Intro and Guest Introduction

Yeah. So next bird hops in, you aim a little bit better. You get closer to the tower, but you miss again. you get more frustrated, But you're starting to get the hang of this.

Third bird, hops, in you, aim better, You fire and it's glorious. More patients, more authority, More freedom. I'm Brett Gregory, founder of Doctor Talks, where we're democratizing the creator economy for doctors.

Welcome to The Show. Welcome to another episode of Dr. Talks. I'm Brett Gregory, the host and founder, and I am really excited today. We are going to be talking to Sam Glassenberg.

He's the founder of Relevate Health and has such a fascinating story about what he's doing with video games to help doctors. And Sam, so excited to talk to you today, tell us a little bit about your story and your background.

Great to So I'm the founder of relevant health games, which is the games division of relevate health. Got it. Formerly known as level X. Some of your audience may have played level x games.

Okay. It's the leading medical game studio was acquired about a year and a half ago by relevant. And we make video games for doctors. It's Video Games for Doctors.

That is something, I really hadn't heard of that before. I just came across you, so I'm really excited. So tell me about, first of all, how does one get into creating video games in the first place, let alone video game for doctors?

Video games for doctor is by accident. Okay. By accident So I'm very lucky I've spent my career in the video games industry.

Sam Glassenberg's Game Industry Background

Companies like I used to work in Lucasfilm. I literally I use to fly Star Wars spaceships. Wow. Star wars video game. So that was my I was an animator.

That was My job. Cool. years of Microsoft, I've built game studios and games played by hundreds of millions of people. Wow. What are some of the games that we might've heard of?

Well, let's see, it depends. I mean, if you played Star Wars games, Jedi Starfighter, Obi-Wan, more recently, If you've ever heard DirectX from Microsoft I used to run that graphics team.

Before medical games my company made games for The Hunger Games, Mission Impossible, Rocky, Narcos. Cool. Amazing. All right. Whole bunch. I've had a lot of fun.

Yeah. Um, great. But yeah, so the medical games was again, an accident and parental guilt. Mm hmm. Mhm. Had this impactful career in the games business, which has made me the disgrace of my family because I come from a long line of doctors.

My grandfather was senior editor at JAMA. my parents are both doctors, my wife. Uh, I'm the idiot who never went to high school. Right there with you.

I'm from a short line of doctors. And yeah, I stopped, stopped with me. Yeah. So it didn't. You'll identify with this then. I accepted a technical Emmy on behalf of my team at Microsoft for pushing the cutting edge of video game graphics.

Wow. That's Jensen Wang. Oh my gosh. Me, we were younger then, accepting Emmys on the behalf our teams. Why? Because the GPUs that are behind the AI revolution, what were they originally built for?

Video games. Yeah, there you go. Okay, makes sense. I call my parents to be like, hey, you know, accepting this, I mean, on behalf of my team, my dad answers the phone.

He's an anesthesiologist. Without skipping a beat, he goes, Sam, that's very nice, but in this family, we only recognize Nobel prizes. Sure. You're not yet 30. What are you wasting your time for?

Go to medical school. This is the university. Yeah, sure. So anyway, he gives up a few years later, because I was too old for med school, so he says, all right, put all this gaming nonsense to good use and make me a game to train my residents to do a fiber optic intubation.

All right. Anesthesiologists don't do lot of procedures, and this is a particularly difficult one. OK. He's like, look, can you just make a me game they can play on their phones?

train them how to do this. I'm busy running like this big independent Hollywood game studio. Have a day job. But out of guilt, I sit down for a few weekends and I make a game for my dad.

From a Father's Request to Medical Games

Nice. And I upload it to the app store and don't think about it again. There's nothing like guilt to motivate you. Guilt is a very powerful force. It sure is.

We know about powerful forces. Yes. So I make this game, App Store, Leave Me Alone, Dad. Two years later, hey, Sam, he calls me. How many people downloaded it?

Dad, I don't know how many of your friends downloaded your fiber optic laryngoscopy game. But I'll go on iTunes and I will check for you, so I went, We had a hundred thousand doctors, nurses, and airway specialists.

A hundred… thousand. There are so many game developers that would kill for a tenth of that. No, look. I've made games played by tens of millions of people.

But still… In the games industry, a 100,000 is not impressive. In healthcare, I don't think this has ever been done before. Right. That's what I'm saying.

It's never been… I Google it to try to understand what happened. They've been doing efficacy studies at hospitals all over the world, from China to Stanford, that showed this crappy game I made for my dad is actually improving performance.

Oh my goodness. Incredible. So again, I would love to say that Games for Doctors was some grand idea, but no. it was, you know, okay, clearly there's need for this.

What if instead of me, we took the top video game developers, designers, artists, yeah, everything from Mortal Kombat, words with friends. Yeah, team them up with like top physicians from every major therapeutic area in medicine, to as you say, advanced the practice of medicine through play.

Because, you know, doctors, like, see one, do one teach one. Like, we don't give them the tools to learn how to use all these advanced technologies and devices.

We expect them to basically figure it out on patients, or giving them, manuals and PDFs. Your phone doesn't even come with a manual. You get a phone, and you go, I need to play with this.

Because humans learn by doing. So how do we let you sit down with your phone and play through, three lifetimes worth of rare, difficult, unforeseen cases, whether it's gastroenterology, cardiology pulmonology.

We've been doing this now for 11 years. Millions of medical professionals earn CME credit by playing video games. Yeah, I was going to ask about CMA credits.

That's amazing. Yeah, but actually, most of our doctors actually don't even use it for CME. Right. I think only 30% or 40% actually took the CEME credit.

The rest, a lot of them are at academic institutions, or they go to Hawaii, whatever. But we just found that this was a great way to stay up to speed on the latest techniques, devices, treatments, guidelines.

That's amazing. So how do these games help doctors develop the mental skills that they need? So that's where the interesting, that is where secret sauce comes in.

All right. You know, I've shown you, like you kind of saw behind me, the graphics are awesome and the technology is super cool, but the service is something way more important.

And that's what we call the neuroscience of video games. This is our mechanism of action in the video game industry. So essentially, over the last 30 years, the video games industry has distilled the neurochemical recipe for driving learning the development of a mental model on any audience.

And we've been testing this on three billion unwitting test subjects.

How Video Games Train Doctors

Like we have figured out how do you hit that perfect balance of reward and frustration, challenge and skill to maximize the release of neuro chemicals in the brain like dopamine to maximise learning.

The best example I have for this is not medical. You've played Angry Birds. I used to love Angry birds, yes. It came out a dozen years ago. Who doesn't love it?

You never know. Sometimes you encounter a person who doesn' live in the real world and hasn't played it yet. But everyone's played this game. Why? We've evolved to play Angrybirds.

Neurobiology course laughs we have So think back maybe a decade ago the first time you played Angry Birds. What happened Angry Bird hops on the slingshot.

Mm-hmm. You aim it at the Tower of Pigs. It's Um, it's a physics game. Yeah, right. Its training your brain how to predict the parabolic flight of an Angry bird So what happened the 1st time?

You play you aimed you fired what happen? Do you remember? I missed maybe. You missed, you missed. And what happens when you miss an Angry Birds? The pigs laugh at you.

Yeah. Why? I've been laughed at. That's for sure. It makes you frustrated. This is deliberate. So next bird hops in, You aim a little bit better. you get closer to the tower, but you Miss again.

you're starting to get the hang of this third bird hops in you aim better you fire and it's glorious there's explosions and animations and the pigs go flying and sound effects and music changes yeah all of all this was deliberately designed to trigger a dopamine release in your brain that physically reinforced those neural connections you used on that last successful fire.

This is why an hour later, you're firing that bird between two narrow obstacles at 50 meters. Like 80 hours later. You're still playing. That's right.

Is ours. But we've evolved. We didn't invent this neuromechanic In the video games business, it's existed in the mammalian neuron for 10s of millions of years.

This is how our ancestors learned how to throw a spear. Yeah, miss, Miss Miss frustration, frustration hit dopamine. Okay, what are the neural connections we used on that last throw?

Make those thicker. Now, Angry Birds is helping your brain develop a mental model of parabolic flight. But you can use the same mechanisms. You want to train a diagnostician had to diagnose a rare disease, that's a reductive reasoning puzzle, right?

You got to order the right tests, you have to ask the questions, not only to figure out what the patient has, but to actually eliminate the other differentials.

You're developing a mental model. Let's say you want to manage a complex patient over time with multiple comorbidities and different treatments and side effects, trying to thread that needle.

That's the strategy game. Yep. You want to think about managing a ventilator. That's a rhythm game. So we're literally stealing the mechanics from the video games business to help medical professionals develop the mental models they need that they would otherwise develop, but only, you know, by doing 500 reps on different patients.

Amazing. Wow. That's incredible. I love it. Yeah. It makes all the sense in the world. And of course, how many times did I play Angry Birds for too long and take that exact same model and apply it towards something that can really help doctors grow in their practice.

So can you use this with patients? Yes. Okay. It is, it is just as effective. You can use it as a treatment. And you can also use for training. Let me pull up an example of that.

So yeah, running game studios is actually not my job. That's my second job, my primary job is on the pancreas. Because my middle daughter got diagnosed with type one five years back.

I'm sorry. her parents are an engineer married to a pediatrician. It's the diabetes dream team. Yeah, fair. If anyone's going to happen, you know, but the, the onboarding process is terrible.

it's not the doctor's fault. They're not given the tools are given to educate patients is like incredibly rudimentary. So I remember you know, after, you only got 48 hours with you in the hospital.

Yep. So, they train you up as quick as they can. Sure.

Using Games to Help Patients Manage Diabetes

And then they send you home with this. Yeah. Which is, for a parent, let's say, saying over this, which for parents is very intimidating. You know even, always, this is your, now I'm responsible as a parents, right?

For essentially precise dosing precisely calculated doses of insulin 20 times a day. You're off by too much, you'll end up in a coma. But here are your rounding rules, and your carb ratios, your sensitivity factors, always give insulin for carbs before eating, but only give a correction dose if it's been.

It's a serious titration. This is serious business. Coming from what we just talked about, coming from the games industry, Eventually you learn this yeah through play but that play is trial and error on your own kid Which is a terrible feeling right and eventually after six months you develop that mental model.

I'm like, oh hold on I get this now. Yeah, I understand insulin glucose dynamics. You know, that's We could fix this. Over the summer, we launched level one.

This is our first game for patients. Okay. And basically the game trains your brain how to manage type one diabetes. What would normally take you months to be months.

Yeah. Right. Takes you hours. Amazing. Everything you need to know how the dose, how that count carbs, had a

dose insulin, Adam managed lows, out of managed highs, ketones when you're sick.

Everything. The game looks like Candy Crush. You play the whole thing with one thumb from your phone. We launched this. Fantastic. Yeah, we launched it over the summer.

I think we just passed 50,000 players in a game only for newly diagnosed type one diabetics and new year caregivers. Oh, that's amazing. Wow. Congratulations.

What a great story. Great application of this, I mean, this is helping a lot of people. So, thank you for what you're doing. So thank, you this is, and thank for having me.

Yeah, of course. The important thing is not just, oh, this for diabetes. There are many problems in healthcare that look like this. That can be solved with a similar toolbox.

And that's, you know, if you're honest, takes anything away from this. It's there is this massive toolbox of game design and game technology that has been distilled by the games industry, which is bigger than the movie and music industry combined.

And if. Steal it. You can steal it and use it to train, train medical professionals on new techniques, new devices, or train patients and actually treat disease.

Yeah. Amazing. Wow. Fantastic. You, so how, you know, AI is everywhere now. How is AI coming into play? How has it changing what you're doing in this industry and what's going on for you with AI now?

So now AI, in the video games industry, every five years you need to totally reinvent what your doing. Yep. Because the latest Xbox or PlayStation can support 10 times as much content to 10x the detail.

Yeah. You gotta produce it. So we're always reinventing. So AI for us is like, just the next evolution. And we're all over it. We're All over. My teams are all Over it, the artists use it for everything.

The engineers, The designers, we can build things much more rapidly. What's been interesting for me is some of the other experiments I've been able to do with at any given time.

Now I have 80 AI agents just making things. Wow, research having okay, building things so This was my first foray, actually. AI brought me into my, you know, my for, into actually building a digital therapeutic, a game, not just for training, but for treating disease.

My youngest daughter was diagnosed with eye convergence insufficiency. A lot of kids get this. You know you get double vision or blurriness when things get close.

So the doctor prescribed her this, these glasses, red blue glasses these exercises you had to do. They're so boring to try to correct it, and she wouldn't do it.

She would not comply. Oh, geez. Problems with non-compliant patients is like classic example. Sure. So I said, all right, kiddo, let's look at the glasses.

I'm like, Let's make a video game with these glasses, what do you want? You want Pong, you wanna Tetris? She was eight. she goes, Daddy, I want Guitar Hero.

AI, Digital Therapeutics, and Behavior Change

Nice. And I wanna play it with Taylor Swift songs. Epic. Great. Sounds great. So she and I sit down with Claude code, right? It's like chat GPT, AI coding agent.

We sit for like an afternoon. She bosses it around. And we build this game and literally she sits there and she plays

the game. You know, you're just playing guitar hero.

But what's happening is the game is moving towards you. So if you lose focus, you can't see the notes and you start losing. And then it keeps you what we call the zone of proximal development.

Wow. It's her game, she plays a lot, it's actually a lotta fun. She played the crap out of it. Great. And then eventually, like a couple months ago, I took her to the eye doctor, and she cured herself.

Wow. With AI and video game development. That's fascinating. So with AI, the bar is now, if doctors have great ideas, oh, we could just get patients to do this.

Yeah, sure. Right, It would change the behavior. It will treat the condition. Like the toolbox is there now to create it. That's amazing. I mean, behavior modification is the hardest thing to do.

Right. This is what we do all day in the video games business. Amazing. I love it. Think about, this is our business, so every game is changing your behavior.

Yeah. Every game. You just don't realize it, yes. So I think back, the Obama administration spent, I thing, two to three billion dollars on a campaign to try to stem the obesity epidemic.

Mm-hmm. Like to just literally get overweight Americans off the couch. And go for a walk, and I remember, All of these meritorious efforts were eclipsed by a single video game.

Yeah. We've got 40 million Americans up and walking for miles. But this is not, we think of Pokemon Go as this weird cultural phenomenon. Every game does this.

It changes your behavior. Getting you to come back every day, invite your friends, buy coins, whatever. Behavior change. The only hack that Pokemon Go did, the only tweak was, oh, now we're going to reward you for walking around strange neighborhoods and we are going hook in the GPS in your phone.

Next thing you know, downtown Chicago is a zombie apocalypse. It's behavior change, it's making people walking for miles. This is what games do. You just have to steal it.

Amazing. So what are you hoping for doctors who are listening to this? What do you want for them to do and to take away from this. Look, go into the App Store, download the games.

If you're a dermatologist, top derm, if you are an endocrine, level one, check it out. Is there one place where we can see the whole list of games? I think if you just search for level X or relevant health games, they'll just show up in the App Store.

All right. And there's also you can go to our website if You want. But the, you know, and that's a, it's, a great toolbox, but what's more, I Think, more broadly interesting is the this toolbox that I don't think people think about.

Like people will think Pokemon Go or Angry Birds as a toy. What you don' realize is there's all the sophisticated neuroscience under the surface. that can be used to solve problems in healthcare.

Yeah. And so if you have problems, play these games to sort of, you know, doctors are smart. They're good pattern matchers. You'll see the patterns. If you're like, wait a minute, we can use this for this.

and then, call your local game developers or, reach out to me on LinkedIn. People should follow me on LinkedIn anyway. I'm always posting interesting things.

You are, that's how I found you. We're gonna put all those links in the description. Here, I wanna take a note. Wanna put your LinkedIn in as well as Relevate Health, how to find top derm level one.

What's your greatest challenge that you're facing right now? Oh, what's my greatest challenges? Hmm. Lack of time to keep all my AI agents spinning. Well, literally, like, they're texting me all day long with their various, you know, with, their research and game development and everything else.

I'd say maybe that. The other thing I would also say is, we are at, at Relevate Health Games are just scratching the surface. There are so many problems to solve and we cannot solve them all.

Future of Medical Games and Closing Remarks

So obviously, feel free to come to us first, but, One of the things that I'm hoping is that we will, this will create a genre of medical games and others will use these techniques and technologies to create more games in medicine and beyond to treat disease, help patients, health medical professionals, make the experience better for everybody.

Yeah, that sounds like a great future. And are you hoping to recruit anybody towards that future? So we always are looking for forward thinking doctors to work with us on game development.

They can reach out to some info on the website, just generally to beta test and test games. Great. When we go into specific therapeutic areas or work specific life science partners, often they'll have doctors that have a relationship with them and we'll develop a game together.

Because as you can kind of guess, playing games is a lot of fun, but so is making them. Yeah. Well, it looked like an amazing experience making the game with your daughter.

That had to be priceless. We have, it's a lot of fun. It's super rewarding. Yeah. it is a great puzzle. Sure. How do you use this toolbox to solve this problem and then, you know, make something that's great and fun and rewarding, but has the right amount of challenge.

Love it. Love it. Sam Glassenberg, founder of Relevate Health Games, thank you so much for joining us here on Doctor Talks. We really appreciate you spending some time with us.

Thank you for having me, anytime. All right, and all those links will be in the description. If you found this episode valuable, please consider hitting the like, subscribe and leave a review.

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We'll see you next time.