PRESENTER: Good afternoon, and thank you for joining this discussion about virtual reality this afternoon. Let me try to put that slide up. Whoops, all right. Oh, it's fine. Sorry. Here we go.

So I have [? serious ?] ADD. So I wrote everything I need to say on the slides, as you can see. So I'll start by introducing myself a little bit as well as our company, more importantly. Our company, so it puts the project I'm going to present today in the context of VR and the activities that we have.

So my name is [? Gaspard ?] [? Jude. ?] I grew up, and I was born and raised in France and studied architecture in Paris. And then I did a master's degree in architecture in New York. And after freelancing for several years in the world of advertising as a CG artist as well as architecture visualization, I started a business with a fellow designer, an animator by trade, and we started a business called [? Piranha ?] seven years ago.

Today, [? Piranha ?] has four different activities, and one of the activities that holds the original name of the company is called, again, Piranha. And it's now an advertising agency. We'd like to call it a post-advertising agency, because most of the content we create is directed toward social media, new technology, new platform, and so it's not exactly the traditional advertising content that that existed a few years back.

The second activity that we have, and is very much part of our DNA, is architecture visualization and branding. So the company got a big project in [? 2011 ?] that sort of elevated us in the world of visualization. That was a project for the World Trade Center. Sorry.

And so, as we were doing a lot of architecture visualization for our clients and doing a lot of films from our client, very often our clients requested to see their building in context. So we did a lot of aerial filming for architecture, filming a city and then installing or placing a CGI version of the building in the footage. We did that so much that we opened yet another division-- sorry.

Yeah, that's perfect. All right. So we did that so much-- we did so much aerial filming for architecture that we ended up opening a new division that's called November Yankee. November Yankee is for the letters New York. It's phonetic alphabet used in aviation, and so November Yankee was open two years ago.

And finally, we're opening very soon a new division that is fully dedicated to VR. And it is centered on one product called Garou that I will present today.

So today, we're going to have a quick intro on virtual reality. A little status or overviews of the technology and the devices that exist today. The second thing we're going to talk about is a 360 campaign that we did for one of our clients in the world of advertising. And then we're going to talk about Garou, this virtual reality platform that we worked on for, now, a year. And finally, we're going to talk about the future of VR. But I think it'll be more of a discussion between us, more so than me telling you what the future is.

So at this stage in the discussion, I think it's very important to understand that I am not a VR expert by any means, nor am I an evangelist for VR. We are a shop that has worked heavily in visualization and has worked on several of VR projects, and I think a VR journalist would be a better person to have a bird's eye view on the status of VR than we do. But what we will do today is share with you all the efforts with did, and what we discovered along the way, especially in two different products.

So I think the question when we talk about VR is that, is this a new computing platform? When I say that, is it as big as when the arrived in every home as Bill Gates promised at the time in the '80s? Is it as big as the internet? Is it as big as mobile technology that now is in everyone's pocket? So I think it's a very fair question to ask. I think only the future will tell.

But, as I run a business that invests in VR, the reason I feel confident that it's worth it is not only because of the experience you have with it, but you have to realize that all the major tech companies are investing heavily in it. And not only they are big, but they are kind of the most important-- Facebook, Google, Microsoft are investing literally billions and billions in it. So if Piranha or our business, Garou has not done the focus groups-- they did. So that's why I am confidently putting a lot of effort into it.

I do think, with my experience working in VR, that eventually, even if it's stuttery at times, and if it doesn't get adopted by the masses right away, I do believe eventually we'll catch on. So after a year working in it, I feel like somehow it will happen.

So lets look at the different devices, because we all see a ton of different headsets and people in it. And I'm going to do a very quick overview of what I think VR is at this time.

So I think it's important to different differentiate two things. Most of you guys probably already know that, but you have the 360 VR that some people don't even call VR, but it's a very immersive experience. A lot of people call it VR, not really knowing the difference. But you have the 360 videos in one hand, in the other hand, you have what's called room-scale VR. There's a very big difference.

They are very, very different. Not only in the way you experience them, but also in the way they are produced. Radically different.

So the first one, 360, is basically a fixed point in space where you're inside a bubble where you can look at spherical footage. I'm pretty sure everybody has tried that. So technically, it's super simple. It's always based on your mobile phone. You stick it either in a Cardboard, or you stick it into something that's a little bit more sophisticated or glamorous, the plastic version. But it's your mobile phone in front of your eyes.

The other one, room-scale, is more involved, because it's often not based on the cell phone. It's based on a computer that is attached to it, like the VIVE. It's important to also note that for 360, you can capture the footage for it. When for room-scale VR, the images are generated on-the-fly by a computer, and it's always CGI. Super CGI-heavy, right? I'm probably saying a lot of things that you guys already know, but we are going to go from the bottom up now.

What exists? These are just a few that are pretty big right now. You have the Oculus, produced by Facebook. Oculus Rift. You have the HoloLens-- that's not exactly VR. That's augmented reality. That's obviously Microsoft.

Then you have the Mopheus, which is coming up soon. And that is the Playstation version of VR. Then you have Daydream by Google, that's using their phone. And then you have GearVR, which is Samsung's version.

What's interesting also, when we talk about adoption, and what are the chances that VR is adopted by the masses, I think that it's important to look at Sony, for instance. Because the Playstation is already in everyone's living room. And if they're now coming up with their VR system, it's very likely that everyone who has Playstation is also going to have a VR headset or a head-mounted display. And so it'll get into everyone's daily life.

All right, so when we talk about 360 VR, and how we create content for that, the way you produce it is by capturing a spherical image with a camera that can be in many different forms.

So these are the few that we worked with, so I can talk confidently about them, because we have done a bunch of stuff with it. The first one is RICOH THETA. I love this one. This is very small. It's like half the size of a phone. And it shoots decent footage. Two cameras, back to back, and super-light, really fits in your pocket, and it's $300. It's a consumer camera.

The Gear 360, we also worked with it. We actually did a campaign with it. We ordered it from Korea

before it actually arrived in the US, so we were the first one to use it. And then that one is like $400. And again, that is a consumer camera. The next one over is the Omni which is a GoPro system. It uses six GoPro's rigged together. And this one costs $5,000.

The last one, the OZO, is a super high-end system. End cost, $60,000. I believe, last time I looked. It could be cheaper now. Last time I looked, it was $60,000. We used that as well. The brief is that when you work with the OZO, part of the problem is that the footage is a very high resolution. And what happens is that all of these cameras are shooting a patch of the sphere that you need in the end. And so you have to stitch all these high-res footage. It gets very heavy, and sometimes it slows down the process so much that you just want to work with something else.

So when it comes to room-scale VR, the system is more cumbersome and involved to install and to use. So what does it take? Very, very quickly. You need a good computer. Whoops, sorry. You need a good computer. You need a good solid graphic card. So it tends to be expensive. You need a good CPU as well, because it taps into you as well, not just into the graphic card. If you take the most high-end model, which is kind of like the benchmark for room-scale VR, it's tethered to the headset, just because the amount of data that goes between the head mount and the computer is just too much for going through the air. Although they just came up with a version that is wireless.

But, right now, it still has a big tether. And then, what happens is the way it works, is that you have two base stations that are on each side of the room. And they're tracking what you're looking at. And as the computer knows where you're looking at, the computer generates 90 images per second that generates the wall that is in front of you. That wall is always CGI. You can have a back-plate of captured footage, but the wall you're going to be in is CGI. So basically, very, very similar to game technology. Right

So how does it work? Very quickly, for room-scale VR. Unlike the 360 videos that you can capture with a $300 camera, what you need to do is have a 3D model. So you need to produce that 3D model so it's not accessible to anybody. It must be accessible to people like us. And then the second thing, the step that maybe a lot of people are not used to, is that you need to take your 3D model into a game engine.

And finally, that game engine will produce a file which is an executable file, so it's a program. And once you open that program, then you can run it into the VIVE, right? So that's like the basics of it. We use, for the project we work on, [? 3D ?] [? Max. ?] For the 3D software, we use Stingray. For the game engine, as well as Unreal, we have not used Unity, but amongst the game engines, you

have mostly Stingray, Unreal, and Unity. And we also mostly work with the VIVE as opposed to the Oculus.

So the first time we got our hands on the THETA, because of our experience in aerial filming, the first thing we did is go in the smallest helicopter and start shooting 360 footage over New York City. And that was both fun and terrifying.

So let me very quickly show you what it turns into. I have no doubt that you guys-- sorry. So I have no doubt that you all have experience with that, but just to clarify the process, you take your THETA, whether you put it in a helicopter or anywhere else, it ends up in something that basically looks like this. This is on the Facebook page of November Yankee, our aerial filming division. And this is our first test, basically.

So one thing, obviously, that comes with it, is that the 360 captures everything. So if you are there holding the camera, you're going to be in the footage. So let me see. Here we go. This is the Statue of Liberty. This is the Verrazano bridge. We're going around the Verrazano bridge in New York.

So obviously, I'm confident that all of you guys know that, but the way you can experience this is you hold onto your phone-- it can be on Facebook or YouTube-- and you look around, you're always in that spherical image, or you put it into a cardboard, or you put it in a plastic version of it, as a more comfortable-- but that's kind of the principle of it. Here we go.

So it's very cool to experience it with a headset, because you can look down and see. It kind of takes your breath away. It's much, much cooler to experience it in a cardboard. So that's it.

Here we go. Here we go. Sorry for that. So now I'm going to talk briefly about a 360 campaign that we did for one of our clients. One of our clients in the advertising side is a hotel group that has hotels all around the world. We are the agency of record. We are doing everything regarding their communication. That goes from strategy to all the marketing assets, the communication assets.

And then, what is [INAUDIBLE] to this hotel group is that their hotels are always central to each city they're in. And that's the tagline of the hotel group called Saint Giles. So what we did-- the strategy team came up with the idea that we wanted to show how central these hotels are. And as a result, we proposed to give the guess of the hotel 360 cameras so they can run around the hotel and show how central they are.

And so, this is the Saint Giles 360 campaign. We went to each hotel around the world, and we gave the guests these 360 cameras. I'll show you. So this is the website of the hotel group. It's called

Saint Giles. These are locations in the world. I'll go very quickly. This is the package that we give to the guests. We selected the guests through a process, inviting them to win stays at the hotel. And we give them this little package, with a stabilization system.

Now here is a little video that shows the process we went through. The sound is not working.

[VIDEO PLAYBACK]

[UPTEMPO ROCK BEAT PLAYING]

GASPARD JUDE: Yes, sorry.

This is the behind the scenes of how this was made. I'll go quickly over this.

[UPTEMPO ROCK BEAT PLAYING]

- First stop on the 360 tour.

- Go Max!

- It worked!

- It's hot outside

- I've never sweat so much in my entire life.

- We're in Penang.

- We're going to take off from the

helipad.

- These little guys are everywhere.

- And I wrecked our first camera.

- Getting off the plane in London.

- I was scared the whole time.

[END PLAYBACK]

PRESENTER: So yeah, that was fun. We're super excited. So what happens that if you go to the site-- I'm not going to go now, because we already saw with the helicopter. You go to Saint Giles website, and you're going to see all these 360 videos you can get.

And we're also obviously offering the guests to experience it at the hotel when they come in. They have a cardboard, and then we show that. So let's say if you go to the New York hotel, and you want to see what it looks like to be around the hotel in Asia, you can do that. So that was our 360 campaign.

Now this is the other VR project that I would like to talk about. It's a completely different animal. It's also a completely different setup. It's a brand new company that is going to be launched in 15 days. And actually, because it's still confidential at this point, I would like you to not take photos at this point. We're going to release that soon. If you don't mind. It's not incredibly secretive, but I would like to let the press do the release.

So the project is called Garou. The reason we call it Garou is because it's a tribute to a French novel from the '60s called *Le Passe-Muraille,* and it's about a regular guy who has some boring administration job who realized that he had the gift to walk through walls. And so he starts going

places and he goes to the bank, and starts robbing a bank. And then he goes to jeweler. And then he's a good guy, so he brings the money back. But every time he goes to these different places, he signs Garou Garou. And so we thought it would be appropriate to call our platform Garou. So you'll see why.

So the book is not incredbly known, but big enough that, in Paris, you have a sculpture that is built after that book. The tagline of our new platform is called There Are No Walls. The reason we call it There Are No Walls, is a tribute to that scene in the Matrix that all of you guys know. But basically before Neo meets the Oracle, he comes across that monk child that explains to him that the world is an illusion, and really to understand the truth, you have to realize there is no spoon. So it's a little tip of the hat to that.

So how did the project come about? Over a year ago, we thought it would be very exciting for us, given our set-up and our experience in architecture visualization and aerial filming, we decided to make a film about the future of New York. Because New York is going to change dramatically with a bunch of new skyscrapers. They're going to rise on the south end of Central Park and dramatically change the skyline. And we thought it would be a cool idea to make a film out of it. So that was the first idea.

So we said, let's get in a helicopter and shoots these aerials, and show the world what New York is going to look like. So that was the first idea. But then, we were also very, very interested in VR. And we said you know what-- it'll be even better, and much more interesting if you were able to actually walk around that new skyline. So that was your original idea. All came from that idea of this film about New York in 2020.

So in this storyboard, this vignette, you can see a woman walking around the south side of Central Park and looking at towers that do not exist yet but will be built in the near future. So these are some of the concept boards that we had originally designed.

And so we thought, well, while she's there, how cool would that be if she could actually teleport herself inside Central Park, inside an apartment, or even, again, take a helicopter tour. Because now you're in VR, and you want to take that helicopter tour around the new skyline. So that was the original idea. And so here's a teaser that presents the platform that we're working on.

[VIDEO PLAYBACK]

[STRING INSTRUMENTS PLAYING]

[END PLAYBACK]

PRESENTER: So this is what we envisioned, and then we had to get to work and try to find out how to do it, because we have no gaming experience. We didn't know how you approach a project like that. So that's what I'm going to share with you. It's sort of like what we discovered or the mistakes you do along the way, and what you find out doing this. So once again, the first thing that happens in the process, something we're very, very familiar with, was walking around 3D models and producing you know high-end graphics for visualization.

Now that's not enough. There's no quick way to get that to a VR experience. I'm sure a lot of you guys know, but what happens is that because the system renders the environment on-the-fly, the VIVE will render everything that you're saying on-the-fly through the graphic card and the CPU, you need to have an environment that is as light as possible. So you need to decrease as much as possible the polygon count. Make sure that your textures are not heavy, and so that is the first thing.

When you have a model of New York City and you have towers that have sometimes millions and millions of polygons, that's the first big issue you're going to encounter. So when you're going to work toward a VR project, you have to think like they do in the gaming industry. As light as possible.

So either you build it with that in mind, or you have to go back and clean it up. And when it's New York City, it can it can be challenging. So we used [? 3D ?] [? Max ?] at the office. This is a model of New York City. And so you can use them-- obviously, we love working with [? 3D ?] [? Max. ?] You can use, obviously, other packages.

And so, once you prepare your files for VR, then you import them in a game engine. So we're working with two main game engines, Stingray from Autodesk. We are very, very proud to be beta testers, and we are working closely with the Autodesk team too, because they are also building it. This is what's happening also, in the world of VR now is that everybody is trying to figure it out. And so this is also why I think there are a few VR experts. Because the technologies, devices, or software are all coming up. It's really, really hard to stay on top of it.

So like I said, we used Stingray and Unreal. This is Stingray. One of the things is that if you are used to visualization, you have to very often re-texture most of what you have in 3D for the purpose of VR. So that's part of the job you do. These are the materials in Stingray. Now, this is what a floor looks like. This is a Stingray as well. It's a normal system that puts pieces of codes together to achieve the interactivity that you want.

For instance, if you want your controllers to do certain things, this is how it happens here. And again, the output-- even I didn't know that-- is an executive file. It's a program. You're producing a program when you're done with Stingray. This is Unreal So you see it's very similar.

And this is a blueprint which is the equivalent of flow, which lets you program everything you need to do for interactivity. So not only did we work on all the 3D modeling that we needed to do for this Garou app, but we also went on to shoot the backplates for the helicopter experience that we're offering in Garou.

So here are the shots of Max from the office with a Omni camera, the six-GoPro rig. He went into the helicopter, and again, what you do is that you drop this pole below the helicopter. it shoots a spherical image, and then we brought it back into Stingray, and we used that as a backplate around the 3D helicopter.

So here is an in-game video of what we're working on. So this is what it looks like inside Garou right now. The Chrysler Building is a little broken, but basically you're like a giant human being, and you take a giant steps around the city. And then you get to certain hotspots that are entry points for another experience. This is something we're experimenting with. You can find bubbles, video bubbles inside the model, that someday we hope can be user-generated.

In other words, if you are in Las Vegas and you shoot a 360 video, we would like you to be able to upload it to the 3D model. We're already experimenting, and this is working great. These are prerecorded videos. So what happens is that when you get close enough to a building, you'll see a label pop-up, and then you'll be able to click yourself inside the building. So right now, we're looking at an apartment that we did for one of our clients, a very high-end apartment in New York City in the Upper East Side.

So what we're working on now-- I'm going to go back one, because I think this is the end, sorry. What we are working on right now, the prototype-- we're working very hard on it through seed-funding, people who trust that the project is interesting enough that they helped us financially. We are producing five experiences. One is Central Park, one is a museum, one is a helicopter tour, one is the Oculus at the World Trade Center, which is this huge cathedral shape that is the entrance of the subway and the trains. And then we are putting people on top of the Brooklyn Bridge.

After that, we're going to invite partners to join in, and we already started a discussion with different businesses that could be interested to put their VR experiences in it. So we will think of it as a

platform as opposed to a one-off product.

In other words, it doesn't really matter to us if we create the VR. We are going to offer to create the VR for our clients, but at the same time we're very happy that if you come along and you decide that you want to put your VR experiences in there, we are [? committed ?] to that.

What else can I say about Garou? Yeah that's pretty much it. Sorry, go ahead.

AUDIENCE: Is it contained [INAUDIBLE] experience Garou?

PRESENTER: Say that again?

AUDIENCE: Would someone [INAUDIBLE] to experience Garou?

PRESENTER: Right, so we want to be platform-agnostic, and we believe that it'll be transferred on different devices. We're working on it. Right now, everything we've done is mostly for the VIVE. That's the first device we're going to work on. The

It's actually not that hard to output the content of Garou for a different platform. So yeah, that's pretty much it about Garou.

So maybe we can discuss this a little bit-- the future of VR. To me, I think that there's two points that I think that will be interesting to discuss. The first one is adoption. Everything relies on adoption. Right And I think that there are two things that need to happen. The first thing is that the devices are easier to use, cheaper, and more powerful. So you don't have that tether that connects you to the computer. The head-mounted display is smaller and less threatening, less heavy.

And then I think what's very important as well-- the quality has to go up, as well. Even though it's quite good already. The second thing that needs to happen is great content needs to happen. And I think we're going to see if these two things are happening in the next year or two.

The other thing that I think is interesting to discuss is I don't think that VR is going to remain for too long a self-contained field. Or I'm going to say it's probably going to blend with other technologies. Because I think we're seeing an explosion of technology progress right now. And technologies like AI, eye-tracking, facial recognition-- all these things, I think at some point, are going to start blending in and cross-pollinating with VR.

So I think it's very hard to predict exactly what VR will be like past, let's say, even five years. But I think it'll be interesting to have more like an open discussion from there. If you have questions or

you want to weigh in.

AUDIENCE: You've got a massively heavy [? newer one. ?]

PRESENTER: Yes.

AUDIENCE: And you got that into a game engine.

PRESENTER: Yes.

AUDIENCE: Tell us a bit about that pipeline and process.

PRESENTER: The pipeline as far as the software we're using?

AUDIENCE: The content creation-- how did you get the models created?

PRESENTER: Well we had-- we've been working in New York City for a long time. So we had the model for years, and this model has been rebuilt. But you can find a model of New York City in Google map.

AUDIENCE: [INAUDIBLE]

PRESENTER: Sure.

AUDIENCE: [INAUDIBLE]

PRESENTER: Yes, totally, totally yes. I know we have tools to optimize the model, but it was a combination of using tools that optimize the [? motherless ?] [? words ?] like hand cleaning. Yeah, it definitely is a problem though.

AUDIENCE: [INAUDIBLE]

PRESENTER: We build them. So Yeah, so how did we get the models of project down and built? Everything we build, especially everything in regards to New York in the future-- in New York in 2020-- this is publicly available information. So sometimes we did not have the drawings so we eyeballed it. And that's fine for that type of project, right?

AUDIENCE: [INAUDIBLE]

PRESENTER: Yes, absolutely. So that's another thing is that lighting is baked. Because we used also high end renderings and marketing materials that we typically produce. So if you don't do that, the model gets very, very heavy and so typically what happens is that it slows down the machine. Your frame rate

just drops. So, yes. Everything you looked at here, lighting is baked. And it increased the efficiency of the model, and also guarantees that the quality of the lighting is nice.

AUDIENCE: [INAUDIBLE]

PRESENTER: So actually I'm not sure if I could answer that because-- I don't think so. Do you know, Jeff? Maybe? I don't think so. I don't know. Yes.

AUDIENCE: [INAUDIBLE]

PRESENTER: It does?

AUDIENCE: [INAUDIBLE]

PRESENTER: OK. Yeah.

AUDIENCE: [INAUDIBLE]

PRESENTER: Great. Looks like--

AUDIENCE: [INAUDIBLE] you showed the high end condo looking out over the city.

PRESENTER: Yes.

AUDIENCE: [INAUDIBLE]

PRESENTER: It was only unreal. Yeah. Yes?

AUDIENCE: [INAUDIBLE]

PRESENTER: The--

AUDIENCE: --360 Panorama. Looking around.

AUDIENCE: [INAUDIBLE]

PRESENTER: The blue bubble--

AUDIENCE: Yes.

PRESENTER: That you see and you see people walking with it? Is that what you're talking about? I'm sorry.

AUDIENCE: When you're at the condo, and you're looking out over the balcony--

PRESENTER: Yes.

AUDIENCE: You've [? got the spiritual ?] 360--

PRESENTER: Yes that's right. Yes.

AUDIENCE: How was that? Was that imported into the--

PRESENTER: So it's a backdrop 360 image.

AUDIENCE: So it's like a sphere?

PRESENTER: It's a sphere.

AUDIENCE: OK.

PRESENTER: Yeah.

AUDIENCE: What's your opinion on [? the Revit ?] data versus the Samsung of [? spirit camera ?] quality wise?

PRESENTER: We ultimately decided to use-- the Samsung is a higher quality. But I do love the how the [? third ?] [? eye ?] is so small and so so easy to carry.

AUDIENCE: [INAUDIBLE]

PRESENTER: $500.

AUDIENCE: [INAUDIBLE]

PRESENTER: Is that- right. So that's the thing is that when it comes to be on all these new technology I think disruption is the new stability. It is just nonstop. And we had a talk with Jeff two days ago and I think that everyone agrees on one thing, is that it's constantly changing. And if you jump on that train now, chances are-- you know, not as much as we do but pretty close, because everything is just-- know if you start working with your HoloLens, I would not be able to help you at all with the HoloLens because I've tried it, but we haven't produced any work for it.

AUDIENCE: For 360 VR finishing tools-- [INAUDIBLE]

PRESENTER: Right so what happens-- depending on the system you use. So you're asking about the post-production on 360 footage right? So what happens is it's regular raw footage. We edited the 360

campaign that we shared with Samsung in Premiere. You do need a headset near your editing station. But once you have it in the box, it's basically the same thing. You can apply the same things. What happens though is that most of-- because the quality is not as high as a typical Red footage. Red raw footage has a lot of depth in the color field. Right. So you can do a lot. With 360 footage, you just don't have that because the quality is much lower. So you cannot push and pull in the footage just as much. It breaks very, very, very quickly.

So the resolution and the quality of 360 footage is not there yet. And when you work with the [? Ozo, ?] what we found is that it's very, very cumbersome. It's just like you know. And I think what happens is when we work in advertising like we do, we realize that speed is really king. You need to be able to produce content and put content out very, very fast. We used to do productions where you had a big crew, big set, big shoot, lots of pre-production, and I think that right now it's not a model that's going to work very well. Not only for the type of content that [? it produces, ?] but also because of the speed at which you produce it.

AUDIENCE: [INAUDIBLE]

PRESENTER: Great question. So did we do any tracking for the helicopter footage? Yes and we also do stabilization because even though it's very [? cool, ?] we stabilize it in a way that keeps the horizon flat. So you have rotation and and also direction of the footage that's stabilized.

Definitely and it gets heavy. Same thing, it's just it's tedious. And it's also to be done by an artist just not an automated process. Stabilization on regular footage can be automated and functions great. When it comes to 360 footage you have to have the artist literally do it by hand.

AUDIENCE: Those tools in Premiere?

PRESENTER: You know I don't remember the plug-in we're using. It's in Premiere. It's a plug-in. I forget the name of it. I can find out.

AUDIENCE: [INAUDIBLE] can you talk a little bit about-- [INAUDIBLE] --find it engaging find it helpful to [INAUDIBLE]

PRESENTER: So from the guest using the cardboard. So the type of reaction we had from the guest after the [? central ?] [? company ?] right? So I mean everybody who had tried it seemed was very, very excited about it. People are also adopting this. Not everybody has a headset. It's not natural for everybody to put it in the cardboard and in the head mount. So we sort of like you need to do a little bit of hand-holding. The staff of the hotel have to have them invite them to try. So I think that's also something

that will change over time. People will probably get used to actually look into 360 VR in a more natural way than it is now.

AUDIENCE: What VR app are you using on your phone?

PRESENTER: VR app?

AUDIENCE: Yeah. What are you using to [? view it? ?]

PRESENTER: A viewer like verse for instance? What viewer app I'm using on the phone? Verse actually. But you know what, I wouldn't be a very good expert on it actually. But my head lately has been so deep into the room scale VR and the Garou project that I haven't been very good at following on 360 videos and apps myself. Our team does, but not me.

AUDIENCE: [INAUDIBLE]

PRESENTER: Five [? protegen. ?]

AUDIENCE: Central park or--

PRESENTER: So, yes. How we got the five experiences in Garou funded? The seed funding is covering the cost of putting a pilot prototype together for the release. And so that all the expenses are covered by that. There's no [? ponzo. ?] However, we're already talking to partners who are interested in sponsoring them. And this is very much our business model. Is that we already are in discussion with two helicopters operators that do actual helicopter tours. Because we have connection with them a little bit already. They came to the office, they tried the helicopter flights in our app in Garou, and they were very impressed. It is very, very impressive. What is crazy too is that what we did is we modeled a helicopter. So all your foreground is a 3D model in which you can move around.

But what happens is that you can step out of the helicopter. And now you have your actual helicopter and you can get outside, get on the skids, hold on to the helicopter, and then you look down. It's like a Mission Impossible kind of action. It's crazy. So when people do that, they get excited. And so even though this VR experience can technically be a threat for their business. Because we are offering a helicopter, too, that's less scary than the real one. You see that you're sitting on a chair inside a room.

So even though there is that aspect of it they were very excited about it. And what we're offering them is to literally sponsor it. So the helicopter will be branded with their name. You might go into to

a room and pick the helicopter tour that you want. One cool thing that we have as well is that because you have that scale model of New York City, we're going to have the path of the helicopter that you can make appear. What we do is that we have a dial-- The user interface lets you filter the things that you want to look at. Say you want to look at the parks.

So with one controller, you'll be able to filter the things that you look at. And when you choose to see the helicopters, all of a sudden, you have these red lines over the city that show you where the helicopter goes. But in order to develop it to that level, right now we have a prototype that's for a short flight. If we were to do it by with a partner, then we'd fully develop it. And this is exactly what we are intending to do. Is that people join us and sponsor the experience.

And for a hotel group, for instance, you have a fantastic bird's eye view of where the hotel is in space. You can literally walk to it. You can look at the surroundings. And then you can decide to go in, check the lobby, check the room, and you will never have sort of more realistic representation of what that is. Hotel rooms are always much smaller. Jeff we know that. When you go to a hotel it's really hard to assess because everything is shot fish eye. From the corner of the room it looks huge. When you get in you can be surprised.

So obviously VR and the Vive help solving that type of miscommunication, I would say. The business model we're working on is that if hotel group was interested to actually put the product in there it would be kind of like what are we [? working ?] on? And you might have seen as well that Google Earth just released a VR version of it. I actually haven't seen it, but the team back in New York saw it and they're saying it's very, very impressive.

The only thing is that you can not land. It will be different from what we're doing ours is a very creative experience. Google Earth lets you sort of fly over anything but not really get close to the ground or enter a building, right now. They have more firepower than we do so if they feel like they are doing it, we're dead. This is why I don't take any photos. Don't communicate about the project. The reason I'm comfortable in talking about it because you know I feel like we're part of a community. But also the second part is we're releasing this in two weeks.

AUDIENCE: [INAUDIBLE]

PRESENTER: Right right. Yes. So that's another question that we discussed in the panel as well is that what are people's reaction to the device? And our experience with our clients is that they are not always thrilled by the device. Especially the Vives. Very cumbersome. You're tied to the computer. Especially older woman just don't want to go there.

AUDIENCE: [INAUDIBLE]

PRESENTER: To use-- I'm sorry can you say it again?

AUDIENCE: [INAUDIBLE]

PRESENTER: But that would be 360.

AUDIENCE: I mean whatever they were trying to do-- [INAUDIBLE]

PRESENTER: Right. We are not trying with Kickstarter. But crowdfunding is a very good way to go. We are just going a different route. I think another thing that's maybe worth just talking about here within our community, especially if you're in the world of visualization, is that I think that the project that-- the endeavor we're taking now, trying to develop Garou shows that the people who work in the world of simulating the world. Like the architecture, musician, VFX. Can get a very big boost.

And I think also Autodesk will benefit from that because there's going to be such a high demand of CGI content, that you know there are the opportunities that people should look at. Because I think there's so much to do. But it'll also project you in a completely different world, which is which is what's happening with us with Garou.

That's one thing if we did that as a one off project for one our client. But now we're looking at trying to develop a platform. Whether it succeeds or not, is different. But there are so many opportunities like this one, I believe. So I think that anyone who walks in computer simulations should look into it. There's so much to do. It's really the Wild West right now. All right. We're good. Thank you.