Welcome to the OpenAI podcast, the podcast that opens up the world of AI in a quick and concise manner.

Tune in daily to hear the latest news and breakthroughs in the rapidly evolving world of artificial intelligence.

If you've been following the podcast for a while, you'll know that over the last six months I've been working on a stealth AI startup.

Of the hundreds of projects I've covered, this is the one that I believe has the greatest potential.

So today I'm excited to announce AIBOX.

AIBOX is a no-code AI app building platform paired with the App Store for AI that lets you monetize your AI tools.

The platform lets you build apps by linking together AI models like chatGPT, mid-journey and 11Labs, eventually will integrate with software like Gmail, Trello and Salesforce so you can use AI to automate every function in your organization.

To get notified when we launch and be one of the first to build on the platform, you can join the wait list at AIBOX.AI, the link is in the show notes.

We are currently raising a seed round of funding.

If you're an investor that is focused on disruptive tech, I'd love to tell you more about the platform.

You can reach out to me at jaden at AIBOX.AI, I'll leave that email in the show notes.

Welcome to the AI chat podcast.

I'm your host, Jayden Schaefer.

Today, we are thrilled to have a true innovator in the tech world with us, Jack McCully. He is one of the co-founders of Oculus VR, the company that revolutionized virtual reality

and was acquired by Facebook for \$2 billion.

Before that, Jack made significant contributions to the USB standard and is the brains behind the iconic guitar and drums for the Guitar Hero series.

His career has consistently bridged the gap between cutting edge technology and consumer friendly usability.

Welcome to the show today, Jack.

Thank you, Jayden.

It's a pleasure to be here.

The accolades you just sung on my behalf are, thank you.

It's not as deserved as you put it, but try to be humble here.

Here's the thing, I've been doing this for four years and there's a farce of vineyard here.

There's a winery.

This is my place.

I go to the farmer.

I'm trying to school the guy who does the farm here as a contract farmer on watering and plants.

I've been doing this for 37 years.

I don't need to tell me what to do, but it just comes with time, honestly, and I have a very high level of education courtesy of the taxpayers, which has been returned in 10-fold or whatever, but it's just my desire as a person who has been involved with art, particularly video games and movies.

I did work on feature films too a while ago, but it just happened out that way.

I had no direct, I had never had a plan.

As a matter of fact, I didn't even have a retirement or anything like that.

Never did.

It was always equity and I endeavored to find, because somebody goes, don't you have a pension? I go, no, I don't need one now, but my pension is myself, actually.

Right now, I teach at UC Berkeley.

I'm taking a semester off to run this facility here.

This is a research facility that I own, and I'm taking a semester off to do this and help run the vineyard.

I'm learning a lot about grape growing, which I didn't even want to do, so anyhow.

That's a fascinating new project and angle, which I would love to dive into a little bit.

Something that I did have a question about is, you've done a lot of things in the past, in this tech space.

I'd be curious, just going back to the beginning for you, was this always something that you were interested in, tech specifically?

You mentioned you're an artist, and I get this artistic feel from a lot of the work you've done.

What was your, I guess, prior to education?

What was your goal?

Was this always an interest?

Wanted to be an artist.

I wanted to be a scene designer, a set designer, the painting and drawing.

That's what I did.

I like to take things apart too and draw them.

I didn't really understand what they did, but in the process of doing that, I learned about how things are built and how things work.

That's just how it started.

I love sci-fi stuff, and I spent a ton of time drawing, I guess, what do they call it?

Was the technical term for heroics, like Frank Frasetta, guys with spears and robots and all kinds of stuff.

It was a natural for me to migrate into entertainment because it couldn't fight, you know, in Hollywood

where I worked initially, actually I worked in Southern California on films.

The pay sucks, it's just not good.

So I said, I got to make more dough because I wanted cars and stuff like that, nice house, pool.

So I ended up in video games.

The pay does not suck in video games, it pays really well.

So I just stayed there, but it was because of the salary that I was making, I graduated from college, from a prestigious university, and making \$28,000 a year, not very good. Yeah, especially in California.

Well, that's, I mean, that was going great.

I mean, you know, I don't know what it was back then, if that's like \$18 an hour, that's what people are getting paid down there in LA, and then transitioning into video games, which I had done before a little bit before that, I had worked on that stuff also, but just transitioning, it immediately jumped to \$100,000 a year.

Wow.

The 4X increase, I said, I'm going to stay here, and I did, but I had a family and stuff to take care of, so it's like, yeah, it doesn't go very far.

100%, yeah, and I definitely feel that, you know, sometimes people talk about following their passions, and I 100% believe that there's a way to follow your passions while I'll also doing what, you know, takes care of yourself, takes care of your family.

I did hear that you spent some time working in or doing some kind of a nuclear field in the US Navy.

I'm wondering if you could talk a little bit about your time there and maybe how that influenced you.

I got a job as a tech electronics technician through the US Navy, and I was successful there as a tech.

You know, I can take the stuff apart, right?

It's like no brainer could use hand tools and knew all the spectrum of drills and all this stuff.

So it's an easy work for me.

In the process of doing that, I got a scholarship from the Navy to go to Berkeley, and at the time we were short-handed in engineering, engineers are always in demand.

We have to import people from other countries here to fill the void of engineering talent, and it hasn't changed.

It was like that in the late 70s.

So I got a scholarship on what it was like.

It's fun working on submarines.

I worked in nuclear engineering.

I wasn't at what we did at this base was refueling.

We cut a hole in the top of the submarine, and I can't get into too much detail of that, but you replace the fuel that's in a nuclear reactor.

So there's all kinds of test reports and stuff that needs to be done, and so I just migrated away from tools to more paperwork stuff, and working with an engineering team.

This is a real-life engineering team, our nuclear engineers, electrical engineers, the engineering department, the shipyard, wherever.

So upon graduating, I didn't want to be there.

So I told them, even though I got to thank you for the scholarship, but I'm going to

go work something else, do something else.

But that's how I migrated away from that very quickly, because I didn't really like it. It was a job, and I paid my bills, and I think you know what I was making back then? I think it was like \$4 an hour, that's a pretty good wage, \$4 an hour.

And I could afford a car, rent, but they paid my tuition and full scholarships, so I got some cash too, but I had to work there.

So what it was like, for me it wasn't what I wanted to do.

I was a young guy, and it just seemed like I wasn't creative doing paperwork.

I didn't mind the tool stuff that was fun, the paperwork stuff I didn't want to do that. Gotcha.

Yeah, and it seems like that's kind of a trajectory.

I think you followed in, you know, you talked about the fact that you didn't necessarily have this like grand plan for everything you've been doing, but I feel like in the way that you followed your passions, and not just because there was an opportunity, right, like perhaps the nuclear thing had a good scholarship and a good opportunity and whatnot, but you chose to do what really interested you, and I believe following your creativity and your passion is what's going to make you excel the most at what you do, and then you're able to excel. So you, of course, moved on from this, you talked a little bit about working in Hollywood, and then working in video games.

Talk to me a little bit about what got you excited about video games, and then ultimately why you decided to, you know, transition away from that.

Well, I never really transitioned away from video games.

I don't do that anymore because I don't have a job, but I'm retired.

I'd have a job of teaching and stuff like that.

So work in environmental engineering, like vehicles and things like that, which I like. But you know, when I, like I mentioned the heroics, that's a hard form of art, like Frank is out.

I don't know who he is, but he says he's a acrylic painter, and he paints these macho guys, so it's spears and Vikings and stuff like that.

I just love that stuff.

So I was, I got a job at Kodak Research as a sequential logic engineer and programmer.

So I was programming chipsets and things like that.

I could do that too, and writing software mostly on the Sun Workstation.

And so they go, well, we got some work here on Terminator 2 and Dick Tracy, and are you interested?

They go, hell yes.

You know, that Terminator is a heroic, you know, kind of macho type thing.

Yeah, of course I love that stuff.

And so I did that, and it was a success, and it got an Oscar, I didn't get an Oscar, but the system did, ORC produced with Kodak, and so I thrilled with that, of course.

That launched me into other things, honestly, because I always had my resume now, even though I didn't have a resume today, I worked on T2 and Dick Tracy and Edward Scissorhands and

these other things, and that got my foot in the door, for sure, because they want to hear about it.

In an interview, if you say something like that, they stop talking about transistors. So I would say that that relationship I had with my boss at Kodak, who's a great guy, stayed in touch with the guy for 35 years, he's an old guy, he's also a Ph.D., he's a brilliant, absolutely brilliant guy.

He got me other gigs too, you know, that's how it works.

I get one gig, and this guy goes, hey, hire that guy, he's pretty good, he's kind of a jerk sometimes to hire me, you hire me, and you know, that's kind of the way I went down, and Oculus, right, same thing, I was at Activision for quite some time, and my guy I worked with there, Greg Deutsch, calls me and says, hey, this is a guy named Brendan Ariebe, who wants to come show you something, and I go, what is it, he goes, it's a headset, I go, VR headset, I go, oh no, okay, so he comes in, knocks on my door, and I just hit him off with the guy, I really like the guy, he's a great guy, you know, and so that's how it was, it's like, the product was good, it was cool, but I liked the people, like, I'm going to work with something, and we're going to work 12 or 13 hours in the trenches, which is what it is, it's kind of like long, long, long hours, I got to get along with people, but there's any hint that won't happen, I won't take the work, and so that's how Oculus kind of went down, because of the relationships I had throughout my career, and these things I ended up, I ended up working on game controllers and reverse engineering video game, PS1 controllers,

all kinds of controllers, I ended up reverse engineering those, this gets me my foot in the door, and I built a mouse, a special mouse, so this gets my foot in the door at Logitech, working on USB, and so that's how it went down, just as a building process, and I was pretty careful about what I chose, sometimes not so careful, when your questions today will be about one of those choices, but generally I'm pretty careful who I work with, and if there's any hint of politics or anything like that, I'm out of there, I'll split, I'll finish my work, but I'm not going to put up much of petty stuff like that, I'll run into that, it just comes with the territory, the two layers, that's just the way it is, I stayed in tech side of stuff, mostly, except at Oculus and other places I do more managerial stuff, but I just tried to stay in the tech stuff, because I have less exposure to politics, backbiting and vindictiveness and other things, I just stay away from that stuff, so it kind of went down that way, just references, I never really had a resume, if they asked me for one, I said I don't have one, call this guy, I'm gonna call him, I don't know, things are a little bit more formal with HR now, not that, I mean, it's just like, we'll try if you don't work here, we'll get ready, pretty much do or die kind of thing, so back now I think it's, with lawyers and stuff, it's kind of, it's a tough, it's a tougher job to do that, but so that's the way it went down.

That's so interesting, so obviously I think that's an incredible way to kind of go through your career, I think not having a resume, just kind of going off of reference and people, ultimately at the end of the day, that's what a company wants, I really feel like it should be a little bit more like that today, where sometimes people get hired exclusively for

the resume and maybe the prestigious school they went to, but it's not like project based, what did you actually do, what did you actually accomplish, and at the end of the day, especially for startups, they need people that have actually done a thing that they can then carry forward into what they're doing, so were you working at Activision before, were you working on that USB before you were doing the Guitar Hero stuff?

The USB stuff started in 93, 1993, and I was living in Oakland, California at the time and working as a consultant with Logitech because I'm a hardware engineer, I was a consultant. That started in 1993, there was no USB because I knew the BIOS, without getting into too much detail, the BIOS is the low level boot stuff on a PC, it causes it to boot, I knew the BIOS very well and the software structure of it primarily got hired for that because I could write drivers and things like this, I'm a hardware engineer, kind of a mixture of things, so that's how I got hired, no Guitar Hero came much later, that came in 2005 and by that time I had built up a pretty good skill set and the bottom line, Jaden, is speed, you have to get it done fast, blazing speed, and it's okay to be slow, I mean, and thorough, that's also good, but when you're trying to get something out the door and get funding and money from investors, speed, and a good demo, so I had that and I had a vast knowledge base of various consoles and PCs and stuff like this because I'm interested in it, I like video games, so I had all this stuff in place, by the time Guitar Hero recruited me, I'm not a founder of Guitar Hero, it's a really interesting story, it'll be a great book because the two guys that started the company, they're the founders, they had a video game rental business and what they did is they wanted to make a DDR dance dance revolution dance pad, that came out in 1999, Konami Entertainment in Japan, it's a dancing game, a rhythm game, so the music plays and you step on switches on a flat pad, and the guys got videos on YouTube, the guys are really fast at it, I'm not super fast at it, but I've definitely done it. They endeavor to write their own rhythm game without doing a lot of research into intellectual property, come to find out we got sued, they hired me to work on their dance pad, I fixed some problems with it, basic really simple stuff, but based on my ability to work, the kind of work they needed, they hired me, this is prior to Guitar Hero, then another guy shows up who they hired as a CEO, which was a really smart move, if you don't know how to do something and let your ego go and hire someone who's better than you, that's what you do, I hired this guy Kelly Sumner who's a former CEO of Take Two, which is GT Grand Theft Auto, this guy comes in, he bundles the company up into a package, they start working on a demo game of Guitar Hero, using the same game engine from Harmonix Music that they use for the dance pad, it's just porting it over to a plastic guitar, the plastic guitars we use were from a Japanese game called Guitar Freaks, so the demo unit that I saw initially at CES in 2005 was a Guitar Freaks guitars and Harmonix Music's port of the dance game that they had written, and this was the basis of Guitar Hero, and Kelly's job was to find, my job was to engineer, my engineer built the stuff, it was pretty easy, I mean I got a lot of accolades for it, it's pretty simple stuff and I already knew how to do it, it wouldn't be simple, you try to teach a layman how to do it, but for me I've already been doing that stuff for a long time, so, anyhow, I saw this at CES and I didn't take much of it, okay, you've got costs of goods, you've

got hardware, you're going to bundle this up with a piece of software and sell it and we have production issues like who's going to build this for us, it's a challenge, and the initial versions of that were built by a company called Honey Bee in China and migrated out of Honey Bee into a vast number of contract manufacturers, here's a great story, this is a contract manufacturer located in China and they're a big contract manufacturer, we go there and I look at the place, it's huge, I'm going, and this is Guitar Hill 3, I'm looking around and I'm going, so, I said, where are we doing our stock, and I looked out the window and there's this huge building and I go, it's that, it's the size of a football stadium, that was our production facility, and then I was scared, it was like, if I net this up, if I screw it up, this is big, I had no idea, but it was a smash hit and it surprised me, I'm not particularly good at choosing hits and stuff, I like Gran Turismo and driving cockpit games, I like that kind of stuff, it was perfect for Oculus, rhythm games, not my thing, but it was a smash hit, now the guy Kelly Sumner packaged up the business and pitched it to a bunch of companies, including electronic cards, nobody wanted it, can you imagine electronic cards turning that down, we already had the plastic, the ability to build the plastic, little tiny company. Was this pre-launch or post-launch, like after is a huge hit or before? After, Guitar Hill once launched it was selling really well, yeah, and we had to find a partner, and so EA was pitched to EA and then pitched, because we pitched, we were actually producing and getting this stuff sold and stuff, we didn't have distribution, we didn't have marketing, we didn't have that stuff, it's a small company, there's two brothers and me and about 25 other people, that was it, so we found the partners, we found Activision, we had angel investors, people who were private citizens who invest money, maybe a friend or an uncle or something like that, we didn't have big investment and I don't think that those two brothers had big cash, they do now, had big cash, so we were strapped with finding someone to fund it and thankfully Activision saw what it was and was able to see through a lot of the problems, like production problems and costs of goods and all of that and put it in the market, and most of the distribution and marketing, it was everywhere, it was commercials on TV and everywhere, that's all that, that's the horsepower, right, it's the marketing part of it, and so Guitar Girl 1 and Guitar Girl 2 sold well, Guitar Girl 3 did exponentially better, the total number of years is 64 million, it was the first, yeah, first video game franchise to hit 2 billion in sales, 2 billion, this is 15, 18 years ago, so it was the first one and by then it had grown, it had outgrown me and it's a huge company, I'm not saying it's a huge company but it's bigger than Red Octane which is the two brothers company, by that time it had grown so big and it's beyond me to do, that's like me running Apple computers company, beyond that, so I focused on the embedding art and intellectual property and back to the ocular story, this is how I met Greg Doidge who turned me on to Brendan, so I was working in the intellectual property department doing patents, I'm an inventor so I do patents and I know how that worked pretty well, so that's how it went down when it got big like that, as I mentioned previously, I kind of looked around and said it's not what I really want to do and I ended up getting out of there and taking a break for about two years, I didn't work really, I just did hobby stuff.

Had you made a decent amount from the company growing very big, did you have equity in it or was it just like your salary?

So this is what I did, I had a relationship with a semiconductor provider, I sold pre-programmed chips as what my main business was, this goes back a long time, into the 90s I would get a chip and I'd say I'd call it the PlayStation chip and it could run a PlayStation controller, it was completely debugged, it looked exactly like Sony's PlayStation controller chips at PS1, that's what I did, I sold those and I sold them to MadCats and PDP and Thrustmaster all over Europe and so every time I sold one, they bought it directly from the semiconductor company and the commission was paid to me by the semiconductor company, so they just placed an order, I got a commission check, so when Katario came up with the same thing I was like, I'll give you the chip, the pay sucked quite frankly, it's \$60,000 or something like that, I don't care about that, I don't care about selling a chip, and all of a sudden I'm getting these huge checks in, because as the product is going crazy, you're getting all of the royalties off of the chips, that's amazing.

Well, okay, it is, but Activision's view of that is that you're eating into our bottom line, that's how they see it, and it's kind of right, that is true, I am eating into the bottom line, but they knew about it, I told you, good commission.

So that's how I made money, I also got stock options, I got a nice generous stock option from Activision, when the company was acquired it was the key person, one of the key people there was in the acquisition, they got me, and they got Charles and Kai, the two brothers, Lee and some other folks that were working there, and so that's the way the acquisition was written out, now, you know what they paid for Guitar Hero, it's like \$120 million, now you hear about Oculus's \$3.2 billion acquisition, and they paid \$120 million for Guitar Hero, it was an enormous hit, so yeah, that's not much, right, and not these days, it's not much, back then it was pretty good, so you know, the two brothers wisely invested their earnings on that, and I'm sure they're doing really well on those guys, Charles, the younger of the two, Charles and Kai, Charles got me a trustee gig at Berkeley, he's also a fellow UC Berkeley, oh cool, you guys still friends to this day, yeah, I would say, you know, when you work with someone and it's stressful, you know, they don't call it friendliness, they're not your friends, your friends are away from work in your buddies, you know, but when you're not working

with them, you can be friendly with them, I would put it this, the current state of our relationship as friendly, and I know his wife, Charles's wife, Kai is a little bit more quiet reserved than Charles, Charles is boisterous, and so Charles is a good guy, he really is, I mean, look what they did for me, I mean, how can I criticize them, and they're always generous with me, they're very generous people, I would say that is the case, you know, just didn't think about trying to help people out, you know, and I remember also that it's like they were driving their mom's car, young guys, I'm not sure that's exactly who he's driving, a gray Mercedes, and it's like, turned out to be his mom's, but they all kind of live in that same area, they live up in Los Gatos now, but yeah, they're good guys, and I have to say, every time I pulled out on one of those things, I kept up, maintaining the relationship, I call people, not so much Oculus guys, but because I'm not working anymore, right, no one's going to hire me now, I mean,

I could, but I'm not looking for a job, but I always call people, I could call them and say, hey man, how you doing, what are you guys working on, you know, or something like that, they won't

tell us, but I tell you, this is what I'm working on, that kind of stuff, or let's go get lunch, go meet them for lunch, you know, and that pays off in spades, because, you know, whatever difficulties you had at working with someone, kind of get softened, right, right, right, I would say, you know, that, you know, in terms of Oculus, it was a good experience for me, the product, I said publicly in 2019, it's not going anywhere, was kind of right, but I'd say that every time, but it was kind of right in some ways, it has not, mostly because, you know, Facebook made up, right, is a social media company, advertising company, so it has, right, they're not every doing company, and it seems to me, the proper thing to do with, to buy a big studio and have them work on the game and stay out of the way, but that's not the way it went down, apparently, and it was very dictatorial and top, top down driven, which doesn't work, I tell you this, you work in a studio, there's really creative people there, very, and you just got to get out of the way, you know, you may not like what they're doing, but you just got to let it go and not say anything, and that's what I learned, and if you do that, it works much better, and that's not what happened with Horizon Worlds and made up, it was just a kind of a personal thing, I guess. When you, when you'd gotten started with Metta, so, you know, you took a break after Guitar Hero for a little bit, you know, then you had, had someone come in and show you the, the Oculus, when you got started, was it kind of that like small studio vibe, like what, what kind of attractiveness actually, you know, working with them? Yeah, well, they didn't have an office when they first started, it was probably Brennan's house, we didn't have an office, those guys work at, I think Palmer was living in a trailer on Pride's house, that's what I heard, I don't know if that's true, and Nate, Nate Mitchell was working for Autodesk, he wasn't even there until later, until later, so it's very small, and, and guite frankly, they relied on me, they were relying on me to, to produce, see, they had a Kickstarter, what that is, crowd, crowdfunded thing, and you just did it to get attention to the product, and they did a, Nate and Brennan, mostly Nate, did a really beautiful job on it, it was like professionally done, we had a movie crew in, was filming, not here, another place I had, you filmed, they had a movie crew in, I had all this stuff, and then when I saw it, I go, oh my god, that's very, that's really, really good, and it got a lot of attention, and they built the story, Palmer Lucky's story, based on Oculus, it's a great story, it's an 18 year old guy, and he's built this thing in his garage, and how fantastic it is, and that was the whole thing, so you ask me about the size of the place, now if we had proceeded forward with the core team, Mike, Nate, some other folks there, myself, Brennan, Palmer, and tried to sell that to a Facebook, what would you do if you walked into, you know, like a dusty shop, garage, and you saw those people sitting there, it's not impressive, right, so there was a lot of hiring done, key people, some people really, really high-end developers, and so hopefully we hired really great people, John Carmack and other folks hired, and this gave the impression that we were serious, and we decorated, we bought, we rented at least two floors of a high-rise in Orange County, and we set up the office, it looked like a game studio, you know, with figurines, and graffiti, and stuff, I like that stuff too, so it looked like a dev studio, so when you walk

in there, let's say you're, I don't know, a guy that runs the social media company called Meta, and you see that, you know they're serious, and if you're not in the video game world, first thing I want to say, let me see your demo, let's see your stuff, right, that's the first thing I want to, I don't care about that this time, and so we had to have this presentation in order to get someone to be interested in buying the company, because without that they're just going to see five dorks in a garage, you know, kind of like a deal, and it's just, and so again, that's not what I do, I'm the tech guy, the tech guy in production, I can make stuff, but I think that that was what really carried it forward, and got people to believe, it's a great experience, you put it on, and the visual part of it is very, very good, there's some problems, you know, Jaden with VR, and primarily his motion sickness is a bit one, and no one's conquered that, I endeavored to try to fix it on my own, I couldn't fix it, without, you know, I would need a team, it was me and some other people were working on that, but it's just, it's just, it's challenged with that. It is, it's the frontier that needs to be tackled by young people in a separate studio away from headquarters, and this is how Activision is set up, by the way. Really? Yeah, you go to the office, it's just a little, it's a building, it's a nice building, and stuff, there's not that many people there, it's not big, but the studio's never soft, and so on are set up as separate entities, and the Activision people do not go there, they're a separate thing, it's an artistic endeavor, that's what it is, so that's the successful model. There's different models, EA, I worked at EA also, EA Sports, that's kind of centralized, like that, their MoCap studio is right on campus in Burnaby, Canada, and so forth, so EA is kind of set up like that, EA Sports are talking about the studio, more centralized, but for the most part the most successful model is separated model where you let people work creatively. Yeah, that makes 100%, that makes so much sense, because I feel like there's so many incredible ways for companies and for like capitalism, whatever, to capitalize on creativity and art, like video games, and all sorts of different things, but so often like you said, right, if you try to stick this into a headquarters, that's not where creative people thrive, and if you want them to do their best work, aka what the consumer will like the most, what will make the company the most successful, like yeah, you have to set up the environment for them to be able to thrive there. When Facebook was interested in Oculus, had you, you'd already kind of created the headset, had it launched the first one, talk me through the timeline of what was going on and what you're working on there? Sure, so we launched a

and we gave, so the way Kickstarter, so you came on pre Kickstarter? Yeah, I was there, they filmed the Kickstarter video at my other place, yeah, they filmed it at my other studio, so I didn't have a studio, I had one, so R&D Center or wherever, so they came in and they filmed the Kickstarter video, it went up and we had 90 days to get it finished, this is the first developer and that is just a staggering short period of time, so I took Palmer's prototype to China and we reversed, he didn't, Palmer got the lenses on eBay for the DK1, he got this on eBay, we didn't have any specs on anything, and we got other parts from other people like Mark Bowles at USC gave us some stuff and Reality Labs, but essentially it was cold, dead cold, the strap was from Scott Goggles, you know, like a skiing goggles, that's what we did bro, so we cobbled that together and took that over there and had them source the parts and do the

tooling, incidentally the woman that owns the factory is the right close friend of mine, she got the Contarger stuff, that was a huge break for her, before that she just do a little game controllers and stuff, she got this huge contract, so she owed me, but I took it in and I go, this is, I have type of like, I had to sell it, I was like, this is going to change the world, I want you to look at it, she goes, okay, let me see, when she took off, she goes, how much money you guys got, I go, not much, she goes, okay, you have to give me half up front, and well I can make \$10,000 of them, but you got to pay me, so we had to scrounge up \$750,000 or something like that, Alston mill, and kind of the way I went down is very informal, not like, contract signing lawyers and all that, just like, kind of hacked our way in, and I like that by the way, but it wasn't, it didn't go down like that, so DK1, to answer your question, comes along and launches and it sells through, like \$10,000 gone, we made more, sells through, suddenly we're like, it's a small run, it's not very tiny, but for like 70,000 units, it's still being bought, with a subpar sort of performance, it's just a couple people's prototype thing that we've reproduced in plastic, essentially we did, and it was selling really well, and it was starting to show up on TV, on, you know, Jimmy Kimmel and all the so-so stuff, and that's brand, but, and so we kind of realized that we might be on, they might be onto something, and at least the talent and skill that certain people have, like my boss for marketing, and getting stuff into people, saying, he's so good at that, he's a really talented guy, he's also a software engineer, he doesn't do that though, he's, you he's a show showman, you know, so he sold 70,000, and then so what are we going to do, well, Vi, the competitor, we have a competitor now in Washington, right, and we have been working with those guys, and they have a room experience unit, right, you can go walk around in, which is ultimately

what you want, yeah, we had a room experience prototype that Oculus, and we got to propel mostly,

but we already had kind of had that, but we chose a seated experience for a cockpit case, but we had to eliminate some vestibular motion sickness issues, right, we used a camera, and LEDs on the inside of the headset that you can't see that are like markers that you can, you can monitor the position ahead and so forth, and get transit translations from side to side with DK1, those kinds of translations aren't handled, they can't be, the technology doesn't exist at DK1, how are those, but a camera looking at it from the outside and observer can do that, okay, so we came out with DK2, and DK2 sold 150,000, it's like boom, right, okay, so the timeline is DK1, and now we have people's attention, and Mark Zuckerberg is interested, and Mark Zuckerberg shows up at the office in Irvine in Orange County, the two-story, two stories of a high-rise thing, and the sales pitch was on, he was like, Brennan could sell you moon dust, even though he's done moon dust, he sold the guy, he sold it to him, and the rest is kind of history, it was on Silicon Valley, they were skewering it, and when you're getting skewered on a comedy show, you know you've got an impact, and that's what, and at the same time, I'm like looking at this and going, you know, where are we going with this, and then I'm looking at it, we're going to get acquired by Mayda, I think that's what's going to happen here, this, I know what was happening, right, and I was in China, and this is a funny story, Brennan calls me, it's like four o'clock in the morning, and I go, he goes, hello, I have my iPhone 2 or whatever it was, he goes, guess what,

I go, what, I said, you woke me up, he goes, we sold the business to Facebook, and he goes, he goes, it's something like, you have a stack of dollar bills going to the moon or something like that, I don't know exactly what he said, so I said, okay, so I kind of called my wife, I told her, well, what do I do, and she goes, she didn't say, so another friend of mine said, do you think you fit in at Facebook, and I go, no, I like to work at the studio, I mean, I like art, that's why I want to be, I don't want to be, you know, moderating people's silly Facebook posts or whatever, I don't think I'd do that, you know what I mean, it's like a language cop or a moon cop, so I decided that I would look at my exit pretty quickly after that, and I went to Brad and I go, hey man, you know, I don't want to work there, and I don't want to work at Facebook,

I said, what would happen to me, I'd probably get fired, I'd probably get fired, but I would probably say something or do something, you know, and be unhappy, and I want to be unhappy, so, and he goes, okay, well, he talked to me, he comes back to me, he goes, okay, you can leave, I was like, with your money, now most deals like this, you have to stay there for five years, yeah, and it's risky, because if you get fired, that's your competition, you could lose a portion of that, and so I looked at that and I go up, if I go there and they fired me, I could lose, why don't I just take it all now, that's kind of what I was thinking at the time, and so he granted me that, and then the rest, I think that's eight years ago or something, I don't know, 10 years, 10 years ago, since we formed the company, coming up on 11, and eight years, is that true, eight years since exit, yeah, I exited in 2015, you know, when you go to, I go to Facebook and I look around the building three, and there's like beanbag chairs on the floor, and a desk that you sit across from, so I'm just, I don't like that, I mean, I look at the guy all day long, and I lay around on the beanbag chairs, you know, an old man, and I didn't see anyone there that was older than me, I would be the oldest person, maybe the cook, there was a guy in the kitchen, the chef, he was cooking, cooking their, you know, vegan specials or whatever, and he was, he was by my side, I go, man, it's just, I won't fit in here, I can tell, you know, it's just, and what would they do with me, you know, I don't know what they would use me for, you know, they need a hardware engineer, but, you know, I will say this, the Quest was a fantastic piece of hardware, they do a really good job on that, and it took a long time, but it's really, really good now. Is it perfect? No, it's not perfect, but for 350 bucks, it's pretty good. I know, that price point is hard to beat, and I mean, looking at like, with what we're seeing with Apple coming into this space, do you feel like that's validating to the idea, what like, I would just love, I know you don't have a crystal ball, but like, from your view of the past, like, how do you think Apple's new headsets gonna play into this pricing and all that, you know? Well, I know the people who are running the headset program on Apple, the guy that's running

it is entirely competent, and a really, really good engineer, he's the VP level guy, and I know it really pretty well, they try to hire me or recruit me, but I think the problem I faced at Facebook would be the same problem I faced at Apple, it's just not for me. I think it's great, I think it's expensive, but it costs as much as a car, and you know, in Mexico, I live there a little bit, I got a house there, the wages are low, but people have a mobile phone, I'm looking

at it going, so the phone's \$400, and you make \$2,600 a year, how does that work? That's like, that's an expensive item. Well, they have a payment plan, and you pay for the hardware as part of your

monthly payments and so forth, so it kind of works, they can make it work, you know, they have to hold

on to the phone for a long time, but the utility of a phone is obvious, I mean, you need one. Do you need a VR headset at the same sort of utility level that you need a phone? I would say no, VR headsets are for entertainment, granted the phone is for entertainment too, but I would say that they're going to be challenged, now Apple has got the GDP of Mexico almost, I think that's true, don't quote me on that, it's a compass, \$3 trillion company, they can afford to have one fail, sure, you know, big deal, try again, try something else, but whatever they do, they do really well, I think, in my view, their stuff, I'm not an Apple PC guy, I don't like their computers, but their phones are great, I don't like Android, I like Apple, so whatever they do, they do well, and it's high quality, and it works, I mean, how many times, ask yourself, if you have an Apple, how many times does it reboot or crash, almost never, and that's what the myriad of applications that they didn't write running, testing it to the quality of the engineering that went into it, and they've always had a good engineering there, so, but they can afford to take a hit, kind of smaller company, afford that kind of a head null, let me tell you what I think, if we hadn't been acquired by, we would have failed, the company would have folded, because the cost of goods, we didn't have an application for it, we didn't have any games, then had a couple small things, demo games, and stuff like that, but we didn't have... So what were people using it for, like those early, you know, ones they were buying? Well, we had developers, people were writing content around it, so we had some of those, right, DK1 is developer kit one, developer kit two, CV1, consumer version one, so forth, so we had developers that were developing content around it, but there was no major application for it, and interestingly, when I got the Quest, when I first got the Quest, we put it on, I didn't know, I thought the games were kind of a dud, you know, they're kind of weird, there was like a disco you went into, I mean, what are you supposed to do, what's the strategy, games got to have strategy, there's got to be a social component, this is the new part of gaming, like you're playing against people all over the world, but what's the goal, what goals do you have, is to conquer the fort on the hill, or what are you trying to go shoot the tanks, there's no goal, and I just didn't get it, and you have Beat Saber, I mean, it's a arcade-ish game, and you can play that for 20 minutes, but they don't have a long-term play application, I love the idea of a metaverse, I think that's a really cool idea, you can have your own currency, Roblox, you can have your own currency, it's a land, you can go visit, and you can have your own lifestyle, you could be better looking in the yard, you can have Ferraris and all that stuff, you have to earn them, I think it's a great idea, but the execution, because Facebook has made it not a video game company, it didn't happen, and had they had farmed their stuff out to a dynamic studio, bought a studio, and gotten the hell out of the way, it would have probably had a different outcome, they needed a killer game with it, and a creative game, so they didn't have that, and how much visual stuff can you do? Okay, the spaceship blew up, and Star Wars, the guy falls out of the spaceship, and I don't know,

so much of that, it's like, okay, it's great visuals, but what do I do now? That's my take on it. But one other thing on that, what do you think, so it's pretty commented on when Apple kind of launched their VR headset, yeah, the thing was super high end, super high quality, Apple makes great things, so they have that reputation, but it was noted that they didn't mention games at all in their headset launch, so do you think that's gonna hold them back, isn't that a big part of adoption of these VR headsets? What is Apple's, okay, Apple sells entertainment, they have iTunes, and now they're starting to get into feature films, they're getting into content for their hardware, if they could come up with a game or content for it, I don't know what that would be, some of the really good ideas I heard, and this was attempted, is like, if you wanted to go to a sports venue, and you want to sit on like a Jets game or something like that, or Niners, and sit on the 50 yard line, you could sell that ticket to 100 people, and have them put the headset on and watch the game, right there, with people right next to you, real people, and people are working on this, you know, with 360 cameras and so forth, they were thinking about this, I think that's a great, I would like to do that, like to go to a Niners game or Jets or something, and pay kids and sit on the 50 yard line, that's great, and pay 20 bucks or 50 bucks or something to watch three hours of football, that's something that I would enjoy and do, so this is the thing, they just haven't, no one has had the ability to come up with a mechanism or entertainment part for a headset, they just haven't been able to do that so far, and this is what's probably holding it back, you know, granted there are vestibular issues also, so this is why a game where you walk around and you're wearing the headset doesn't really work very well, that's why the main one is it makes people sick, and I don't get sick from it, I've been staring at computer screens for 40 years, but a lot of people who don't do that put it on and they go, oh, I don't feel well, I feel dizzy, you know, and so anyways, that's my call, and Apple's ability to execute is well known, their stuff's flawless, and I asked you a question, you know, the Apple has an app for the car, right, Apple Car, yeah, why aren't car manufacturers using that, and there's cars everywhere, there are some using it, you know, I have a car with it in it, but they want to sell their own, they want their own content, and their own software, and I think I heard an interview with Ford Motor Company, they said we don't do, we don't provide hardly any of the software for our cars, it's all third-party stuff, it seems to me you want to bring that in and put content in the vehicle, you know, Tesla's pretty much done that successfully, they have games and stuff you put in there, but so this is the issue really is that there's not really good content for VR right now, you heard some of my ideas here, but watching a movie at a movie theater sounds good, but why aren't we doing that, if it could bring in Robin who people would be doing it, right, a Questl, I heard 20 million headsets, this is what they quoted, that's pretty good, that's a lot of them, yeah, actually I know a ton of people, especially with the cheaper version, I don't know if the Pro did quite as well, I heard they kept cutting the price and handing it out at the end, so that's why I'm concerned about Apple, just because it seems like that price point that might make it a little bit tricky. Question 4, you kind of on the overall landscape in tech right now based off of what you've seen in the past and today, I feel like we've seen a couple different waves over the last number of years, we've seen kind of there was like the Web3 crypto wave, there is this whole metaverse wave, different levels of those things have kind of sputtered out or

changed, today of course we're seeing the AI wave where everyone's integrating AI, how would you compare what we're seeing in AI today to some of these previous kind of like big, some people call them bubbles or waves or whatever, but kind of revolutions in tech? I will say that no one's quite clearly explained what AI does, they know that they can go onto a website and ask it to write a song or tell a story, but no one's been able to explain exactly what it is or what it does and so a lot of its fear, people are afraid of it, well what if it starts interfering with social things and it may be already, but you know this is the kind of stuff that people are concerned about, politics, you know people using it for nefarious purposes, generating stories that are true and repeating them in the media over and over again until they become true, this is what people are afraid of, can that, can it be, if you see a mid dirty, I don't know if you've put it with the hard stuff, yeah some of that stuff that is just like, it's like hellish to look at, it's like a nightmare and some of it, some of it's beautiful, totally, some of it's the car, the automobile renders and things that have been done with it are just stunning, so it has two purposes, one, I mean there's two spectrums, one is it's very negative things it can do and also very positive things it can do, I don't believe personally that trying to regulate it, if governments try to regulate it, they're going to regulate it in a way which benefits them, not the populace and this is kind of what, yeah, so I don't think it's government needs to get involved in that, it has to be self-regulated, you know, there has to be some way of self-regulating, so I'm not sure how that would play out exactly, but there has to be some mechanism for doing that and that would have to be intrinsic in the provider of the service, I think Microsoft has, Azure One, I think it's a supercomputer that they build, that's the backbone of a lot of the current apps that are out there which utilize AR, are using Microsoft stuff, I mean basically, comes out of the cloud and so, you know, I typed in my name one day to see what it said about me, it was like most of it wasn't true, it was really weird, so can it be curated to lie about things, I think it can be and then, so what I did was like, I injected false information into a Wikipedia page and then back again, now it's giving me the stuff from the Wikipedia page, so it looks like it goes to Reddit and Wikipedia to get its stuff, so there's a guy in a bullfram, it did a really good write up on the API for the use for the most popular AI interfaces and he did a really good job of writing it up and explaining it, I recommend people to go there, so. Okay, very interesting, I would also be curious to hear your thoughts on, you know, so of course we're implementing AI, do you feel like this is a little bit more perhaps like hype around AI, do you think that it's impactful as perhaps we're being told, do you feel like it is less impactful or more, like for example, we have people like, you know, Sam Altman saying we're going to start doing universal basic income soon because AI is going to essentially replace most jobs, do you see that being the case in the future? I think if you're a writer or an actor that would be something you need to worry about, I don't know how AI would replace a person who does podcasts, perhaps it could, I mean to be honest with you, you're very good at this, I've been through a couple podcasts and you obviously have a talent for it, there's things I can't do, can it treat people's medical conditions, maybe symptomatically it could, but it can't do surgery, I mean you can't do that, although they have the surgery robots and so forth, a lot, it can't drive a formula one car very well, so a lot of things it can't do, can it write scripts, can it write jokes, it can do that kind of stuff, yeah, but it's kind of, can it write songs, yes it can write, I used an AI app

I mentioned, but to write a song just to see if it can write, it was pretty good, it was a country western song, really, yeah you just put write a song about a puppy and it'll write the song without a puppy, so country western and so it could do that kind of stuff, I think you're onto something there, I don't know that a universal basic income is the answer, you think that you just have to reskill yourself, can AI be a roofer or a plumber, can AI fix your car, no, it can't take an engine to park your car, can it frame a home, it can't do that, maybe those will be the high-end jobs, you know, labor, you know, can't really do labor, it can do intellectual stuff, probably some stuff, but it can't do certain things now anyway, so, okay, so and I want to dive a little deeper on that, so for example for the podcast, I actually prior to starting this podcast actually made probably like 10 podcasts which were completely written by and spoken by AI and they became incredibly popular, but I also realized that those podcasts had a hard time converting listeners to like followers and so when I started this podcast, of course I had that background and I'm like, oh maybe I'll do an AI podcast and just like make a clone of my voice and then use that, but I came to the conclusion that you actually need like a physical person that makes mistakes, it says that messes up, like as AI becomes more prevalent and like everywhere, people aren't going to want to listen to what is like a perfect, like they want mistakes, they want like a little human air in it, so anyways that's with the podcast thing, but my guestion on like plumbers and roofers, this is something that I'm like a little concerned about, so Tesla right now of course they're making their Tesla humanoid robot, there's others, what if like do you see like that as a viable solution or option in the future where like let's say there's a Tesla humanoid robot that eventually is trained on AI so it's as fluid as a human, then it just like you know you get maybe like an electrician or a plumber to wear like a full body suit for like a year while they're doing all their electrical and plumbing work, that's all like being trained into a model that now plugs into like this humanoid robot, could we not replace like would it not come for blue collar if you're pairing it with like the the robot side of things? Well most cars and most car factories, even the tests are built robotically, there's the assembly and so forth, not everything, but that replaced human beings and replaced union workers, you know high-paying jobs, so yeah I suppose that could be the case, but there's so much like decision-making and that you need to do when you're doing repair, like oh you look down and then the floor's rotting below, oh I have to qo

to Home Depot and find parts from Home Depot to fix that, whatever, there's just so much decision-making and expertise level, it's really hard to get some expertise stuff in AI I suppose, but just knowledge, just experience is just not there and so I think it writes a great country western song, maybe the can it fix, can it change the light bulbs by looking up at annoying which ones are bad, maybe I don't think so right now, but if I were a script writer or someone in Hollywood I would be concerned about it, you could you could create an actor who doesn't

exist, yeah not a real person, yeah it's so good, so good, it's uncanny, and just sit there and tune it until you get it to do what you want it to do, you know, examine an actor's face and see how it behaves, so yeah there's certain areas I think that it could, you know warfare also do being able to here's the thing that this is a great, just let me digress a little bit, talk about warfare because this is something that I thought about, you know, right now you can have a drone

co-in and do an attack, right, and 30 or 40 years ago you would have to have a person go do that, the commander who's a human being would have to say sergeant take three of your guys out there and then destroy that whatever it is, pill bonds would, yeah, but what's running through your mind is the commander's like I might get these guys killed, I mean they could die, how am I gonna feel about that, right, you see human being course can feel that, with a drone you don't thinking about that, you're just gonna attack, yeah, so it brings a whole another level of danger in warfare of escalating it, because you're not risking people, you're risking a piece of hardware, yeah, so where am I going with this, I think that, you know, in terms of AI we have similar types of issues like that, I mean a nefarious person could construct a political dialogue or something like that because it's just a robot doing it, and by your example doing the interview with an AI jade and shaper, you know, would be, you know, I mean you're not really risking it, you're risking something for yourself, but you could have a, I guess I'm gonna go with that, it's just like if you remove the human factor, decision making is based on, and warfare is based on, you know, a lot of it's just how you feel about lives, you know, a general doesn't like to send people to their death for sure, you know, again men, and now with, I mean you've probably seen some of those videos from Ukraine where they're drawing

mortar rounds, I mean it's just, man, yeah, that's rough, and I think also something like touching on that is like, it's kind of sketchy to me like AI and warfare because you look at different countries and they have different military doctrine, right, like for example we've seen Russia is typically more willing to, like in an invasion, lose more of their troops, for say, in certain maneuvers, and there's just different countries that have like a different value, and if they're training their own AI models, integrated into war, it just like, I don't know, to me it like, it just feels kind of gross, but I mean even for you, I mean this is probably something you've thought a lot about, right, we have really big AI, AI being integrated into weapons with like Palantir for example, or even right, one of your previous co-founders, Palmer, right, he's working on, Andrew, right, and I'm sure like he has some, I've seen just recently he unveiled like a autonomous, you know, drone airplane, this stuff is all getting AI integrated into it, yeah, fury rather, yeah, yeah, I don't know to, you know, just to, I can't tell you everything, but I've been approached by the Air Force to help them with stuff, and I'm a little bit on the fence on it, the problem with me is that I don't want to have a job, although I would help them, I don't know to which level in that product that he has AI integrated, he says it's completely autonomous, maybe, I mean that's a lot of hardware to try to get done, he's been working on it like eight, five years, six years, it seems like a lot of stuff to get done on a shorter period of time, I'm always wary of announcements like that, what does it really do, but I don't have a lot of comments on his stuff, I'm skeptical, a lot of things I hear when I hear announcements like that, if it's that good, you don't say anything about it, it's like revealing, revealing your stuff to the one team, you know, you're telling Red Bull what you're, you know, you still say anything, although you probably know, so that's kind of what I think on that issue, you know, one of the things about, you know, like a GTA V brand that's not applied, you know, that, if you played that, the entire little country that you played in was created entirely in CAD on Autodesk by people,

really? Yeah, it was. I think it would be cool to be able to say to an AI engine, make a building with broken windows and graffiti on it, make it out of brick, make it 10 stories, and make smoke coming out of the top, it just does the whole thing, including the shading and texturing for you. Yeah, yeah, I just saw a tool that's like that, it does 3D worlds based off of AI, and it's so interesting because it's got a little chat bot like chat GPT where it's like, you tell it what to do, it builds the world, and you're like, okay, make the building taller, okay, actually make a moat around it, okay, like, and so it's like live editing, so fascinating, this is going to get into, this is going to get into like Oculus, integrating this into Horizon worlds and other things like that, I can't help, but it'll be so fascinating. That's the best, that's the best utility because the labor that goes in it, also you can have the game generate its own cities, each one very different from the other. Yeah, as you go along and you play, it just automatically, based on text script, the new structure of the new building that you're led into, or you know, that's just, I think that's cool, you know, create monsters and tanks and all kinds of stuff, mid-journey, I mean, some of the stuff that's been done is, like I said, it's halish, but you know, that's what, if you ask me, that's the best utility for AI, for strategy, it has to be designed, it's designed on the storyboard, like you tell the story of how, it's like a movie, you tell the story of how the game is to unfold and how it's to play to the producer, you know, this is what the people that come up with the game idea that basically it's like a sketch type thing, like, okay, granted, I haven't been around an area in 10 years, but that's basically how it's done it, and I gotta know it like the E3 or GDC or something, you see people doing a pitch, right? And so the strategy is designed by a human being for entertainment. Can AI design as the game strategy? It would have to be based on previous strategies and what worked well, but certainly I think it could, you know, so it would be cool to have an AI engine generate an entire game, you could, you could be a developer sitting in your house and say, you know, just make an entire game just by doing descriptives. Yeah, so fascinating. I think that's going to be a massive part of it is just this whole personalized angle for entertainment. Yeah, you can direct your own movie, you pick the actors that are in it, you pick like the script and the storyline, like, come on, that's crazy. That's, that's a really, really good application. It could be in its own industry, and you put them up on Netflix or something like that. Yeah. So put it on Netflix, but yeah. Yeah, and I mean, even people worrying that like AI replaces, like those actors can get a royalty every time they're included in a certain movie, and maybe they have like personal moral things where like, I don't do war movies or I don't do like they could like pick their criteria, but you can just kind of mix and match and build. I think that would be a powerful use case, like movies, music. I mean, I've already heard some incredible Johnny Cash AI songs that I was pretty blown away by. So yeah, I think it's there's so many incredible applications. Well, Jack, thank you so much for coming on the AI chat podcast today. I know this thing went way over. I'm sorry. I was just getting too many incredible, incredible insights from you. But if people are interested in reaching out to you and finding more about what you're working on or anything else, what's the best way for them to get in contact with you or see some of the things you're doing? Probably through my assistant. The problem with me is I don't answer my emails.

I see them go by and I go, I'll get to that. And I never do. So she filters that stuff, not filters,

but she, she like bugs me and I don't answer stuff. It's like what happened with you. So that's the best way. And also LinkedIn, reach out to LinkedIn. I have someone help me with that. So, but yeah, it's been a great talk and you're really good at this. I was pretty impressed. So thank you. Ah, well, it's been amazing to the listeners. Thank you so much for tuning into the AI chat podcast. Make sure to rate us wherever you get your podcasts and have an amazing rest of your day. If you are looking for an innovative and creative community of people using chat GPT, you need to join our chat GPT creators community. I'll drop a link in the description to this podcast. We'd love to see you there where we share tips and tricks of what is working in chat GPT. It's a lot easier than a podcast as you can see screenshots, you can share and comment on things that are currently working. So if this sounds interesting to you, check out the link in the comment, we'd love to have you in the community. Thanks for joining me on the Open AI

podcast. It would mean the world to me if you would rate this podcast or wherever you listen to your podcasts and I'll see you tomorrow.