



Stanford eCorner

Immersed in Virtual Reality [Entire Talk]

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Derek Belch, co-founder and CEO of STRIVR Labs, a startup that uses virtual reality to train athletes, describes the passion necessary for entrepreneurship and the features that give his business a competitive edge in a rising-tide industry. The former Stanford football player is candid about the personal sacrifices entailed in putting your all into your venture.



Transcript

(applause) - Cool, thanks, Tina. All right, thanks for having me, everybody. First thing for me, so I am very, very candid, very open. I will answer any question that you ask to the best of my ability. I do have a personal pet peeve among young people of having their faces in computer screens and cell phones. I was in your shoes once, and I did that during class, and didn't learn as much, so if you could please pay attention and be respectful, I would really appreciate that. So thanks for the great introduction, I'll kind of elaborate a little bit more on what Tina said about my background as we get going here. The first thing I want to do is give a very, very brief background and information. This is us, okay, this is STRIVR. Some of you may have read this article last year when you were following Stanford Football.

But first, before we talk about anything related to the business that I'm running right now, I want to talk about Virtual Reality at large and just kind of educate you guys really quickly. So, who has heard of Virtual Reality? You are living under a rock if you have not in the Bay Area. Okay good. So, the first thing there is Virtual Reality and there's Augmented Reality. For the purpose of this conversation, we're gonna talk about VR, but really quickly, I just want to educate you guys. How many people have been to the Stanford Virtual Human Interaction Lab here on campus, Jeremy Bailenson? Okay, not as many as I would've thought. So if you haven't, please go. Jeremy is one of the best in the world. He is one of the main reasons why Mark Zuckerberg bought Oculus for two billion dollars a couple of years ago. I believe Zuckerberg was in his lab a week or two before that purchase and Jeremy basically helped convince Mark this stuff literally could take over the world.

So, he's a fascinating guy, he's really, really good at what he does, his lab is phenomenal, so please go check that out if you haven't already. So, VR versus AR. The main differences are, in Virtual Reality in theory you have complete immersion. So when you have a Virtual Reality headset on, if it's doing its job, you should feel completely present in another place. So if I'm standing in the room right now, and I am in a virtual version of the room, I should literally be able to walk around as if I'm right there. If I'm in a virtual Madison Square Garden, or a virtual Egyptian Pyramid landscape area, I should be able to walk exactly, scale for scale to where I am, and I should feel completely immersed. Bad Virtual Reality does not achieve this, so there's a lot of really bad stuff out there with this industry kind of taking fire, but good VR allows you to achieve complete presence in the environment that you think that you're supposed to be in. Our brains, because this stuff is so new as humans, have not caught up to the fact that we have a headset on. Something in the back of your brain still thinks that it's real. So when it's done right, people completely zone out.

Those of you that have been in the lab, have you done The Pit? Raise your hand. Okay, so only a couple. So, when you're standing in Jeremy's lab and he has you stand right here, and he says, "take a step forward," and you do, and then he "removes a hole in the room," and creates a pit in front of you, people literally start sweating and their heart rate goes up. Now you're thinking right now that that's impossible, it really can't be that real, right? I'm standing in the room, I know that if I do this,

I'm just gonna do that in the real world. What is it? One out of three adult males will not step off the plank into the "virtual pit." Literally all they have to do is this. Okay, and in the virtual world when they do that, they're gonna drop, and they're gonna make you feel like you drop, you're gonna feel like you hit the floor, people freak out. Some very prominent NFL players that you guys watch on Sundays, have been in Jeremy's lab. They would not step off the plank, and all it required was this. These guys are, you know, six four, 250 pounds, and they were like little kids, so it's very, very real. Augmented Reality is when we're taking some sort of heads up display, whether it be glasses, whether it be a helmet, and we're showing some sort of stimuli on the screen.

So one of the really, really cool use cases for Augmented Reality in several years, it's not complete immersion, maybe I'm walking through a factory floor, and as I'm walking down the hall, I have stimuli popping up, saying, "that's too hot, "don't touch that." You know, "this is a button that does this." "This does this." So you're going through some type of training, safety training, where you're having stimuli introduced while you still feel like you're in the real world. Are we all on the same page? Makes sense? Okay, so there's a couple of key terms that I want you to understand as it pertains to VR. So the first is Tracking. So imagine you're playing Pac Man, okay? You're holding the remote control, you push the remote control forward, the computer is tracking which way you push the remote control, and that's how it's being told what to do. So in Pac Man, if I push this way, right? Pac Man is gonna move that way. The second is Rendering. So once I move the controller, the computer has to re-render the scene so many thousands of times per millisecond so there's no lag, to really trick your brain like you're there, and it re-renders it for where you're gonna go next. So in Pac Man I move the thing forward, he eats one little ball, right? Move it left, he eats a ball this way, the computer is rendering that scene really, really fast, so hopefully when you're in a virtual environment your brain is tricked into thinking you're there. And then the last one is Display. If all of these things are not done correctly, and Display is obviously displaying the information to the user, if these things are not done correctly, particularly the last two, it won't work.

So for Display, if I walk closer to Tina and she doesn't look bigger to me in the real world, or the virtual world, 'cause that's what happens in the real world, you're gonna tune out, it's not gonna work. So when this is not done properly, A, it makes people really nauseous, people have bad experiences, and they're done, they don't want to look at VR ever again. B, from a cognitive standpoint, it just really doesn't work. So, we'll talk about why that's important as it relates to STRIVR here in a few minutes. Okay, last couple of things here. One of the really cool things that we have done at STRIVR, is we have solved a real world problem. Football players never have enough practice time on the field. Athletes in general never have enough practice time, they always could get more. Mental reps at the highest level are very, very important. So can a virtual simulation give you more work? Right? So we've taken a real world problem and we've used technology to solve that problem, we think.

So, this is really important, Virtual Reality is really not that new, but based on where the hardware is today, based on how good it is, based on how cheap it is relative to where it was years ago. You know, in Jeremy's lab, probably eight years ago, the helmet that they're using, that today costs 500 bucks, cost \$50,000. So that's how fast we've come from a hardware standpoint and a computing processing standpoint. But historically, these have been the areas where VR has been used. So, in Medicine, can I be a doctor? Can I get virtual surgery? Can I get more reps as far as getting my surgical technique in? Phobias, can I cure your fear of public speaking by putting you in front of a virtual room with a lot of people like you guys are right now staring at me? Maybe my heart rate goes up in the virtual world, that makes me more calm when I'm in the real world. They're doing this stuff in the lab, it does work. And lastly, the military's been using VR for years. Granted, the graphics haven't been very good, but imagine I'm going through a virtual Iraq, I'm getting the experience of what it's like to clear a room, and getting the experience of what it's like to interact with somebody of a different race, culture, gender, and I'm going through those simulations over and over, so when I'm in the real world hopefully I perform to the best of my ability based on my training. So this stuff has been happening, okay? One of the things that really frustrates me about the industry right now, given that I'm doing it every day, I'm kind of the anti-VR, VR CEO. I don't think Virtual Reality headsets are gonna take over the world.

I think it would be really, really sad if your generation would rather put something on their face, and be antisocial in the real world, versus actually talk to somebody. It's bad enough doing this all the time, now we're gonna put headsets and we're gonna completely lose our sense of who we are, right? So I don't think that's gonna happen, I hope to God it doesn't. I look for real world use cases to where VR and AR can actually be used and be effective. There are a lot of them. There are also a lot of ideas that are really, really bad. Okay, now I'm not saying these are bad ideas, but the reason why we have to be a little critical of this industry, and at least have some cautious optimism as to where it can go, is because when we watch a movie, for example, the director tells us where to look, right? They move the camera, they make a sound, we always know where to look based on what the director is telling us, that's been a film-making principle for a hundred years. In VR, if it's a 360 degree scene, and I'm looking over here but the director wants me to look over there, he or she just lost. Right? So how can you make a movie a really, really good virtual experience as opposed to the traditional 2-D model? Not saying that it's not possible, it's just a long way away from people actually figuring it out. Video games. So gaming is gonna be the thing that drives VR, at least in the interim, in the short term.

One of the things that people are really underestimating both with movies and video games is, trust me, that headset is

gonna get very uncomfortable after about 15 minutes. So, gamers, and some of you probably know what I'm talking about in this room, you play your games for hours and hours at a time, the gamers have told the headset manufacturers, "we have no interest in wearing the headset for four hours." And that's just a fact. Now, some will, their eyes may be burning, they may get headaches, who knows? But it's a really, really different way to experience gaming. Now it's cool, don't get me wrong, it's really, really cool. I just like to be cautiously optimistic. Another thing to think about with games is, with the exception of like a first person shooter game, if I'm trying to play a sports game and I need to literally run across the room in VR cause that's what happens in the real world, that's probably not possible in my living room, right? So when you think about maybe playing Madden in Virtual Reality, what's the one position that really would be the only one that applies? Probably the quarterback, right? 'Cause you're gonna stand there, you're gonna fake throw it. You're not gonna be a linebacker and go tackle your mom in Virtual Reality, it's just not gonna happen. (laughter) So these are the things that we have to be thinking about going forward, and the news and the media it just wants to write VR, VR, VR, VR, there's a lot of investment money going into it, probably rightfully so in a lot of areas, but I think we really need to stop and think for a little bit about what makes sense, what doesn't, what's good, what's bad and what people are actually gonna do in the long run. Okay and then Mobile and Fan experience. Those things make a lot of sense, but again, one of the big pushes right now in the sports world, and we get calls all the time, "hey, we really want to stream this live event in VR, "this game, do you guys do that?" And we say, "no, we don't, call so and so." And we're probably never gonna do it because we don't really believe in it.

We believe in maybe the microbursts, where I'm watching my big screen TV in the real world, I throw on the headset for two minutes to see what it's like courtside, but then I go back to the real world experience, the TV, talking to my friend, talking to my wife, you know, whatever. So this is just something that we have to actually consider going forward, is to how will this stuff actually be used. And it'll be really interesting to see how it plays out. So, that said, what is STRIVR? We are gonna just smack you guys in the face with it. ^- [Announcer] Kevin Hogan, it's like he's playing ^a video game out there, Sam. ^In fact, maybe that's because he has been. - No doubt, Reese, I want you to picture this with me. - [Derek] This is about three minutes long. - You're a G.A. sitting in your tiny office with another guy, and you're doing the usual thing.

Working on cut-ups, envisioning the long road ahead ^as an assistant coach, ^when you come up with an idea. ^It's a pretty good idea, and pretty soon your head coach is telling you you're gonna have to quit your job and do this full time because your idea is gonna change the game. Welcome to Stanford University, where football meets Silicon Valley, the epicenter of technology. Here, with the use of a head-mounted display, players and coaches are immersed in a new Virtual Reality, a computer generated simulation of a 3D environment. - When I first put those glasses on, ^and I first saw what it looked like, ^my mind started racing which was okay, this could work, and not only could it work, this could be phenomenal. ^- They turn around, and we just tell them ^to look behind them, and they do this, ^and they say, "holy blank." Right? Insert expletive here. - [Voiceover] As a Stanford grad assistant in 2014, STRIVR co-founder and CEO, Derek Belch introduced the software to coaches and quarterbacks as an alternative to film study and reps on the practice field. - If you were at Stanford practice, you would see our 360 degree camera somewhere relatively close to the player whose vantage point we want. And we would capture a certain number of plays. So start looking around, like all the way.

- Oh my gosh. Oh, it's 360?! - It's 360. You don't know this right now, but we are looking at what you're looking at on the screen. - Oh, cool, okay. - So from a coaching standpoint, look right, now look left, we're seeing exactly how your head's moving, so I want you to turn over your right shoulder, okay, here we go, you are going to hear the play call in the huddle. And I want you to take your drop, I want you to actually play the position, so here you go. (quarterback calls play) Just simulate your footwork and your throw, find the open guy. - Ready! Hut! - Wrong. Okay, so here we go. - [Girl] Why is that wrong? - [Derek] Keep your eyes to the left.

Blitzer just crushed you, there you go, that's better. - This is a great way to train your mind without affecting your body. When it's my turn to come in there, I can go execute because as far as my brain's concerned, I've seen this before, I've practiced this before, and I know what to do. - Let's go blitz pickup. - [Derek] Okay. - So something like this, with the safety wide over here on the right side, we want to kill it in case they bring something to the weak side. Beginning of the week when we're preparing for a certain opponent, we'll film their most popular blitzes, their top coverages, fronts, things that we need to kinda look for, and then throughout the week, we'll put the headset on, and kinda go through all our checks a few minutes every day. It allows us to make decisions faster, more confidently, and play fast. Maryland had a specific blitz where they would bring Sam and the safety off the edge. Just by seeing it over and over again, it cut off the time that it takes to process it and get to your run check.

- Kevin and the quarterbacks didn't start using it 'till the end of the year because it wasn't ready. Once he started using it, and he thought, "okay, this is something I think I would like to use," and his performance does that... He's telling me of specific plays in the game where what he saw in VR showed up in the game. - [Voiceover] Hogan's performance in the last three games of the 2014 season saw his completion percentage jump from 64 to 76, and with the trend continuing this season at Stanford. - [Announcer] Hogan over the middle, throws to the endzone! Touchdown! - [Voiceover] Virtual Reality training is growing in popularity. - This is one of those game changers. This is going from black and white to color. If you don't have it, it's

not just taking advantage, you're now at a disadvantage. - A handful of NFL teams are already using this, including the Dallas Cowboys, and some of the college programs. David Shaw's good friends with Dabo Swinney, he spent about 15 minutes before our interview raving to me about the difference this has already made for his football team, and Reese, if people are skeptical as to whether or not VR is really the next big thing, Mark Zuckerberg recently purchased Oculus, the company that makes those headsets from a 22 year old guy, for two billion dollars.

That's with a B, Reese. (audience chatter) - All right, so she was a little off on her timeline. (laughter) 'Cause it happened the year before, but that's okay. So that was one of the, probably one of the, we were on 60 Minutes last year, we were on ESPN last year, we were on CBS Sports, we were everywhere in the mainstream media. That was probably one of the coolest things to have that, you know, watched by millions of people on Saturday mornings, and more importantly, millions of college football coaches that are wondering, "why don't I have this?" So, that's kind of us in a nutshell, and the purpose of today is not really to talk about what we're doing as far as the coolness factor, it's more to talk about the business. And we're gonna get there, I'm gonna give you guys a lot of details, hopefully answer a lot of your questions. But first, I wanna show you what it is, so I need a volunteer, to come on up. And we'll get this fired up. Somebody who presumably knows something about where to look. Come on down, alright, you? Go ahead.

Any of you who have always wanted to go on the practice field at Stanford, now's your chance. This may be the only way you get to do it. Put that on. Okay, so we won't do a ton here, we'll just kind of quickly give you an idea of what we're doin'. (laughter) Okay, there's a little blue dot in the middle of the screen you see that? - Yeah. - Move your head up, to Videos, I have the remote, go to Training on the right, Go to Blitz Pickup, uh, Offense, sorry. Sorry, go back, Offense. Blitz Pickup. Number 1. Okay, so, what's your name? Mason? Alright, so, I'm gonna turn this down.

So, Mason, right now, is experiencing Stanford Football in 360. Okay, so, the first thing, before Mason, before we play this, so I want to note one thing. Sam Ponder in the story got it wrong, this is not a 3D video game simulation, this is real video. The reason why we went the real video route two years ago when nobody else knew what this was, and there were a few kind of goofy video game simulators out there, is 'cause Jeremy, in his lab at Stanford has proven, through research, that the human gait is so important for a virtual simulation. So if I'm a quarterback and I'm trying to make a decision of a receiver running a post, a defensive end going there, a linebacker going there, a safety going there, if that stuff doesn't time up and doesn't look and feel real, like it does in the real world, my brains gonna completely tune out. So if we're trying to train a quarterback or a linebacker or a safety, how to get mentally better on the field, it's gotta look real. So the video game thing for us was not gonna happen, it's real video, so here you go, Mason, here you go. So, this is a rep. (quarterback yelling playcall) Okay, sound, the exact call that should be there. You've got stuff behind you, so don't go too far.

Okay, so you can take a drop and look around, boom. So, this is a simulation, right? This is a pre-snap, blitz pickup rep. Okay, let me show you this one, this is for Christian McCaffery for blitz pickup. You guys all know who he is probably. So notice how he looks pretty tall to your right, right? So we always want to simulate from the viewpoint of the player. So if Mason's Christian, get down in an athletic stance, hands on knees, okay, now look to your right. Now it looks a little more normal, right? So this is a view for Christian, a blitz pickup view for Christian and the running backs, to learn what their responsibility is against this particular blitz. Christian's gonna see himself fill here, and the point of this is for him to do it, careful, you've got someone in front of you there. (laughter) the point of this is for the running back to do exactly what Mason just did. To go in a room, put on some headphones, zone out, and get down in their stance, and basically go through the mental, and the first couple of steps of the physical work of what they would do.

Some of you athletes in the room, you know when you get to this level and beyond, it's not physical anymore, it's mental. So how can we give you guys more mental reps? Guys and girls. How can we give the athlete more mental reps to actually have them perform better on the field? Last one, go to Seven On Seven, on the left. Go to Number 2. Then we'll back you up to Number 1. Look down over your right shoulder, look down over your right shoulder, there you go. Now you're in the huddle, listen to the play call. So this is the clip from ESPN, let's see if you can find the open receiver, see if you were paying attention. Turn back around. Okay now, take a step to your left, you got a podium right here, okay? Now, keep your eyes forward when the ball is snapped and find the open guy.

(quarterback yells play call) Sack. God, you messed up, just like Sam! (laughter) Alright, so look, we're gonna run it again, look there, blitzer, wide open, look to the left, there you go. Okay, so, go ahead and take it off, give him a hand. (applause) All right, so, as far as our product is concerned, one of the reasons why we were so successful last year was the scenario that just happened. We could see what he was seeing in the screen, uh, in the headset, in real time. So when he had his eyes here, I knew right away that he was looking in the wrong spot, right? So when he tilts his head back this way, we know that he got it right. And this works for linebackers, this works for safeties, this works for, obviously, quarterbacks. Baseball players, whatever we're doing, the fact that we can mirror the display now takes this from a training tool, where I'm gonna go in there to get reps an infinite number of times and build that myelin sheath around my brain and get better mentally, and now it turns into a coaching tool where Tina can sit here and watch how I interact in the virtual scene in the real world, because I promise you, the

player is gonna look at the field in here exactly like they would in the real world. Hands down. I know somebody sitting in the middle of the room he was a Stanford Football player once, Owen, that's probably right, right? So, this is what we're doin', this is what we're doin' from a product standpoint.

Now, for the purpose of this class, and the purpose of entrepreneurship and to teach you guys some things about business, I'm going to give you, the background. So this is it, this is the only slide left in the whole presentation and we're gonna walk through as much of this as we can. So the first thing I want to do is talk about how this thing started. Okay, because I think it's really, really important. I was sitting in your guys' shoes, let's see, what am I? 30 years old. So I graduated in 2008 from Stanford, I co-termed, played football, redshirted, was here for five years. When I came back as a graduate assistant, I got my Masters in Media Studies, and it was with an emphasis in Virtual Reality. I actually was in this class. So I was sitting at my desk during the football season, needed one unit to get me up to the minimum number, and at 10PM, I would watch these lectures, and then I would write in like you have to for the one unit requirement. I loved it, I never missed a class by the way.

But I was virtually there. So that was my experience to how I got back to Stanford. I did do my MBA at USC. One of the things that I always like to communicate to young people like yourself is, when I was your age, how many freshmen in the room? Okay, sophomores? Juniors? Seniors? Okay, so those hands, it wasn't until I was a senior that I actually started thinking about the real world. It probably wasn't until I was a 5th year senior, so I was interviewing for consulting jobs, banking jobs, et cetera. I didn't even know what consulting was until I was a 5th year senior 'cause I hadn't even thought twice about it. So one of the things I really, really encourage you guys, everybody to do is, this place is really, really special and when I was at USC, all I would do is brag about how special Stanford was, and I would always say I didn't take advantage of it enough as an undergrad. So the position that you are in, you have to soak up this place for everything it's worth. People like me coming back and talking to you and being very candid, this happens all the time, so take advantage of it, because you're probably sitting next to somebody right now that has a really, really cool idea and you can do something post-graduation that you're passionate about, because being at a job you don't like is absolutely miserable, I think anyone would attest to that. So, I came back to Stanford, I came back to be a football coach.

I did an MBA, I was kinda thinking, you know what, I did business, I liked it, and I can see myself doing a lot of things, but if I don't see coaching by the time I'm 30, I'm gonna regret it forever, so I came back, I was on the path to be a coach. Just like you saw in that story, my Masters Thesis was this, and Coach Shaw sat me down in December of 2014 and he said, "get out of here, go start a company, "you're about a year ahead of everybody else, "you're not the typical coach, "you just got your 4th degree, you're smart, "get out of here." So Coach Shaw is our only investor to date. He gave us about, oh, I can't tell you exactly what he gave us, but... (laughter) by the time we put his money together, me putting in \$5,000 of my own money, Jeremy putting in \$5,000 of his own money and a couple of others, we raised \$50,000 and the goal was to just sell to one team, last year. So on January 2nd of 2015, we opened for business, you know, I met with lawyers, tried to come up with a company name, did all of the bells and whistles of the paperwork, and the goal was, can we sell this to one team? It was me, full time. Some of you who have been Stanford fans for a long time may remember the name Trent Edwards, he was a quarterback here, played for the Buffalo Bills for several years, he was one of my best friends. He jumped on to kind of lend credibility to what we were doing from a quarterback, player standpoint. Jeremy is part of our company, more in a visionary role because he's a tenured professor here, so we just can tap into his brain whenever we need to. And then we had a grad student that was kind of helping us out part time building software, kind of helped us get this thing off the ground. So really, it was like 2.7 people when you add it up, and then by the time we needed a little more help, my best friend from childhood was at Wharton at the time, he worked for the FBI for many years, and he came on as our COO, living in Philadelphia. So really, we're like 3.4 people trying to actually get this thing off the ground, trying to sell to one team in 2015, and to me the 50,000 was enough to travel around the country and not feel the panic of like, oh my god we're burning through cash, right? Which, we were, but that's okay because we were working towards a goal.

So five of the first six college teams I met with in March signed up on the spot. And then two weeks later the Dallas Cowboys signed up. So we went from not knowing what the hell we were doing, trying to sell to one team, to over a half a million dollars in revenue just like that. And since this is a public facing video, I'm not going to go into the nitty gritty of what each team pays, 'cause teams might be able to watch this. By and large, it's the same, but I will tell you that between April 1st and September 1st we went from figuring out how to service six teams and not knowing what the heck we were doing, to having six NFL teams and 10 colleges by the time the season started. Then, in the fall we did a virtual hockey goalie simulator for Madison Square Garden where when you actually get down in the stance you are literally stopping pucks against real New York Rangers hockey players. Then we did a big project for VISA and the New England Patriots. So now we were starting to figure out different revenue streams of how to actually make money in addition to the training. When all was said and done we did over 3 million dollars in revenue last year in our first year, with no funding. And I'm sure the professors in the room can tell you that is about a .01% chance for companies that pretty much have nothing and haven't raised a dime in their first year.

As far as where we're sitting today, I'll get to that. But everything that we have is on a two year contract, so we're in a pretty good place to continue to grow this thing organically and we'll kind of talk about that as we go. So, deeper dive, one of the big

things that I wanted to talk about today was the art of bootstrapping. One of the common misconceptions among the entire Stanford football team who's still bitter at me for leaving and not coaching anymore, is that I am rich. We did 3 million in revenue last year, we went from four, to 29 people, basically overnight, from June to August 5th or so, when college camps started. We had to figure out how to actually service all these teams that I was just out on the road signing up over and over and over again. So we grew really, really fast. You have to pay people. My salary last year was \$40,000, okay, we'll just put that on the table. This is entrepreneurship class, if you wanna start something, you have to be prepared to sacrifice.

And we have people right now at our company that this is an equity play for them, and they're literally just making enough money to pay the bills. These are people that have Harvard MBAs, Stanford MBAs, people that have walked away from \$250,000 jobs just so they could be involved in something that they are really, really passionate about, and that they believe in. So that's something that I really want to emphasize. One of the tendencies in Silicon Valley is the first question you ask somebody is "how much money have you raised?" And I'll read Ink Magazine, and Forbes and Fortune and all of these things when I'm flying all the time and, I just read something recently about like the 30 Under 30. No company that was mentioned did they talk about revenue. All it was, was how much they've raised. Well, that doesn't mean anything, that doesn't mean you're rich, doesn't mean you have a business that can succeed. Raising money is great, don't get me wrong, congratulations if you do, it means a lot, especially if you do it from a really reputable brand, but the bottom line is that it's about bringing in dollars as a business. And I think today, with the Snapchats and the Instagrams, and even Uber to a certain extent, they're obviously bringing in a ton of cash, they burn more than they bring in. Basically, everyone at this school that's young, and people that want to go out and get rich, they forget that businesses aren't all about users, right? They're about actually dollar in, dollar out.

So one of the things we've done really well so far, is we've bootstrapped. Our office for the last nine months has been a townhouse in Menlo Park. It is literally the size of this, okay? The living room on any given day has 12 people crammed into it, there's three sitting on the stairs, it is not sexy. As a matter of fact, when people come meet with us, I apologize in advance, and when they get there, they usually say, "no, no, we love this, "this shows us that you're humble, "shows us that you're hungry." It's something that actually we've turned into a positive. So, one of the things that I've been kind of hammering our people about from day one is guys, if we don't raise money, if we can do this organically, we're in control, right? We make our own decisions, nobody's looking over our shoulders as far as financial flexibility, that really goes a long way. If we want to pay someone a bonus at the end of the year for doing a good job, we don't have to worry about somebody harping on us over our shoulder. I'm not saying that that can't happen if you do raise money, but thus far, we've had a lot of financial flexibility, and it's been really, really neat, and we're kind of a cool success story in that regard. Now, that said, you need money to run a company. So, leading us to number two, Things Cost Money. Travel, Legal, Hardware, Rent, Paying People, et cetera.

Everybody told me from the very beginning, all the way back to when I was in business school in entrepreneurship classes, people always say it's going to take twice as long and it's gonna cost twice as much as you think it will. And that could not be more true. We have been in a very fortunate position to do things a lot faster than I think most people would, as far as moving really, really quickly, but by and large, if we think a travel budget for something is gonna come out to five grand over the course of a month, it costs ten or more. So as you guys are thinking about how to start a business, trust me, you have to plan for these things. Moving to number three, People Cost Money. One of the biggest things that's been an eye opener to me, is that I am now responsible for 29 paychecks. 28, 29 if you count myself. I have a six month old, I have a wife who works full time, so this is real. This is not pie in the sky, let's go start a company and let's get rich. Day in and day out, it costs money, you need to pay the bills.

And every single day, I deal with people thinking they should be paid more, people wondering what their future is, I mean, it's all human resources things that come up all the time, and when you're a start up, and you're trying to do it organically and bootstrap it, it's tough. I mean, luckily we haven't missed a pay period yet, but trust me, that's real. And when you're owed \$100,000 check from an NFL organization or a big brand or something, that you know is coming, but it may not be coming until next week, and pay day is three days before that, it makes you sweat a little bit, so, could these things be solved with raising money? Yeah, they could, but for us, we have made the conscious decision as an organization that we don't want to dilute ourselves equity-wise, we like the position that we're in, so we're choosing to continue to go this organic route, but this is very, very real. And one of the things that kind of stuck out at me when we started this company last year, I was meeting with an NFL team, and I was talking to their video coordinator, and we were teaching him how to do what we do, on the field. And we had to train a member of his staff, and I said, "man, I'm really surprised, NFL, you guys make all this money, you only have three video guys on the staff? Some of the colleges we meet with have like 19, 'cause all the students want to volunteer, right? And get paid 10 bucks an hour. He's like, "you'd be surprised how often "a 10 dollar an hour employee doesn't show up "for work on the second week." And I'm like, "really? This is the, so and so, "insert team name here, this is one of "the best brands in the world." He goes, "doesn't matter, you get what you pay for." So this is a team where people would literally give their left arm to work for them and put that logo on their chest, and they still have people that don't show up when they only pay them an hourly rate, so right now, for us, like I said, we've got some really, really smart people, some really experienced people, we live in the Bay Area, you can't afford to pay those people \$50,000. So that's something that you really have to think about going forward when you're trying to start a company. As you guys grow, you need cash, and you need to be able to compensate people

appropriately regardless of what they're doing. The next thing, Operations Are Absolutely Critical, I cannot emphasize this enough. If when you guys go to business school, guys and girls, some of you that may go to business school one day, and you fall asleep on an operations class 'cause you thought it was boring, trust me, you're doing yourself a disservice.

And this doesn't necessarily mean factory line operations. Widgets and a fit in Toyota, you know, Lean-Six and efficiency, all that. That's not what I'm talking about, that's really high level stuff. At my level, at STRIVR's level, it's ordering a computer, prepping it, making sure it doesn't have malware on it when you send it out to the Dallas Cowboys, just little things that add up, just making sure you send the remote and the remote part that are on this machine right now, 'cause if you forget something, they're gonna call you and say, "what the heck's going on?" They're gonna wonder why they're paying so much money for your service. So all of the little things with operations are absolutely critical. The other thing I'll add to that is it really, really helps to have everybody in the same room, at the same time. It's very, very tempting in today's day and age to think, oh I can do this remotely, we can have someone in New York, we can have someone in Wisconsin, we can have someone in San Diego, we can Skype, we can put our VR headset on and talk to each other virtually. Trust me, decisions are best made, and people are the most efficient when you are in the same room together. And one of the major issues that we're having right now is we have 29 people, and only 15 of them live in the Bay Area. And probably 6 of those 14 that don't live in the Bay Area are some of our best people, people that I wish could be sitting next to me every day.

Not because I want to babysit anybody, because when we're in the same room and we talk out ideas, you know, you're missing someone on the phone, you're trying to play tag, guys and girls are traveling all the time, it's really, really tough. So, to me, Operations is not only figuring out how to efficiently operate your business, but also figuring out how to just efficiently make decisions. And part of that is being together in the same room, that's very, very, important. The next point, Passion Is Contagious, so, the number one thing people always tell me after I speak, and I've done a lot in the last year, is they come up and say, "man, you're really passionate "about this, clearly, thank you, it's great to hear." It's just natural for me, but when you're going to pitch, whether you're trying to raise money, whether you're trying to sell something, whether you're trying to convince someone to come on board the company, I mean, I'm gonna be honest, I convinced someone that was making \$300,000 to come make 60. That's a big deal, and the passion goes a long way. So if you're not passionate about what you're doing, you're not doing what you should be doing, you're in the wrong line of work, move on to the next thing because this is very, very real. And if you're a founder, if you're a co-founder, if you're the 4th person in, and you're starting to grow the organization from the top down, or the bottom up, you have to have passion, because if you don't show up every day with a smile on your face, I mean, let's be honest, athletes in the room, how many do we have? Okay, training gets pretty monotonous, doesn't it? At times. Game day, and you guys are speaking my language, that's why I'm calling out the athletes, but you know, computer scientists, writing code isn't always fun, but seeing the end result is really, really cool. That's what business is. So, me being gone six straight weeks last year, when my wife was pregnant with a baby on the way, a month out, that wasn't fun.

But selling six teams over that time period was awesome. So if you don't have passion for what you're doing, then you have to move on. Okay, Friends and Family. So, of the 29 people that work for us, I have known half of them since college. One is my brother, one is my best friend from childhood who I've known since I was five years old, and one is one of my professors who's more of a visionary, former professor, but he's still involved. So half the people that work for us, I'm very, very close with, that is really, really risky. Everybody always says, don't go into business with friends or family because it could blow up in your face. One of the reasons why I made that decision, A, we had to move fast, so last year we literally went from six two 20 professional and college teams in the period of about 30 days, so we had to staff up really quickly. Additionally we started getting so much media, and so much attention that we had to strike while the iron was hot, and we kept getting calls every day, emails, calls, I mean, the Dallas Cowboys coach, he literally called me out of the blue, found my phone number, said, "Derek, I'd love for you "to come to Valley Ranch and show this thing to me, "'cause I've been dreaming about it for 20 years." So to have that much traction, and to want to take advantage of it, it had to be more than just me, so we had to move quickly. One of the advantages that you guys have right now, is your best friends in life today, your peers, are going to be Stanford graduates.

So the decision that I made was, I could go look for people that I don't know, I could go look for people that are probably maybe just as qualified, but I don't know 'em, I don't trust 'em, like, let's just be honest, I'd rather bring six Stanford people on board. I'm not saying that Stanford's the be all, end all and that if you went somewhere else you're not qualified but I kind of looked at our situation and I said, "okay, some of my best friends are really smart, "athletically accomplished, business-wise accomplished, "I trust them, they went to Stanford, "I know that pedigree." So they're my friend, and that's the only reason why I wouldn't hire them. And to date, it's actually gone pretty well. One of the things that I tell people, I probably tell our company this every six weeks, you know, as long as you're doing your job, there won't be any issues here. So the only time friends and family relationships become a problem is when one side has expectations that the other side doesn't meet. Or when expectations are different. So my brother's working for me right now. I trust him 100% that I'm always gonna get everything that he has. If those expectations don't match up, that's when we have problems, so I'm not saying this is necessarily the right way to go, I may lose three friendships over this at the end of the day who knows? But it was something that we had to do for our business to make sure that it could succeed. Another thing that I'll tell you guys too, is, it's very common to go into business

with friends or family because you talk about ideas, you have to be honest from the beginning.

One of my friends that I brought on board, we have type A personalities, both of us practically cut each other off when we said why we wouldn't work together, like we were worried that we were gonna butt heads. So as long as you can address that up front, and be very, very straight forward with people, it really, really goes a long way and we haven't had any issues yet, and I don't think we ever will. The next thing, People Need Direction. So one of the things that I've learned, very quickly, is of the 29 people working for us, 1.75 people can actually work without being told what to do. And I'm not insulting anybody in our company by any means. I've told the whole group that. And I'm the one. The other people make up the point seven five. (laughter) So one of the things that's really interesting, is that this is a school, this is a culture of self-starters. But trust me, when you're running an organization, whether it's 10 or 10,000, if you don't tell people what your expectations are, and you don't keep people in the loop on what you want them to do, they'll be sitting there doing this.

Because a lot of times, even if someone is really, really good, really, really motivated, really, really smart, like they're still gonna wonder what you're thinking. They're gonna wonder what the vision is for what we're supposed to be doing day in and day out. So giving people direction, and clearly communicating often, goes a long way. One thing that I've done, that I feel has been very effective, because I get an email from five people every time I do it, is like, once every six weeks I try to write like a State Of STRIVR email to the group. And it's way longer than people want to read, I usually do it on a plane flight, takes me two hours, I don't have much else to do when I'm on a plane in that situation, but I literally go through everything, Football Sales, Baseball Sales, College Football Sales, Interactives, Raising Money Status, HR, Operations, I just write paragraphs for each thing to keep everybody in the loop. And most of the time I get an email back right away from someone that's up at like 11:30 at night, and they say, "thanks for sending that, I really appreciate "that you're so honest and transparent "with what's going on, 'cause I live in Virginia, "and I don't get to see you guys every day, "so this really makes me feel like I'm in the loop." So giving people direction, keeping people informed really, really goes a long way. All right, the last couple here, so, Be Willing To Sprint When In Sales Mode, so like I said, last year, I spent June 23rd to September 5th, out of the house. I came home for one day to do that ESPN story. Our baby was due September 22nd, so you can do the math on how pregnant my wife was. She was not happy with that, she said, "if you don't make it by the time "the baby's born, you don't have a choice "in what we name him." Among other things.

(laughter) And that was kind of the theme last year, I traveled a lot, and I still do, unfortunately. But if you're not willing to sprint, we have a guy working right now for us who's 48 years old, he's the oldest person at our company by a landslide, I think he's the only person over 35 with the exception of Jeremy. We don't discriminate by age, trust me, it just kind of has worked out that way, but he's been through the dot com boom, dot com bust, he's been in startups, he's done really well for himself, as far as his fit within those organizations, and he's basically told us, "guys, I'm just going to "tell you something from my experience, "work life balance right now, does not exist." "We have to be willing to do whatever it takes "to bring in customers right now, and to get "this thing off the ground and get it going "the right way." Because right now, VR is a rising tide industry, and STRIVR is one of the best positioned companies out of anybody on the whole planet. We have a real use case for VR, we were the only, I think we were one of the only profitable companies last year in this space. Only one that maybe even charged for a product to be honest. So we're in a really, really good spot and if you're not willing to sprint, we wouldn't have 20 teams right now if it wasn't for me being gone for those six weeks last year. It sucked at the time, being away from home was not fun, I used to hate Facetime, now I love it. But it's very, very necessary. And then the last thing here, People, People, People. So every time I've given a talk like this, I always give my wife a shout out.

She's an absolute saint, and most of the young people in the room can't appreciate marriage right now. Some of the older people can, but if you don't have that foundation, whether it's a friend, a group of friends, a girlfriend, a boyfriend, a wife, a husband, then the success just isn't as fun. And one of the really cool things for me so far is we pulled the trigger really fast on some people last year, we have not hired any rotten eggs so far. And out of 29 people, that's tough, because odds are, that usually you're gonna whiff a couple of times, and we've gotten, thank the Lord we've gotten really, really lucky, because people is what it's all about. And I've met with a lot of big companies that I know are looking at us for acquisition one day, whether it's in a week, or two years, and they've all told me, "you buy people." Ideas are a dime a dozen, execution is what it's all about, and people execute. So, the last two things. What's Next For STRIVR? And What's Next For Virtual Reality? I already talked about kind of my opinion on the VR space right now, and I'm certainly not downplaying or insulting anybody that's in a business that's unlike STRIVR, 'cause I think there's gonna be some really cool stuff that comes out. This industry in my opinion, is gonna be an all out arms race for the next three to five years, and then we're gonna kind of see whether or not people will actually grab onto this. Some of you may remember Google Glass. That was supposed to be the next big thing.

Never really went anywhere, 3D TV never really went anywhere, so why do we think bulkier headsets on faces are actually gonna be more successful? I don't know. So I think you're gonna see a lot of really cool stuff come out in the next six, nine, 12, 24 months, and then we're gonna see how sticky this stuff actually is. I mentioned before, training doctors, curing phobias, maybe that courtside seat at the game, in the headset does actually look pretty good in 16 months. I think you're gonna see some neat use cases. We'll see how ready people are to actually grab onto this stuff. 'Cause if it doesn't happen now, I don't

think it's ever gonna happen. 10, 15 years ago, 20 years ago, VR was supposed to explode, it never went anywhere, so now is the time. So What's Next For STRIVR? One of the things that Tina really wanted me to talk about was, what are we pursuing?, but more importantly what aren't we pursuing? So our game plan, as of now, is to absolutely own sports. Sports is a huge market. We're doing training stuff, we're doing fan experience stuff, we're doing little projects, we're doing bigger projects.

If we own sports, we feel like that's gonna take us to where we want to go, 'cause one of the really, really cool things that's happened in the last year is we're one of the only VR companies that's actually in the mainstream press, so when somebody reads an article that we're working with the San Francisco 49ers to train their athletes, they say, "hmm, maybe that "would help train our employees using Virtual Reality." "Boom, let's call STRIVR." We're getting all of these emails and calls because we're in the news. And quite frankly, nobody else really is as far as the mainstream press, so for us we're gonna own sports and then we're gonna see where that takes us in all of these other spaces. We did a project for ABC and the Oscars a month ago where we did like a behind the scenes in 360 and we turned it around in like 18 hours and then they showed it to everybody on Facebook and YouTube and people that owned headsets, which there aren't many of them now, but ABC chose us to do that, knowing that we had never done anything like that before, 'cause they trusted the work that we've done with professional sports organizations. So we're a sports company first, but our tagline is Immersive Performance Training, not Immersive Athletic Training, not even Immersive Sports Training, Immersive Performance Training, because when we decide to go down the path of training Tina to be a better sales person when she works for Cisco, for example, that's performance, that's not sports, but it's performance, it's helping her perform better in her job, so we've kind of set ourselves up to go down the path, to potentially do a lot of other different things. So that takes us to, we've got about what? Ten minutes left for questions. That is my email address, if anybody in this room has anything more they'd like to ask, follow-up, get lunch, if you wanna work for us, we're looking for engineers who will take next to no money to come over. (laughter) Please email me, and with that, we've got 12 minutes, so I will answer anything that anybody wants. Feel free. Yeah - [Voiceover] On any given week, how do you allocate your time, what's your time spent, on average? - So I would say, email is your best friend and your worst enemy. Like today I spoke at Intel this morning, I'm here, that's like six hours where I'm away from my email, I'll probably have 54 unread emails that I have to go through tonight, and unfortunately these aren't things that I'm just like CC'd on, this is like, "Derek, what about this?" "Hey, STRIVR, we'd like you to do this," you have to respond fast, so, I probably spend half my day on email, unfortunately.

Writing proposals is something that's really big. I have a Masters in journalism, I'm really, really sensitive to bad writing, so all of the proposals go through me. Which, that is not a good, sustainable strategy long term, but when you, you know, that's something that we're gonna do for now until people show that they can make it perfect every single time. And then right now, I'm our head of sales, too. Last year, of the 23 teams that we worked with, I sold to 22 of them, and that is not sustainable, long term, but the fact of the matter is I'm the best sales person at the company so over the next three weeks I'm gonna be in a different city every day meeting with teams, and just, you know, trying to get more teams in the door. Yeah. - [Voiceover] Can you tell me a little bit about your approach towards, I feel like American Football happens to be a combination of where there's a lot of static time-- - Great question. - [Voiceover] versus fluid for something like basketball. - Sure, so one of the reasons why VR works for football is 'cause I start in a static spot, I read, I react, and I go, right? So it's perfect for football. Now there are some positions where they move pre-snap, and you know, it is what it is on those plays.

If I'm a quarterback, I'm kind of in one spot nine out of ten times, so it's perfect. Another reason why football is so good is because it's really physically demanding. So can I get that virtual rep, and not get injured? Or injure myself more if I'm rehabbing or something? So, for football it's perfect. Baseball, you know, I'm in one spot, I'm trying to recognize a pitch. Right now, the clarity just isn't there, it has a little ways to go, but that's the next best use case, maybe better than football when it's ready to go. Beyond that, soccer, the field's huge, you move around too much. Hockey, my grandpa played in the NHL but I never really appreciated how fast hockey moved 'till we got on the ice for the first time and tried to shoot something. From a static, decision making standpoint it never happens. Maybe the goalie. So, basketball, we have an NBA team but you know, they're kind of in experimental mode while they try to figure it out.

So one of the biggest challenges in those sports and even football where it's tailor made, is convincing coaches to change. So like right now, you saw the clip, you guys all saw how we do it at Stanford, I mean, I hate when this is on the national media because it just shows the competition what we do. But when you put the camera right there on the field, I mean, you have to convince a coach that's been doing it for 35 years, "hey, let's change, "let's bring this new apparatus on the field, "let's change your practice schedule a little bit." That's not easy, that's a Herculean task, so not only are the movement sports really challenging from a visual standpoint, but from a conceptual standpoint, getting them to buy-in is really tough. Yep. - [Voiceover] You just talked about soaking in everything at Stanford, especially for the undergrads here, I was wondering what sorts of things you did when you were here, maybe at your MBA that are paying off now that you're running-- - Right, so I played too many video games here as an undergrad. (laughter) Played too much golf. Online poker was legal back then, that was really stupid. And I played football, so I put a lot of time into that too. Honestly, I kinda figured it out pretty late in the game. So when I did my Masters in journalism I took an entrepreneurship class, it was called, what was it called, digital journalism? I forget, but anyway, it was the first time I even heard what entrepreneur was, and that kind of turned me on to, there were some MBA students in the class, so I was just starting to pick their brain. You know, have lunch with them, ask questions, "Hey, what'd you

do in your work life?" And then when I went back to business school, the biggest thing that I did, honestly, was pay attention in class.

I mean, I know that sounds kind of lame, and the teachers are probably happy that I'm saying that, but like doing the reading, there's a reason that you're doing reading, and one of the things that I noticed when I was in the work world was when you can sit around a room of eight people and you can talk about that random study that you read that applies to why this sales tactic might work, they all look at you like, "where did you come up with that?" And I probably got a C on that test when I was supposed to know that, right? But it comes up later and you look like the smartest person in the room. So aside from actually kind of taking school a little more seriously in my graduate life, just being out there. Like right now, you guys are all required to be here 'cause it's your class, I'm sure there's 10 more of these that will happen in the next week, where, when I was an undergrad, Bill Gates came and spoke. Just reading about what these people think, going to talks like this, and taking that one little thing away that you want, it really goes a long way. Yeah. - [Voiceover] So Derek, what motivates you? There are lots of pieces to this, there's the technology, there's football, there's money. You know, what drives you every single day? - So, well first and foremost, we live in an 800 square foot apartment that has no air conditioning, so we need to make enough money to get out of there. (laughter) That's number one. Um, family first. When I was in, before business school, and I was working in consulting and quite miserable, I had no passion for what I was doing, and I always thought I wanted to start my own thing.

And I'm doing it, right? So the biggest thing has been, not losing. And actually making this successful. Whether I make \$100,000 or \$100,000,000 off this thing, I don't care. We've got people in our company that have told me it's not about money, it's about winning. I mean, that's awesome. To have the motivation to not fail, to me, goes a really long way. And for me personally, when Coach Shaw sat me down and basically told me, "you need to do this." I mean, I even said, "well, can I still stay "on the staff? What if something goes wrong?" He's like, "well, yeah, you can, but "I would put everything I have into that." So I talked to my wife, talked to my parents and it was kind of like, hey I've always wanted to do my own thing, sports are involved, I'm passionate about sports, and this is tailor made, right? This is ready to roll, why not? That was kind of the thing that kicked the whole thing off. And then, now that we're so deep in it, truthfully, it's the 29 people that work for us, and I don't want to let them down. And we've talked a lot in our company about, "should we move "so and so here? Should we move so and so here? "Operationally, this person really isn't getting it done." You know, people have gotten pissed at me, like, "that person's gotta go, "they're screwing up too much." I don't wanna fire anybody. I mean, that person needs a paycheck, they're a human being, so, that's been the biggest motivator so far is to not fail for myself and everybody that's working for us.

Yeah. - [Voiceover] Could you do tennis? - Could we do tennis? We're working on something, yeah. - [Voiceover] Okay, 'cause I was wondering if there's a women's sport that you could, do both men and women and tennis-- - Sure, yeah, problem is a lot of tennis programs just don't have a lot of money and this stuff's really expensive right now so as the cost comes down, then it's something we're looking at. - [Voiceover] Is there a sport that women do where the woman stands? - Where they what? - [Voiceover] Like volleyball. - Volleyball's tough, yeah, let's talk afterward it's, yeah... - [Voiceover] Which skills did you learn on the field that have been the most valuable to you in your business? - So, good question, two fold: when I was an undergrad it took me three years of being a backup, a backup kicker, which is the loneliest job in all of sports. (laughter) And the most boring position in the history of sports. It took me three years to finally see the field, so that, you know, as far as persistence, what motivates you, kind of seeing that carrot out there, I mean, I waited a long time. And Tina didn't mention this, but when we upset USC, when we were 42 point underdogs in 2007, kind of the game that kicked off Stanford Football, I kicked the game winning extra point in that game, so that was like a really, really gratifying culmination to my five years at Stanford. I also went 0 for 4 in a game, five weeks later and we lost, but we're remembering the positives, so...

(laughter) So, for one, persistence, right? And I think one of the things that I did a really, really good job of when I was not playing, was looking at the guy above me, that I was his backup and looking at everything that he did that I didn't want to do. The way he acted on the field, the way he worked hard or didn't work hard, kind of just learning from observation versus learning from experience, and then when I coached, which isn't playing, but being on the field coaching, same thing, truthfully, the biggest thing that frustrated me about coaching was why are we here until midnight when we literally could be here 'till 8PM? So, just the lack of operational efficiency. And this isn't just coaching, this happens everywhere. But in coaching, like if you're not there until one in the morning, you're doing something wrong. That's the culture. And to me, that is just so backward. It's about productivity, not activity. So one of the things that I've really tried to instill, despite the fact that I'm working 18 hour days all the time, 'cause there's so much to do, I'm telling all of our people, "get it done, "and do your thing." And you know, we're gonna have to grind at times, and put work first over a lot of things, but it's all about efficiency. I don't care if you leave at 3:30 in the afternoon, as long as you have done what you needed to do get done. - [Voiceover] What role is your wife playing in your company and in your personal life at this point? - So I've tried to, I don't have a personal assistant and I've been told that I should get one just to take all the travel and email off my plate.

I'm trying to hire her to do that, but she's pretty good at her own job so she doesn't want to do that. Truthfully, just support. She's not involved in our company at all. As a matter of fact, we've had a couple wives at our company that have wanted to start a STRIVR Wives group and she just does not get into that stuff. She doesn't want, "oh, I'm the CEO's wife." She doesn't

want to do that, so mainly it's just support. It's her not, she has never once said to me, "do you really have to go on that trip?" 'Cause she just gets it, she knows that this is part of the deal right now. - [Voiceover] Is she working now, herself? - She works full time, yeah. - [Voiceover] What does she do? - She works at a tech start up called Medallia, in Palo Alto. She's the Executive Assistant to the CTO. - And one more, yep, one more.

Yeah, you. - [Voiceover] Do you know any products, any VR products related to social aspects? Like maybe phobia, or social interaction to be education (mumbles). - Yeah, so that's an area that people really think, where VR could work, so in education, I'm sitting in London, and now I can be in a classroom in Palo Alto, right? Somebody could, there could be a camera right here, and there could be 10 million people looking through that headset as if they're right here. One of the other things we're doing is we're trying to teach about geography to a bunch of sixth graders, they're kind of tuning out, they don't care. Here, throw on this headset and be right at the base of an Egyptian Pyramid, that's something that could take off. I am not very big on social VR, where I have a headset on, Tina has a headset on, I'm looking at an avatar of her. I just like the real world, so that's just not my thing, but someone's gonna make a lot of money off that 'cause you know, with your guys' generation, you're gonna grab onto that stuff for sure, so-- - [Voiceover] Do you know any-- - There's a few out there, yeah, I don't know the names, but there's a few out there. - I'm sure you'll agree, this was totally inspiring. Please join me in thanking Derek. (applause)