset that that look at the environment and figure out where they are spatially. I don't know how much you want the technology, but VR headsets by themselves can get orientation information. They can they can tell what what they're all pitching yarns, but they can't tell where they are in the space. So you can't move side to side or forward and backward. That has to be done by figuring out the room and figure out where you are in the room. And so the future is going to be computer is in the headset and it's going to be tracking its space. You will be able to move anywhere. There will there will be no bounds for where you can do it. So that's that's where technology is headed.

[00:11:27] Yeah, yeah, that makes sense. Hopefully, hopefully we can get there someday. Well, that was the that was all the questions I had for the interview. Thank you for answering the questions in depth. I learned a lot that definitely helped me with my project. Yeah, but if, like, make any last comments. If not. That's good.

[00:11:49] No, I mean, if you're not if you're not talking about the history, then there's nothing really there's that there is an interesting history that you might want to check out. What's your what's your topic?

[00:12:00] Is it likely to happen in the future? No, I, I covered history. I did some research on history before, but for the purpose of talking more about like w no application and a little bit of the future. But yeah, the history. Right. Is really interesting, the kind of traces back really to like really early stages of technology. Like I feel like when I thought about virtual reality, I thought it'd be more recent. But the concept has been around for a really long time and then look up to the sort of Damocles.

[00:12:35] Was that a headset that was that like nineteen sixty five that had everything that current VR has it had it had two separate eyepieces tracking that was mechanical at the time. But I mean the idea was there in nineteen sixty five, they knew exactly how to do it, but it was just one of those technologies that was waiting for, for the technology to catch up with it. And it took until twenty sixteen till to do the minimal amount of processing to, to make it so it doesn't make you throw up you know basically. Yeah. Yeah. And watch those useless videos. There's a lot of examples of things we've done with VR. There's a good video about Bill Hamilton in Biology, takes US Students to Yellowstone and he put together a Yellowstone virtual reality experience so students can see what it looks like. That's kind of cool. And there's a lot of different examples. We've been putting together a virtual reality experience for Florence, Italy, with George Bentham in our in our history department.

[00:13:48] So if you watch those, you'll see some some cool examples.

[00:13:54] Perfect. All right. Thank you for talking with me today. Have a nice day.

[00:13:59] No problem. You to.