Guru Live Games Keynote Lecture: Tommy Palm
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Julia Hardy: Hello. Hi. How are we all? Are you keen to learn some things? Yeah. So yeah, Tommy, it's so lovely to have you here, thank you, you've travelled all the way from Sweden to come and chat to you guys today. He's had an illustrious career, and I think you really started on Commodore 64. Have you actually played a Commodore 64? No. We're really old now Tommy. I'm just kidding. And obviously you went on to work at King and brought *Candy Crush Saga* to the mobile, the mobile realm, which is no mean feat. I mean that's pretty spectacular, it did alright, it did alright that. And of course now is at Resolution Games, spearheading and pushing forward with a lot of very exciting VR content, so thank you so much for joining us. First of all, do you want to just tell us a little bit about, I think people are always keen to know, because getting into games is always a bit of a weird, twisty, convoluted journey I think for most people. How did you get into games?

Tommy Palm: Well I was a gamer first of all, I think that's very common for most people in games, we love to play games. And this was back in the eighties, and at that time it wasn't obvious to me or any of my friends that you could actually have a career in games, it was one of those things that people were doing in their spare time, making games, mostly. So I started with Martin Vilcans who is an old childhood friend, and he's also one of the co-founders of Resolution now, so we started making games for Commodore 64, and then I studied at the Royal Institute of Technology later on, and I started my first games company at the end of the nineties. So Resolution's my fifth startup actually, so I've been…

JH: Been around the block a bit.

TP: Yeah, yeah, I've been doing these things a couple of times which is great.

JH: Is it any less scary, like the fifth time in, or is it just as scary as the first time?

TP: It's definitely less scary now because, like before there was a lot of financial risk. After *Candy Crush* there's no more financial risk for me, so it was great,

yeah.

JH: "I have a big pile of cash and that takes a lot of the stress away," I suppose, yeah. I mean, you know, obviously coming from somewhere like King, you know this huge company, and having like huge success while you're there, was everyone a bit like, "Are you mad? You're leaving this place to like you know go and start up your own thing?" I mean, what kind of motivated you to do that, because I mean it can't be a bad place to work.

TP: No, it was fantastic working there and getting a chance to be part of that journey and seeing everything from the inside. So King acquired my former company, previous company that I started with another friend, Alexander. That company was called Resolution, sorry, Fabrication Games, very confusing names.

JH: You're forgetting how many companies you have.

TP: And we joined King, King was still under 100 people then, so a very different company from what it is now. And the first game we worked on as a cross platform title was *Candy Crush*, and it was super interesting to be on the inside of that and seeing all the behind the scenes stuff and the data and what you need to do to scale a game to that size. I seem to remember that it was from the number of requests, it was more than Wikipedia as a site, so really intense number of people accessing.

JH: Was it terrifying? I mean, because I mean, it's not just like little numbers, these are like crazy numbers that you probably can't even like pronounce because they're like that big, you know.

TP: Well I wouldn't describe it as terrifying, it was just fantastic being part of it. Like we kept saying internally like, "We know it can't continue growing like this," for a really long time. Even from like the first weekend we had this competition where we would guess how many downloads we would get, and we were pretty confident that we'd get great downloads, partially because we had the Facebook version of the game out

already, and we had millions of daily active players on that one, so we knew that they were going to download it, but the numbers were like way over what we could have expected. And it continued like that for…

JH: You should really get like a medal from like the games industry, because it really did just kind of change everything really, and change the way people were looking at stuff, would you say that's fair to say?

TP: Yeah, one of the things that I was really positive and surprised about myself, I kind of always felt that games could be for everybody, and I've tried to get my family to play games that I'm very fond of. I've always showed my mother like the games I've been working on, and they're always like, "Yeah, that's very cute," you know what it's like.

JH: Yeah that's like my parents, yeah.

TP: But with *Candy Crush* it was one of the first games that they actually got like properly hooked on and continued playing, and would like send me Facebook requests, and when I wouldn't answer them they would call me and say like, "I sent you a Facebook request, can you help me pass the next episode?" I was like, "Yes of course, I can go and do that." So that was great to see, and I think one of the great things that smartphone games have done is really opened up the target group for games, and that's going to be helpful for everybody in the games industry and also for consumers. It's better when there is more people involved. And I think in its core games are a very, very social experience, even if you play a single player game, it is much more fun if you have a friend playing the same game and you can talk to them about it. And we know that as gamers, but outside this gamer group that still is a very limited number of people, I mean, I think that internet today reaches about 2.4 billion people out of the seven billion people on the Earth. And I think we can, one day we'll reach out to everybody and everybody will play games. Just as you know you don't call people who watch films something special because they watch films, it's just something you do.

JH: Yeah, I mean do you remember like growing up where you'd have a conversation and you'd say something like, you know like, "Do you like music or do you like film?" And then suddenly it became a really, really stupid question to ask people, because of course you like music, or course you like films. It's just what films, what music. And I sort of feel like there'll be that point where I'll be asking someone, "Do you play games?" is just as stupid a question. Because we all play games, it's just whether you play you know electronic games as it were, you know people play chess, other things. I suppose I never really liked that idea that there is that kind of, some games are quite elitist about what a game is, and we were talking about this before. I mean if you're playing *Candy Crush Saga*, an hour to work, an hour on the way back, you know five days a week, you're a hardcore gamer, because that's some serious time you're putting in there you know. And yeah, you're definitely right, the more gamers there are really the better.

TP: That's one of the things that I'm very excited about VR. When you show somebody VR and they see it for the first time, it doesn't matter who they are, it's not just for tech enthusiasts, it's your brain realising that you know you can use a computer to trick you into believing that you're somewhere else, and if it's done well you'll feel like you're being teleported somewhere else. It's this incredibly powerful medium that is showing me at least, I'm convinced that we've gone from these mainframe computers to personal computers to smartphones, and the next step's going to be being completely encapsuled in the virtual world, so it's very exciting.

JH: It breaks down the barriers I think a lot as well, especially if you've got gesture controls that feel natural. Because I mean the controller itself, especially like a console controller, it's a terrible way to communicate with a machine. I mean why is B crouch? Because you've decided it's crouch, and I know that because I've played a lot of games, but actually if someone else picks it up they're like, "Well why is B crouch?" But you know you play VR and you have you

know realistic hand gestures, you actually don't have to explain how to play to anyone. And I think that puts a lot of people off, you know you give someone *Call of Duty* and they're like, "Oh forget it."

TP: That's a great point, and one of my favourite examples from, like one of the things that smartphone games is that it had, instead of these abstract controls where you have a button representing something else, you have direct controls. Like you see a lever on the screen, you tap it and then it switches. And one of my favourite clips on YouTube is a bullfrog playing *Ant Crusher*, and he sees ants and he squishes them with his tongue, and of course he doesn't know that he's playing a game, he's just instinctly returned. But it's showing how intuitive that is, you know if a frog can do it then anyone can do it. And I think the same thing a little bit with VR. If you can see your hands and you can touch objects that you see in front of you, it becomes super, super intuitive.

JH: Yeah, I had a go on some PlayStation VR, they have a demo for this game called The Heist, and it was really, really simple. I mean you're literally just getting away from a robbery that you've committed or something, and you're driving down the motorway and some guys are coming and trying to shoot you, and all you've got to do is shoot the guys to get rid of them. And just being able to point your hand and shoot where you'd like to go, I was buzzed off that for like four hours and was just talking to everybody. I was like, "But it's amazing, you can shoot people just pointing your hand." And suddenly it's that sort of power, that sort of amazing feeling that we always wanted from games but never quite have gotten yet, if that's pretty fair.

TP: I keep hoping that you know, one of the reasons I think games are very niche is that that fact that you have to, like it's very often about shooting people or like exploding stuff. And if you, like most people don't want to do that. It's something that as gamers we accept that that's what you do, you sort of like have to hack off these 200 people before I can go on and open the door.

That's okay, but there are so many more things you can do, but you really have to kind of think it through and get interesting game mechanics that's not about chopping peoples' limbs off.

JH: I know, it's funny to think of. So why don't we talk a little bit about Resolution Games, like the company. Can you give us kind of sort of a bit of an overview of kind of like your size and your structure within there?

TP: Sure, so I started together with some industry friends in January last year.

JH: It seems like you just start up all of your businesses with friends, is that kind of how it works?

TP: Yes, that's how I love to work. It's people you really like to hang out with.

JH: And you trust them as well, so…

TP: Yeah, people have different feelings if it's a good idea or not, but in my experience I think it's great. It's people that you want to spend time with, and it enables you to have fun, and that leads to being more inspired, etc, etc. So currently we're 19 people, and we've been doing this for a little bit more than a year now so we're VR veterans, hence the VR Guru title that I, I didn't, I didn't say that, it's not on my business card or anything. I was called the mobile guru at King and then the games guru.

JH: So you've just got guru attached to whatever you do. So like if you did like a fitness channel you'd be the fitness guru.

TP: So yeah, at Resolution we're two teams now. One of the things I really like is being small teams when it comes to game development, especially in something like VR where it's very new, and it's a very experimental field. Even though we have a lot of experience building games it's, virtually everything we kind of conjure up we'd get a pen and paper and be like, "Oh, this would be a great idea, this would work really well," and we test it, and it's like, "Hmmm," it doesn't work for some reason. But often we find something that does work, so we kind of integrate that. So we built like I think forty prototypes by

now on different things that we thought would be a good idea, and we now have two games out, but one real game and one kind of…

JH: Other. Do you think it sort of lends itself, having a kind of smaller team when you're kind of pushing into something that's a bit more emerging? Is it just because it's, maybe it's more kind of like all hands on deck a bit more, and it needs to be kind of less structured and more kind of free-flowing and creative?

TP: Well I think in general I really like working with small teams. I've worked with bigger teams as well, but everything becomes much more, less agile, and you have to plan everything much more. And you can't really let kind of the software guide you on where to go next.

JH: I suppose it's momentum as well because if you can move quite quickly, you kind of keep everyone's buzz going, whereas if you kind of get stuck down a route it kind of, it's a bit more demotivating, I would guess, I assume.

TP: And we've seen a lot of like really great games come out of super small studios. One thing is that the tools available today to developers are so powerful, if you use something like Unreal or Unity you can really create a lot of things with a very small team. That's great, so in that sense game development has become much more democratic.

JH: I mean how do you go about kind of choosing the right talent for your team? I mean how much is it about, especially if you've got a small team you have to have someone who's going to get on with everyone, I suppose that's quite important, as well as having that sort of skillset, how do you pick?

TP: So I've always liked to recruit straight out of school, quite a lot. So we have a mix of like my old friends, and we're all in our 40s now, so we're old and grey and stale. And then we, so with Alexander who I started Fabrication Games with, my last company that was sold to King, he was, I met him through school. So I was speaking at the Royal Institute of Technology where I studied myself, and

he was listening to me and he did his Masters thesis with me, and we got along really well and I realised that he was much smarter than me and it would be a good idea to have a company with him. So yeah, that's how that started. And the same thing here, like one of the founders now, he was a student before he joined as a co-founder of Resolution. And he's fantastic, and he was selected 30 Under 30 by Forbes recently.

JH: Not bad.

TP: No, it's pretty good.

JH: I mean what advice would you give to anyone looking to kind of start like a new startup? And any possible facet of that really, like financially or creatively, or like what advice? I mean you've started so many, I'm sure you've got some top tips, things that you would have liked to have known before you started off.

TP: Well it's a really big, it's a really big subject and I could speak forever. But yeah first of all I think staring up things is like one of the most powerful things you can do. You can really change the world starting a company. You have Apple, Facebook, these are things that just transform entire society. So knowing that, starting up things is something fantastic, if you have the power to do that you can change everything. One of my favourite Steve Jobs quotes is that he realises at some point that like everything in society as we know it is just made up by other humans, and you don't have to live by those norms, you can just change that. And then you become, and this moment is that we're Neo in *The Matrix* that sees everything as code and just changes the world. So you know, become the master, you know it's fantastic if you can pull it off. Because it's very tricky, especially in games it's, like I have done some angel investments as an investor, and investing in game is super, super difficult. There is this saying that I've heard several times, is "Don't invest in a games company that needs money." And that's kind of a paradox, right? Because if you don't need money you don't have, you don't take other investors. But there is a lot of truth in that, and one of the things behind it is that it's very few games that actually make it

financially, that's a fact, it's a very hit driven business, and the number one games make a ton of money but it's very hard to get there. So, and another factor that comes into play is that even for the companies who made a success, it's very hard for them to reproduce and make another successful game. So investing in game is really tricky, so if you are starting your career and thinking about it, I think one of the most powerful things you can do is think about this quote about only investing in games companies that don't need money. So basically make sure that you don't need money. And what I'm trying to say that you can do, if you're straight out of school you can sponge off your parents and then work in a garage somewhere until you have made at least one or two games. And I've seen a lot of that, and a lot of really cool games came out. Markus Persson was mentioned in the trailer, he wasn't a student, he was working at King actually and he made the first version of what became *Minecraft* as a game jam, or a hacker phone thing. I'm not a personal friend with him so I don't know all the details, but he kind of, he was meeting with some of my friends in Stockholm when he was thinking of what he would do with the game. He started realising that this had a lot of potential and he spoke to the people at King to see if they were interested in it, but it was very different from what King was doing. And that's very good and well, I think he did extremely well with what Minecraft became on the side.

JH: I kind of feel a little bit sorry for him, though. I mean not super sorry for Notch, but he could never, ever, ever, ever have that success again. It would be impossible, that's kind of a bit sad. I mean I don't feel that sad for him, he's done very well, but you know "I'll just become a gardener or something, maybe do something else." So I wanted to ask you, so obviously Resolution has quite a focus on VR, would you say that you know maybe kind of having a startup that like is moving into VR, I mean is it good to kind of have a startup in something that's quite fresh and quite new and still kind of finding its feet?

TP: Yes, I definitely think so. I think it's

much easier to focus on an emerging platform. I had a chance to do that with mobile games. I realised when I was in school that, and my friend came in, one of my best friends he came in, we were studying at the same school, and he showed me his new Nokia 6110. It was a marvel of technology at that point.

JH: Ooh, he was the coolest guy in school.

TP: Yeah, yeah, he was. It wouldn't break and last for a week.

JH: They're still around, they still work today.

TP: Yeah, they do. But the big thing is that it had multiplayer *Snake* on it, and so you could play against each other, and I was, as a gamer I realised this is going to be huge, everybody's going to play games on their phones, and I had to quit school instantly to seize this opportunity.

JH: What did your parents say to that?

TP: Yeah, they were very skeptical about the whole idea.

JH: "I played *Snake*, I've got to quit school now mum."

TP: Yeah, and it actually took quite much longer time than I had expected as a tech geek. I was like, technology's here, case proven, this is going to be huge. It did become huge eventually but it took much longer than I expected. But my point is that if you go in very early in a platform, a new platform where you see something new happening the big companies are not going to go for it until it is an opportunity, and they quite often miss out these disruptive technologies because they have their revenues tied up…

JH: They stick with doing what they're doing, because they're making money so…

TP: Yeah, exactly. Yeah, they make 100 percent of their money a year, and then they have something else on the side, and there is no money in VR at this point yet, so they wait until it's established and they'll take their bands over there

eventually, which is probably the right...

JH: I mean would you say like as a startup, because it's emerging, you almost can like jump ahead, like if you have a like good idea and you execute it you can kind of jump ahead a few places, whereas if you kind of go to something that's already quite established you still have to kind of slowly work your way up. Is it a slower process would you say?

TP: Well as a startup one of your big strengths is that you're much faster than anyone else. For a big company, if you're working with teams of hundreds, you can't just go in one day and say, "Hey, I have an idea, let's do this instead. And then everybody is like, "Oh yeah, let's do it," and drop whatever you're doing. You do that a few times and you have a mutiny going on I guess, but in a startup that's okay, like we've done that a couple of times. Like we're working on something and then we realise that this feels much fresher and is a better idea, and we quit and start something else. And that's one of those strengths that I think you have to kind of utilise as a small startup.

JH: Okay, for maybe some of the guys out there who maybe aren't quite ready to jump in and do their own thing, I mean could you talk through some of you know your time at King and how it was actually, was it enjoyable working in a place that did have that kind of structure? I mean there's obviously pluses and minuses to each kind of possible route really.

TP: Yeah, definitely I enjoyed as I said before getting that data on knowing more on how these big games perform and information on how they were being built up, and also I got a lot of great colleagues and network from that time as well. So it can be good, the downside of it if you want to be an entrepreneur is that you get used to have you know salary at the certain level that you're probably not going to get in a startup to be honest, for some time.

JH: So at Resolution, how do you kind of keep things creative? You know how do you sort of bring out that within your

team? Do you have any kind of techniques or ways to keep everyone kind of motivated and thinking up ideas all of the time?

TP: Yeah, I have a couple of different things that I've amassed as experience when it comes to creativity, and one of the things is just keeping the team small. On thing that Scandinavia's pretty good at is having very flat organisations, so and I've worked with some British people and you like more to have this you know, "Here's the boss and he told me to do something and I'll do that." And that works really good if you have a bigger structure, you need more hierarchy basically. But one of the things with a small company that's very good is that the games team, I like to keep them about eight people so that everybody can speak directly to each other in the same room, and you have this, one of the things that I like to explain is when they have an idea, and somebody else says, "Yeah, but we can do this," and it grows and it starts becoming better and better. And I really love that, and that's the people I like to work with. As opposed to this is my idea and you say something and you say like, no that wasn't in my idea you know, and then you really try to preserve your idea so that in the end you have like an agenda where you can say this is my game, I made this, I'm the game designer of this game. Whereas we try to have much flatter, and everybody can join the creative process, whether you're straight out of school or you're, you've been working on the game for a really long time. One of my favourite books, well I have lots, one big book is *Blink* from...

JH: Malcolm Gladwell, so good.

TP: Yes, and he has a great example in there from military challenge, it was called Millennium Challenge, 2002 I think. And it was the US, they had all this information, they had satellite things as they were, had a new way of waging war, and they wanted to do this huge exercise where they would practice the way they would do this. So with all the information that they could instantly send it to the soldiers in the field, and they needed an enemy so they recruited an old veteran, Van Viper I think his

name was, and he was in Vietnam War and Second World War, so really old guy. And they said, "You're going to be the enemy, you have AK47s and…"

JH: Rubbish stuff or whatever, a knife. Off you go.

TP: Yeah, and they satellited this thing, it was a $250 million project, so it's huge. And he was head of the red team, and the red team actually won, they kicked the asses of the blue team that was very hierarchical and much slower, whereas the red team was just giving the information, you know have these cells that would be operating independently. And that really, I felt, I took a lot from reading that, and think like that's a really good way of structuring things. And I think Supercell in Finland has kind of the same type of thinking about game I think.

JH: It's empowering your workers to kind of make decisions on their own so they can move faster, because if you're constantly waiting for an answer, "Oh he's away for this weekend, I'll have to wait three days," you know. You need it to have that sort of confidence as well to kind of just run with something.

TP: Yeah, and it's also much more fun to work that way, because you feel people are listening to your ideas, and being inspired is a large part of creating great content I think.

JH: So talk us through, how did you pick your first two game ideas for Resolution? What was the kind of the process behind that?

TP: Well we prototyped a lot of different things. We actually started out doing like an exercise bike type of game, you'd be on an exercise bike and you'd have to bike…

JH: Oh right, I thought you meant like actually doing exercise bike to think of ideas.

TP: No, no, so we actually, we made a game where you sit, you would use the exercise bike as a controller. And it kind of worked and it didn't work, and it would be all sweaty and we were just

like no, this is not worth doing.

JH: "I don't want to test this game anymore because we're going to have to be on a bike a lot, let's forget it."

TP: Yeah, so we tested a lot of different things. We made the first *Solitaire Jester* game in the summer when we were still just four or five people, and we wanted to get something out in the market so there wouldn't be all this pressure on like your first product has to perform super well. And we were still with people who had done solitaire games before and kind of liked them. So we did that, it was really nice to get that out of the way, and then we were bouncing ideas and we came up with a fishing game idea. That was something that we really liked, several people of us had been doing a lot of fishing and felt that was something that would work really, really great in VR. One of the problems in games in VR right now is you can't move around freely, because you get nauseous if there is a discrepancy between your visual system and your inner ear. And fishing is one of the things that you sit still and it's still exciting. And I had a friend from the games industry that he had been carrying around a fishing idea for about ten years, so I contacted him and asked if he wanted to join us and he did, so that was like the original, and we released *Bait*, that the game's called, six weeks ago or something like that.

JH: I mean would you say, to jump to a slightly different topic, but I mean would you say kind of running a startup is more personally rewarding than you know working at a larger company do you think, or is it just rewarding in a different way?

TP: I would definitely say it's more personally rewarding, because you get to work the culture from yourself, and you get very personally involved, which is terrible if it's going badly, poorly, like as in really…

JH: But great when it's going good.

TP: Yeah, so I have a lot of experience when my games and startups haven't been doing fantastically, and that's really crushing on your ego and

everything. But it, when it's, for most of the time like it's just so much fun to work in that type of environment, so I really love it, even if you don't have all the money set and everything, it's still great.

JH: I'd like to talk about the Stugan, am I pronouncing that right? The Stugan.

TP: Yeah, great.

JH: Do you guys know about this? He basically takes, like him personally, takes 20 developers into the woods, into a cabin for, seven weeks?

TP: It was eight weeks last year.

JH: Oh sorry, eight weeks last year. It does sound a little bit like the beginning of a horror movie, but I would watch that horror movie. So the first one was last year, how did it go, sort of how did you find it?

TP: It was fantastic, extremely rewarding, we had some amazingly talented people there. A lot of them from the UK, accidentally... So yeah it was one of these projects that came out of nowhere, my friend Oscar approached me and said like, "I have this idea," and he had some slides, and it was very similar to something that I've been thinking about a lot.

JH: What, locking some developers in a cabin?

TP: Yeah well, he wanted to do like a summer camp, and I have been kind of inspired by Andy Warhol's The Factory, basically it's bringing brilliant minds together and working in parallel with them, and I think that would be a super interesting creative environment. But I have gone to a couple of think tanks, that's been fantastic. One a mental institution in Oulu in like the northern part of Finland, three metres snow, locked into this you know really like *One Flew Into The Cuckoo's Nest*, yeah yeah.

JH: Okay, so an actual mental institution.

TP: Yeah, yeah. But it was now like remade into a conference facility, it was a really exotic place. And being there with other really smart game designers was super inspiring, I got some of my really best ideas from that. So yeah we decided to do that and find funding from other successful people in the games industry, so mostly privately funded from people donating money to this interesting experiment. And it turned out really well, we had the first game from Stugan launching a couple of month ago, *Prism*, became one of the most downloaded games on iOS.

JH: Have you chosen who's going to be doing it this year, have you picked everyone yet?

TP: Yes, we have. Yeah so this year's application is closed and we have, we're set up for year two starting in July.

JH: You should *Big Brother* the style out of it, so like, "You can only have the ham sandwiches if you make a really good game, go!" And then just like Twitch stream it, I'd watch that. It could be quite fun, well I mean even maybe they can have ham sandwiches but, just even just streaming it on Twitch would be quite interesting. I mean you'd watch that, right? See what all this behind closed doors, like 20 developers…

TP: What's super interesting is seeing what came out. We did a little bit of YouTubing from last year, so definitely try to do more so it's easier to follow. It's like super great environment to create great things in. You get so inspired by having other people approaching their problem, but you have the same type of struggles.

JH: Okay, I'm going to jump slightly here. So from working you know in mobile, what kind of things have you learned from working in that kind of field, and now jumping to VR. Is there anything you can kind of, that's transferable from mobile to VR, or are there some things that just don't translate at all into the world of VR?

TP: Well it is different and it's also similar. I think I tend to look at games as not being, like being rather platform agnostic. So a great game is a great game on whatever platform it is. Mobile games have done a lot of great things that I mentioned that have been very

accessible, they're very social. You have a great game, you show it to somebody, whereas console games are much more isolated, it's something you do at home on your sofa. And VR is somewhere in-between, we don't really know, we think that VR's probably going to be, you're going to play that in a safe environment at least. You're not going to play it in the subway here because you…

JH: I mean you could, but things might happen.

TP: Your wallet will not be there, and people are going to take great pictures of you and stuff. So VR is more similar to a console experience in that sense, it's something that you can do at home, and it takes much more, I call it aggression energy to put this headset on. Do you know, like you need to have some time.

JH: Extra time, yeah.

TP: Okay, this is time when I play my game, and then you put it on and you are isolated for a while. But I think one of the things that smartphone games taught me is that, I think it's a very modern way where the game puts your situation in the centre. So you never see from a mobile game that you can't save right now or you can't pause the game, you have to complete this, which is super common in console games still like you need to….

JH: "Stop talking, why can't I save? I need to make a cup of tea, someone's at the door."

TP: Yeah, exactly, and as a family man that's a situation that works rarely. Yeah I can't play a game and my kids need me, and I was like, "No, go away." So I definitely think that there's a lot of things that you can be inspired by by smartphone games when making VR games. But VR is a very different beast, and it's going to be tough if you have small kids and pets, they're going to fly around, we're going to see a lot of YouTube video.

JH: You're going to be like, "Is it a child or a dog? I don't know what's happening right now."

TP: The environment is; you've probably seen a lot of videos from Wii Sports when somebody flicks their controller into…

JH: Into a really expensive TV.

TP: Yeah, or they hit their kid by mistake. That's going to be ten times worse in VR because you can't actually see anything, so if you're playing a fighting game and somebody walks into your room, they're going to be in massive trouble. And that's a really big concern. Like if you injure somebody severely, which you can if you hold a Vive controller and you're thinking that you're swinging a bat, and you accidentally hit somebody, that's not going to be fun. It might be fun in a YouTube clip and when you don't know those people, but in your real life it's going to be a huge thing obviously.

JH: I was actually trying out HTC's Vive and not only nearly touched my BBC producer somewhere I shouldn't, I also punched the camera. That did not go down well, did not go down well at all.

TP: It is tricky because you get immersed into the virtual world. You're there, you don't see anything around you, and you expect the space to be clear. And even if you're an adult you forget, I had, we had one situation where we had a room that was entirely clean, and we had like that, but I just, I went in there and I forgot to close the door. And I'd never thought about that, that the door would then stick out and you wouldn't see it and all of a sudden, I didn't hit it that hard but it got me like really startled and scared.

JH: I don't know, after playing like HTC's Vive I was like, "Wow, it's just like a holodeck, it's amazing you know." And obviously no one actually has a lounge that big in the UK, let's be honest, it's more like this big. But this is what I was thinking, I was thinking maybe there will be a point where we'll start seeing like VR like arcades. Like instead of going away for a spa weekend, you like go to like a big country house with your mates and you play four-player *Borderlands* or something, but in VR. Come on, hands up, who would do that? Yeah, like seriously, seriously.

TP: How many have seen like the trailer from The Void? Not very many, a few. So The Void is a guy in Utah called Ken, he's the CEO of that, they have a startup and they're calling The Void, and The Void is the first setup they have. He spent like $13 million of his private money into this so far, and it's just this enormous, they call it a platform, so it's like, it's a big house basically where they're set up so you can walk around. So you have, you can do different games in this space. You walk with your friends there and you chop monsters. Check it out on YouTube, it's super cool. And they will take that exact same thing and they will replicate it in like, yeah outside London and so you go…

JH: That's really cool, because before, what they used to have, if you didn't know, in the Trocadero, it was more like live action stuff, so they had one called Alien War, it's maybe a bit before your time. Alien War was amazing, so in the Trocadero in Piccadilly Circus just in one of the rooms, you'd go in and it was like a replica of like the internal of like one of the ships, and then you get chased basically by aliens. Someone gets pulled out through a lift and taken away and killed, and then you run out and you're just in the middle of a shopping centre and everyone looks at you. And you're like, "Aargh. Oh, Starbucks, that's a bit weird." So yeah, I would genuinely go away for a weekend. Because maybe it's like you know you have your kind of more kind of standing still VR using a controller or gesture controls in your home, but then when you play your big games, your favourite games, that's when you go somewhere special for the weekend.

TP: Now I definitely think that's something that is going to happen and people are going to…

JH: I'm really excited, sorry, I'm going to calm down. So why was it so important for you, one final question, I think we're going to throw it open to the Q&A, I think I might have overrun like moderately. Why was it so important for you for Resolution just to focus mainly on VR, what made you make that decision really?

TP: Well it started to be frank with just me and my friend Martin saying like, "Oh it would be cool to make VR games."

JH: Were you at the pub? Sounds like a pub decision.

TP: No no no no, we're nerds, we don't do that, in Sweden we sit in front of our laptops or something. And we felt later let's do VR games, and I was like, "Oh right, okay." And then we started doing that, and then we got contacted by investors and things. And then eventually we realised like, "Alright, VR's going to be huge." And I've been interested in VR ever since like the mid-nineties or something, I tried a VR arcade machine and I was blown away. I was like, oh this is going to be the future of games.

JH: Was that the big one with the ring round it, where you had like that weird joystick controller and everything looked like a kitchen showroom?

TP: Yeah, there was only like 300 made and we had one of them in Sweden. And I was like, I played this multiplayer game that's supposed to be four but we only had one, so we couldn't.

JH: "Just me."

TP: Yeah, you could shoot verse AI opponents but it wasn't that good. I was totally at that point convinced that VR's going to be the future of games, and now when I saw it in the Samsung Gear, I thought okay, this is kind of a consumer-worthy product now. And working with it we realised like, oh this is going to much, much bigger than we originally thought, because VR's going to be for so much more things than only games. If you look, education is one of the things that convinced me the most. If you think that you are experiencing something, everything else, the written word, you know cave painting, that's abstractions, your brain has to process you know this is a horse. Whereas if you see it in VR you're experiencing it. You are thinking I'm here, this is you know somebody speaking to me in French for instance, and you can answer them and that's going to be great for your memory and your learning experience. So VR is going

to revolutionise education, because education's going to be much faster, you can learn something quicker. So that convinced me that VR's going to be really great, and in the core it's all game technology, it's building virtual worlds, right? You have to work with voice acting, you have to work with characters in rooms and everything, that's our, that's what we do. So we're going to be needed for the rest of the society, not only for education.

JH: Legit. I just kind of always thought it would be amazing, like if you think about all the time like the *Assassin's Creed* franchise spends like you know, yes getting things historically correct, but then also ignoring certain bits of it. But you know they hire like historians and they try and replicate the world. Imagine you're teaching a history class, you know having your teacher going like, "Well actually, in ancient Roman times it was this," or whatever, but you could actually talk through the streets and you know hear all the sounds, see the kind of jobs people did. Are you seriously telling me that wouldn't be the most exciting way to learn about the past? Sorry, I'm running over again, sorry. Thank you so much, I think we're going to chuck out to some questions if we've got time, if anyone has anything they'd like to ask Tommy. This gentleman here. We're going to record the sound you see, yes.

Q: You mentioned that in Sweden that the organisations tend to be less sort of hierarchical than they are here. In a small team like your own, at what stage in the conversation do you bring up music, and how do you approach the question if you are going to use music in your game, how do you approach that in your team?

TP: We have music and sound guys dedicated to that. And then the sound especially is super important for VR, it really helps with immersion and presence and convincing your brain that you're there. So he is an integral part, we only have one for the two teams, so we share him. So he tends to be in all the conversations and then we tend to think about that in the game design, that it can be really good with having sounds of horses moving around for instance.

There's a great example of the big dinosaur walking around, instead of you just making the sounds coming from the dinosaur, you actually have to, like the sound source has to be his feet hitting the ground, because if you look there he's so big that you can actually hear the difference.

Q: So you are using binaural sound?

TP: Yes.

JH: Anyone else, a question? Just yeah, go yeah.

Q: So yeah you mentioned students briefly. How do you go about taking interns and talent acquisition? Or do you take interns at all or students?

TP: Yes, I do, I, we try to always have a couple of masters thesis students typically working with us. It's a problem now because I want to keep the studio really small, so I don't want to grow anymore, and I only take interns because I want to hire them. So we're 19 now, I said that we're going to stop when we're about 22, so I don't know what to do at that point. But in general that's been super rewarding both ways. Students are often much faster to adopting new technologies and new ways of working with things, and it just makes sense if you're doing a new platform for instance. And it helped me motivate myself, working harder as well. When you have somebody who puts in the hours as a, I have kids and I have a home situation where I need to pick up the kids from school every now and then, and I go home and it's very easy to not use those last hours when the kids are asleep, but if you have some students still sitting at it working, it's easier to go back then. And I really enjoy working hard with the things that I do so it's a great combination. I think it's perfect when you have like diversity in the team in general.

Q: Can I ask another question?

JH: Yeah, go for it.

Q: Oh cool. So at university's now we do like placement years, and so after the second year you would go into a

working year. Do you recommend students look for actual placements in companies, or do you recommend maybe starting their own business or trying to for a year? How do you feel about startups in your placement?

TP: It's always difficult to recommend people to do, like I, startup is something you have to know that so much of this is what I want to do, because it's going to be a lot of misery as well, very likely. So, but the upsides are fantastic if you can pull it off. Now that's, so, but you have to know for yourself. I think it's probably the safer route to go to a company first and learn the ropes, but it's going to be very likely that you're never going to leave that safe environment. So it depends on how much risk you're willing to put in there.

Q: As the stigma around kind of like games and the whole industry, it's fading out a lot more, gaming's a lot more acceptable, you can kind of like see that there's now a lot more independent studios and a lot more casual games as well kind of like being developed. Particularly when you see mobile games you can say they're a lot more casual because you can pick them up and take them away whenever you want. But would you say then that the market has kind of like changed now, particularly for independent studios, to kind of create more casual games? Is that a better kind of direction for them to go about?

TP: I think you know that the more people there are in the market, the more opportunity there are for niche games as well. And I just love seeing Steam and this like truck simulator, and like it's Siberia, you're driving in a forest in your truck and you have to… It's just very refreshing to see that there is room for all that type of thing. So casual games is a huge market and I think there is a lot of room for much more games there, and especially more game mechanics right now. There is typically only very few mechanics. So I mean the more people get into gaming the more diverse it will become.

JH: I think it's probably just, I guess it's important to maybe not to think about

where the trends are going so much. I mean I suppose initially it's probably more important I guess to just be really passionate about whatever your idea is you know, and then that's probably the best way of learning rather than sort of thinking, well that's quite popular, and if I make something sort of casual. If you want to make like a super weird niche thing, there's bound to be someone else out there who wants to play your super weird niche thing. I would probably be one of those people.

TP: And if you look at this historically I think we've typically seen a lot, you know people tend to make games that they would love to play, and it has been a while like young boys in their garage for themselves. So a lot of games have been like by males for males, and I'm very to see that that's starting to change slowly, we're getting more female developers in as well, and I love to see those, sometimes we get into a studio and like all group of girls, it's still very rare unfortunately.

JH: So more girls. Oh yeah, yeah, sure.

Q: When talking about VR and where it lies between console and mobile, you said that you hope it's more accessible and a bit less niche than console is. But when you look at it at the moment and the Oculus is double the price of a console and things like that, and they're still very expensive, and I think that's a barrier for large groups of people to get in there. How long do you think it will take for VR technology to come down in price to a more acceptable range like smartphones are now?

TP: Yeah that's one of the reasons why I'm very bullish about mobile VR, because then you already bought your mobile phone for another reason, so that's the majority of the cost, and then you'd just a rather cheap headset, and that's a much more accessible way of getting VR. There is two things that is missing from mobile VR at this moment. I mean with mobile phones today you can make like amazing looking games, so the visual is basically not a problem anymore. So it's more two things, it's positional tracking, so we can know exactly where your head is in

comparison to the virtual world, the real world. And the second thing is like 3D input controllers. Like preferably you want to see your hands, and if you use a camera attached to your headset you can typically see your hands when you're doing this, but you don't want to do this the whole time, you want to do this and then your hands are obscuring your fingers, and I haven't yet seen… I think that people are going to solve it, but there is not a solution today, but looking two years ahead smart people will.

JH: Cool, well thank you, I think we've run out of time now, I've probably gloriously overshot time wise. It's literally my one job just to keep to time, but never mind. But can we have a big round of applause for Tommy Palm.

[Applause]

Don't forget of course to hit us up on Twitter at @GuruLive or, wait I've lost, forgotten the hashtag. Oh yeah, #GuruLIVE, @BAFTAGuru. And are you sticking around for a little bit, can they annoy you with questions outside?

TP: Absolutely.

JH: So please annoy him with questions outside. Oh thanks so much, that was genuinely really fascinating, great.