# Can you describe the project Beyond 2022 for me?

Ethan:

So to begin, could you describe beyond 2022 virtual record treasury for me please?

P3:

Yeah, well, it had different stages. So we started this project, I don't even, know five years ago, six years ago. I I can't remember, to be honest, but it's been a while um and initially I was tasked to do the reconstruction of the record treasury, which is obviously, as you know, not existent anymore. So the building was bombed and it was gone and uh. Also, obviously the records that were in that were were damaged and a huge amount was lost and the consortium that that was working on reconstructing the whole thing and gave us the job to do the visual side of things they were trying to get copies of information from other archives in Britain, to kind of figure out what was lost as as best as they could, and I think it's still work in progress um. However we had like like a few plans from back in the day uh from the architect and we got like crude photos of it, because obviously they were huge and old and you couldn't, you couldn't take them and put them on a scanner. So one of these guys was allowed to see them he just took pictures and so they got photos of these map. And then we got uh two photographs, one from the interior and one from the exterior, and that's all that was left of this building, basically. 2 pictures, a few plans and. I did the 3D modelling of that reconstruction. And that worked pretty well. It was tedious because obviously there's not too, Not a lot to go by, but it was fine and we we made a nice 3D model and initially it was used for, I think a video. So there was offline renderings of the whole thing. So I modelled it in in Softimage and we did classic camera moves around it to show the the animation and the like just the the structure itself, which had been lost and uh Then we did a virtual reality version of the, I think it was just the interior was I'm not sure. Could we go outside? I can't remember. And there was a presentation in [pause and think] Was it in Trinity? I think I think it was in Trinity. And there might have been another one [extended in] in the Bank of Ireland, actually just across from Trinity like there was a, i don't know, like a special chamber place where where I think it was also shown to the mayor, or someone important anyway. So it was very hyped, it was, it was it was a cool, cool project and later on, the model itself [drawn out] was extended by the Reading Room, which was the building thats still standing and is currently used as a courtroom. And we did a reconstruction of that because there were only minor changes to as to what it looks now and what it looked back in the day. There was also one image [laughs] of the thing and if you [unintelligible - pull this up upon so] That. Yeah. Well, it's, you know. When you, I don't know, the I think it got burned like 102 years ago and it's back in the day. Obviously, no one had a camera to take pictures, just a snapshot of a building "ooo, this is cool". So there was only it It's a monumental building and some photographer took a picture of it and that's it. So at least we have that. Without any photo, it would have been impossible to do, I guess, but that way at least it was possible. And um later on I did build a uh, we tried to make it into a touch screen application where you, you know, walked around and, you know, just point and click and looked around and drag the camera and got some hotspot information that were dotted around the place with extra bits of info and then a third incarnation was supposed to connect to their rest API server, which had all the information about all the records. Well most,well, whatever they they found anyway. Um or even if they just found that there should be a record and that's missing. Like it it was all fed into this big database basically and it was meant to be that you could look up stuff, basically recreate the experience that you might have had if you if you were to read something, they would go to the reading room, to the desk and say I want to get this record and then someone would actually go into the archive nring it out for you and you would sit there in the reading room and and have a look and it they put it back. Actually, they had a special a special locked room where they would keep kind of stuff that was used more frequently or on the day and funnily enough, all the stuff was kept there were the records that survived because they were not in the other building um. And thankfully, they were clever enough to build like a a like a fire. What's it called? fire? Fire break. Yeah. So the fire break and it was actually meant the other way that if anything happens to the reading room, it doesn't destroy [laughs] the archive. Well, actually, it was all the other way around and the archive uh was destroyed and the reading room still stands. Um the the third incarnation, I actually made an implementation where I could type in, hooked up into the rest API, got back the data, got back all the scans of images, if there was a document about it, and then you could actually, you'll be teleported to the reading room section where you read and there will be like a like a virtual piece of paper where you had like all the images or [someplace - unsure] and you just click on and you could actually go to page whatever and you had all the all the scans there. But that was never used because they then steered [away?], someone, I don't know, put that in on their agenda that they wanted it to be online. Not only like they had an online version for academics to actually look into documents, but they didn't have a nicely graphic stuff that actually tied in with the reconstruction that we did. But they still wanted it on the web. And they got some uh 3D Web Guy, who then was there to, I don't know, chase us down [?] to do this for the web. And that's actually when [Unity Developer] came in and [Web Developer] and they kind of took over. So [Unity Developer] heavily crushed down the models and uh [Web Developer] did the the programming of the of the 3D stuff. So that's the current version, that's also on the website, so if you if you if you look it up, it's like it's it's opening there section the categories and you you can look into that and that's all BabylonJS implementation. But up until this point I know stuff and after that point erm I know that it exists. So if you have questions [unsure, talking over each other] Babylon JS, I I I can't answer.

Ethan:

Could you just quickly tell me what the goals of this project was? What did your client want exactly?

P3:

Well the like the goal shifted, so obviously the initial goal was: OK, we have this destroyed archive and it's the hundred year anniversary of blah blah blah and we want to show a reconstruction And uh can you make that room come back to life basically. We said yeah, with the plans and the photo, I think we can pull it off. So we did a model of all that. So, that was the first goal. Then obviously, can we do this in VR with the glasses? Because, you know, six years ago that was all the rave, if you had a VR version that would be great. Um. So we did that and then the goal shifted towards it should be [pause] you know a touchscreen application, so we get a broader audience because VR is nice, but obviously you'd have to have the glasses and if you have the glasses, then even if it's installation, you might have one or two, or, you know, it gets expensive if you want ten sets of headsets and it becomes impractical at some stage. So and people at home certainly don't have one and it's just sitting it's over that's our VR thing like some people might, but it's not, you know, commonly around. And therefore we opted for a version that can be run on a PC. It's just a touch screen thing or also on the similar on the Mac um but then [pause] it was abandoned for the web side of things. so then it should run just on any browser basically, to make it super accessible I I guess even if you don't have a fancy machine or anything, it needs to run on. I don't know. Texas Instruments calculator basically. Not quite but uh

Ethan:

[…]] what types of technology were used in this project? I think you've covered it, but just to make sure I grab…

P3:

Yeah, it started off with a SoftImage for the 3D modelling and obviously for the for texturing and stuff like that, and then later on went it's path into unity for the VR version of this and actually I'm not sure if you[we?] used the Oculus Rift or the Vive, I couldn't tell you to be honest It's it's it's been it's been a while. Either one of those for for VR and it was before you had basically, you know, the nice Oculus Go and Quests that you just plonk it on your head and you don't have a wire so they were, you know, proper tracking boxes that allocated you with, you know, 6 dimensions of freedom, but you were tethered to a computer and uh in in the demonstration, obviously we had to, we had to hold a lot of arms when people first put it on, it's like, Oh my God, I I fall and it's like you're standing on the ground just like, you know, you just have just a different environment around you. Just, you know, yeah, keep your legs steady and you're gonna be fine. But that's that's common, like, we've experienced this before, and it's fine so that's what the technology were unity and then later on obviously once it was handed it off [Unity Developer] had to, because he's a Max user, he would bring in a model into his optimization in in Max and then export it. There were other steps in between, probably to crunch it down to literally nothing, because they need to export it as a GLB or GLTF file or something there there's some some weird format for the web that hardly any other package can import and there might be an export from extra bricks out-of-the-box [?], so they might have gone through a, you know, for a second application just to do the export right. Yeah. Again, that would be a question for [Unity Developer].

# Can you tell me more about the client for this project?

Ethan:

Can you tell me more about the client for this project?

P3:

Yeah, the client is um. The client is called. What are they called? Hang on, trying to find out. So my e-mail programme is hidden there behind an external hard drive. [pause while figuring it out] Let me see. Quick search, should [we] come up. [long pause] Anyway, what I can tell you is that the. [pause] uh [pause] Hang on. [pause] OK, something. [Underbreath] Come on. [pause] Actually the [laughs] the the company is called beyond 2022 Virtual Record Treasury of Ireland. um. So it's run by uh academics. So there's uh [Trinity? Modern History Historian], who's the the history guy. I think he works in Trinity College. And there's [ADAPT Centre Project Manager] as well. um. Who. um. I'm not sure about the position and there's [Trinity? Modern History Historian], so there's. But they are actually not involved in any of the programming. They have another guy who's in charge of, you know, programming stuff and then they have us for for the graphic stuff. Um. But they are. [pause] I don't know the. The head authority behind reconstructing the the whole thing. Yeah. So the the records and the the aspects of making it look nice. And that's what they shipped out for us to do.

Ethan:

OK. And do you know what their requirements were or anything else about their background?

P3:

What do you mean?

Ethan:

Like what? Their their requirements as clients were. I think that's been covered a little bit.

P3:

Well their their requirements were can can you make it appear again from the ashes? Basically, it's not there anymore. Can we see it?

Ethan:

Yeah [laughs] .That's a great description.

P3:

And then that that was the requirement. Can you, can you make it again? And that was the 1st and then just evolved into. What else can we tell this? Because we have this cool model? What else can you do? I think at some stage he wanted it printed as well, but it was just not.

Ethan:

What, like 3D printed?

P3:

Yeah, 3D printed. But that's yeah, the the problem is, uh. 3D printing doesn't work like like that. It has to be modelled for the print, cause it has to be like water tight. Basically it needs it can't be open on any side because then you know where would the printer know where's the [pants? bands]. And obviously there's uh uh You know, minimal thickness of stuff. And because the model is enormous and you have all these tiny details in it as well, like the railings and stuff like that hand rails, they might just be too small to be printed to go through the process with it. Just being it was just can we get the model for 3D printing? It's like uh I don't think it will work but. So yeah, initially, can we make it again and then what can we do with the model now that we have it? How how can we show it off to the people that know it existed? [they know] it still exists virtually, and that we're working on retrieving as many records as we can.

# With regards to your client for this project, can you talk to me about who you worked with on their side and your interactions with them during the duration of this project?

Ethan:

And still talking about the client quickly. Can you tell me about who you worked with on their side and your interactions with them?

P3:

Uh. Yeah, they're mostly which direction should go and just you know showing them work in progress. Like it was a a tedious process to make it appear again and sometimes it required a lot of guesswork on my on my behalf. Educated guesswork, I'd like to point out, but still the plan doesn't show everything and some of the plans clearly were not used to some parts of the plans were not used for the final product. If you look at the photo and and see, that's actually different from the plan. So they must have changed something and maybe it was a different revision that the builders actually used from what was in the archive. But that's I guess more in the details stuff.

Ethan:

Yeah. And do you know who you worked with on their side?

P3:

Yeah, I know. So there's there's a few names just gonna name drop.

Ethan:

If you could name drop and like a job title or description or something for the anonymizing as well. If you're able to.

P3:

I know there's there's [Trinity? Modern History Historian] who's the deputy director. And he is he also works in the Department of History and Trinity College and just trying to see just going through the old emails here. But we have a system called base camp, and I have the names there, but in base camp, there's no signature base signature. So I need to. I need to find the e-mail that have. Uh then hang on before I forget. So there was [Trinity? Modern History Historian], there is [ADAPT Database Programmer]. He's the programmer. [pause] Yeah. And I think the company might actually be called ADAPT Centre. Yeah. So ADAPT Centre, [ADAPT Database Programmer], he was in charge of the database. So I have a communication here about the the the integration. Then later on we have [BabylonJS/3JS Consultant] , who was there to push us into the web version. Um. then we have [ADAPT Centre Project Manager]. I don't have a description about his title yet, and I have [Trinity? Medieval Historian] Also, no description just yet. But [Trinity? Modern History Historian], [Trinity? Medieval Historian] and [ADAPT Centre Project Manager] are the three main guys. Just try to see an e-mail where I see. uh. [looking at old emails] Hopefully a. [pause] Title in the email. [pause while looking] They were quite good at using base camp, just like we suggested so. Apart from [Trinity? Modern History Historian], we got. Hang on. There's [ADAPT Centre Project Manager]. OK, so. [ADAPT Centre Project Manager] [pausing] No, No title in his signature, I'm afraid. But if you if you ask [Managing / Creative Director], he can give you the title basically. Yeah. Check. Check with him, please. I'm doing a quick for [Trinity? Medieval Historian]. If he's there in another e-mail thread. But I don't see him. […] Yeah, please, please ask [Managing / Creative Director] so those. Those are the four guys that we had interaction with and. The like the the the programming for the rest API was only later on when I did the implementation there was another. [pause] Like I think the the initial website to do the search was also done by [Web Developer], so he he must have had a communication with their guy earlier on basically.

# Using Miro board, could you sketch a flow diagram of the steps taken for this project, the way you understand it?

Ethan:

So using our Miro board, could you sketch a flow diagram of the steps taken for this project in the way that you understand it please. If you want to split it off into those iterations, that's completely fine.

P3:

OK, well.

Ethan:

And it's in how you understand it basically so whatever works for you.

P3:

Yeah. So we did a. hm. How do we start? We did a [pause] Obviously there had been a brief. [typing] Maybe not so huge. OK, so there's a brief. And from there we go. [pause] to [pause] [typing] Gathering resources, I would say. For you know, getting getting the photos of the maps, getting the two images and analysing that. And then. from there We'd go. [Typing] Modelling so. [longer pause] The 3D modelling. Then obviously had some steps to I dunno, check in with the client if he's happy. So we had like an arrow from here to here. and an arrow from here to here. And then check in with the client. And then we have another arrow that goes from here to here. Just to keep iterating through the modelling. um and then [typing] From that we have. UM. Obviously afterwards there's a there's a phase for texturing. I'm not sure if there needs to be separate, but in this case because it was a an old school 3D job, you had texturing. And then after that you had animation [typing]. Animation and rendering. [typing] OK so. Now, even though this flow chart shows that it's a linear step, it might have been broken up, you know like, the model might not be finished, but some stuff is being textured and some stuff is being animated and obviously rendering comes last, but yeah, it's [slight pause] it doesn't happen too often with the project that size that you finish everything from start to beginning and only then do the texturing. So there could be things that would have OK like this texture, we know because it was like a tile floor. So we can make this immediately. When we put in the ground and uh uhm. It's it might not be as linear and then obviously checking with the client happens along the way as well. So I might just, uh. [pause] Hang on, can I can I do this? Would that make sense if we just go check with the client or would this confuse you and confuse things that you're saying?

Ethan:

Yeah, that makes sense. It's all being recorded and I understand what you're understand what you're getting from. So the modelling.

P3:

OK. OK. Yeah. So obviously we we we check with the client and then we we adapt the modelling, the texturing, the animation and when it's done we do the rendering and I think the first step.

Ethan:

Yeah. So the modelling, the texturing, the animation all happen parallel basically.

00:28:19 P3:

When we're not, always, but they can like and I, to be honest, I can't recall if. I think we did stuff in stages as well. We we might have had all the all the shelves in their for the interior. I think the first part was exterior only. And then we worry about the interior. But then they're kind of connected because the whole, the whole floor system of the entire structure is based on these big steel beams. So the entire thing was a steel construct and the shelves as well. It was all metal as to obviously not present a fire hazard. The only thing was wooden floors for the stairs and like a wooden handrail and stuff like that. So there's a few elements of wood, but almost non-existent and the rest was all metal.

Ethan:

Yeah, I think I understand what you mean. Like I said, it's sort of they all they can happen in parallel

P3:

Yeah

Ethan: going back into the checking the client, but then the rendering typically happens when it's done right?

P3:

Yeah. And then we had the. I think it was a I think it was a video. [typing]

Ethan:

And then so, uh, yeah, so it will go back into the checking with client in those stages as well though.

P3:

Yeah, check with the client, and then obviously maybe adjust the texturing, do the animation and it's just. All these stages were were checked with the client. If they like the progress, given that it's hard to check since it's not, not nothing's there, you know. And sometimes if if I had to invent something, obviously it needs to be asked is that alright? because I can't just make stuff up and then uh it could be complete nonsense, especially if if their background is academia. But we always had like even from from one of the very first projects I worked on with [Managing / Creative Director] for mediaeval Dublin. uhm. That is mediaeval dublin one, and we are now, I don't know, whatever incarnation we're in. We did always have, like scientific fact checking from history experts basically.

Ethan:

Yeah, makes sense.

P3:

So normally it's on a solid ground, even if it's guesswork sometimes it's it's a good guess, < E: Educated guesswork, yeah.> it's it's an educated guess. Yeah. Yeah. So I think there was the very first version was this with the video output. And then from there, the second version going to VR, you know, so. [typing] uhm. [typing]

P3:

OK. So we obviously have the [typing] model from before. From there, we just took it. UM. We had to adjust it [typing] For unity. [pause and typing] OK.

Ethan:

OK.

P3:

So it needed to be like textures for the offline rendering it it doesn't matter so much. If they are all 4K textures and they take a gazillion of gigabytes, well, obviously those some, sometimes it it it matters, but in this case it it had to be adjusted for the VR where you can't overload the graphics card with too much texture memory. So we adjusted that. And then we [pause] [talking underbreath] We [typing] obviously the the. dunno programming. [typing] for VR. OK, programming for VR. uhm. Which ended in a live demonstration. [typing]. OK. [pause] I think that kind of sums it up.

Ethan:

OK. So that's your whole pipeline for the bits you are involved with correct? just making sure.

P3:

Yes, yes. But in this case I worked together with [Unity Developer] on this who had more VR experience than me, mostly for how the \*\*\*\* do we, you know, get the headset to work [laughs] and stuff like that. And then we used teleportation system to to move around so you have this this arc that just teleported you to the different locations. and [pause] I don't recall if I programmed that or [Unity Developer] did or if it came with the SDK I I couldn't tell you honestly. So we just summed it up as to programming it into it because the VR experience itself didn't have many extra bits. It was just there to uh marvel at the at the model. You're standing in a in a building that hasn't been around for a 100 years and now you can be there and obviously Even though we do 3D for a living, when you actually look at an object to scale in VR, it is completely different as to when you just have your camera, even though they might be it. You know I have light and everything and look at the image, you get a totally different uh, I dunno viewing experience as to what the scale actually is, look at it in VR, it looks enormous, basically. So that was that was this version. And then maybe let's just call the other one version 3. [typing] Version Three touch screen. [typing] Where we already took the model from before. Maybe I should have a line here? And then we have another line here. That makes sense? So whenever we we we build obviously in all these long running projects, we kind of tend to build on what we already worked before, obviously. We dont start start from scratch so. […] UM, the the model and in here we incorporate it the new stuff from uh. So [typing] adding extra information [typing] In the form of hot spots. [pause and typing] adding extra information and also. [pause] [typing] I think it was a walkable version [typing] interior and exterior [typing] so you can actually look at everything. [pausing] uhm. Now I'm not sure at what point we added the reading room. If I think we added it here for the AR part uh no for the touch screen part, I mean. so I don't think we had it in the virtual reality one. So I'm gonna put it here. Just don't. I don't know. uh. use it and then I'll just use it with a pinch of salt basically. [typing] adding reading room section. OK. So. That should probably go then. I don't know before that. [pausing] OK. Cause that's quite fundamental as to how you walk around in it. Because they were connected through a door in the passageway across the fire break and uh with the whole block consisted of of both buildings, so we just took the walk, the one block with the whole pavement. And it worked quite well, so. It has a really impressive staircase. The the Reading room section. Which leads up to other offices like the reading room is just the one room in the in the ground floor, I think. And the staircase was really beautiful, but the pain in the hole to model. But it worked out fine and it looks nice. I'm not sure many people I don't know appreciate it. [laughs] The amount of work that went into the bloody staircase. Anyway, so we took the model, we added hotspot informations. With all like as as with all our hotspot stuff, it mostly is, you know text and an image. Just to you know, have have a few informational bits floating around the space that gives you meaning to the experience rather than just looking at the visual aspect of the thing that you can learn something from it. Like the extra storage room that was in the reading room. Kind of like a mini vault. And that most of the the records existing survive because of that room. uhm, So we have the version here and then later on we tied in, but we didn't use it, so I'm not sure if it should go in. I worked on it and i was quite proud. So [typing] I'm gonna put that here to hook it up to the rest API. [pause] uhm. [pause] But then, I'm not sure we end with was never delivered?

Ethan:

It's OK, we can leave it as this at the moment.

P3:

OK, good. Yeah. So that was that was the end basically. And then I can add to And then just so it doesn't get lost. You will have to get more info from [Unity Developer] and [Web Developer] on that version 4.

Ethan:

Which is then the web version. Yeah. OK.

P3:

Web version exactly so.

P3:

Again, we take this and use it from from here. And then obviously I do know that, I wasn't involved personally in this, but [typing] Optimised model [typing], that's for sure uhm. And the rest is for [Unity Developer] to answer, and [Web Developer]

Ethan:

OK, OK. So that's the end of your.

P3:

Yeah, that's that's the end of my involvement in in this project basically.

# P3 Beyond 2022 Pipeline

## Stage 1 – Brief

### Describe the beginning of this stage?

Ethan:

Could you describe what happens at the beginning of this stage please?

P3:

So the brief stage was uhm [pause] [A little bit - unsure] Obviously, many projects that start in Noho, since I'm a foreigner, I don't know all the I don't know all the stuff that happened in Ireland that native people know. So. I get the information and there was this building and it was blown up and uh there's other photos of the of the wreckage, whatever, when it was in rubbles and then you know, floating papers everywhere and stuff like that uhm. So just to get a glimpse as to what it was back in the day and that it was a magnificent piece of architecture. And well thought out actually in it's construction but not there anymore and the yeah is can we build it again from these plans and two photos? And as as we always do, we say yeah, it's a challenge, but we'll do it. And and it was a challenge, but we did.

Ethan:

Yeah. OK.

### Describe what occurs during this stage?

Ethan:

Could you describe what happens during this stage?

P3:

During the stage...

Ethan:

If there's any other tasks you haven't mentioned. Yeah, well, we get [slight pause] The general idea about the project, what it's all about, what the other guys are about in this case. From, you know, their angle is the the historical uh side of things, from an academic point of view, all the records are there and how can we get them back? How can we, I don't know, trace back to what was there?. What should be there now but isn't because it was blown up. And well, what happened in between? And also they were keen to have a nice visual representation of the building so they were not I don't know, they had the the great foresight, so to speak, to add nice imagery to just some material that's pretty dry because the records for ,I don't know, taxpaying citizens for King Henry Whatever probably isn't isn't going to bring anyone uh [slight pause] into a building to look at. So. Uh. That was the intention make it nice, make it nice looking and make history, well not quite touchable, but uh at least make it experiencable.

Ethan: Yeah. were there any other tasks, or was it just those ones? Sorry.

P3:

So just you know talk about the project. There was no specific other tasks. Just that's it. And it's kind of a long term long term project, so it doesn't need to be done next Monday, but it's it's gonna be quite an undertaking.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

OK. And then how do you know that this stage is finished or complete?

P3:

Well, when you say go, go, go [laughs] [their motto?] basically. So then the stage is done. Yeah. Get on with it. So there you go. You got the job, you got the job to do. build it. Then then you know it's it's done. Like the.

### From Noho, who (job roles) is involved in this stage?

Ethan:

OK. And then from Noho, who's involved in this stage?

P3:

Well at this stage, obviously [Managing / Creative Director] was involved and myself was involved. And [pause] I'm to be honest, I'm not sure anyone else was involved.

Ethan:

OK. So you think it was just you two.

P3:

There might have been [Producer 2] involved?

Ethan:

who, sorry?

P3:

That's that's a previous producer of ours, [Producer 2]. She is no longer with us and [Producer] was brought on to the team later on. So could have been a [Producer 2], but I'm I'm not sure, but like I said, it happened some time ago.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

And do you know from the client side who's involved in this stage?

P3:

Yeah, they're definitely the the three guys. So it was always the three. It was [ADAPT Centre Project Manager], [Trinity? Modern History Historian] and [Trinity? Medieval Historian]. So those three they I think they were from the get go. Come to think of it there might have been another one who died later on? Ask [Managing / Creative Director] that please. I I'm not sure, but that in the back of my head one of their guys died. He was heavily involved in this, but they still said we're gonna continue with the whole thing. Even though our our ,I don't know, our main guy behind it is gone.

Ethan:

It was good that they didn't abandon the project cause it's a really good project.

P3:

Yeah. So that that happened at some stage. But yeah, again, hopefully [Managing / Creative Director] can help you out on this.

### Can you describe the tools you used during this stage?

Ethan:

Yeah. Could you describe the tools you used during the stage, what you used them for and why?

P3:

Uh, yeah. Take taking notes. And as usual, pen and paper. And that's it. And then we just had the <Ethan: Pen and paper.> You know, I was just Skyped into the whole meeting or whatever. So then it might have been in person with [Managing / Creative Director] and I was just there on the on the computer… Which is not unusual like that that happens on most projects. That I'm just a guy on the screen, somewhere in the corner.

Ethan:

The best place because no one's looking at you, I find.

P3:

Yeah. Well, we had only one project where they had this massive television that was used as a screen. It was like I don't know, 100 inch or more. My face was on that [laughs].

### Would you consider this stage “unique” to this project

Ethan:

Would you consider this stage to be unique to this project?

P3:

No, no, no. It's just like a a normal brief. We have an idea. This is what we need, can you do it?

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

Can you describe any collaboration between yourself and the client during the stage, if there was any?

P3:

Yeah, well, it it kind of kind of bleeds into the gathering of resources. They obviously showed us there's a plan, you know? we have this and we have there's a photo and can you do it?

Ethan:

OK. So just exchanging resources, basically that's it [loses the game. - unsure]

P3:

Exchanging uh exchanging resources to to actually do the task, because it's not that you can't go up there and say, let's see what it looks like, I'm going to take some images and then I'm going to reconstruct it, which which worked for the still existing record reading room, but not for the record treasury because that's an ugly looking office building right now. If you wander down there, you'll, you'll you'll you'll know.

## Stage 2 - Gathering Resources

### Describe the beginning of this stage?

P3:

Yeah, well, that's like I said, it kind of bleeds into the brief, but obviously, we did, your man went back to the records where he got the plans and the maps from and took several pictures of anything that he could get his hands on It's also interior labelling like the the whole layout of the room had categories. So that you know everything within A would be in, I don't know, I2 of. second floor or whatever and that was somewhere marked as well and he took pictures of everything that was available and not everything would be hugely important for building it and some of it was also confusing as to if you had like a detailed drawing and you weren't sure where should these details go? You know you. Just had, like, so this is like some, I dont know. some bannister. But where is it actually in in the building? Where should I place it and where should I model it? How big is it exactly and stuff like that so. It it wasn't too easy, but the guys did well gathering everything and we did ,obviously, we tried Google as well. But there wasn't much to to get from from there.

Ethan:

OK. So just to make sure I've got everything, so could you describe what happened at the beginning of this stage. I think you said I'm not quite sure.

P3:

Yeah, yeah, we'll be given we were given plans, photos of plans, but and uh the two photographs that are still in existence from the interior and from the exterior of The record treasury building. So that's the that's the important one. That's the I dunno. the beginning and the end. It was a swift transaction of files, there you go.

### Describe what occurs during this stage?

Ethan:

Were there any other tasks that occurred or did you cover pretty much everything and then?

P3:

No, no.

Ethan:

You said here's a swift transaction so you got what you wanted and that was it?

P3:

Exactly

“more or less done”

### Describe what this stage ends with / how you know this stage is completed?

Missing but can be derived from the previous two – “Transaction of files”

### From Noho, who (job roles) is involved in this stage?

Ethan:

So from Noho who's involved in this stage?

P3:

Me. [Managing / Creative Director] might have been involved as well, but I'm I don't think so like, but it was just, you know, probably upload it to our base camp or sent, sent by an e-mail and then we just had the files and that's it.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

Then from the client side who was involved?

P3:

I think I think it was [pause] [Trinity? Modern History Historian] or [ADAPT Centre Project Manager]. I I don't know.

### Can you describe the tools you used during this stage?

Ethan:

OK, and can you describe any tools you use during the stage? You said base camp.

P3:

Base base camp, which is just a you have seen it, haven't you?

Ethan:

Yeah, I'm on your base camp somewhere.

P3:

Yeah. So that that's the basically it's a collaboration tool like it's a chat tool where you can also store files and it's it's project based, so all the files are in there. We got dragged into Basecamp by another company, Tandem, who is actually in charge of the the the project we talked about the other day.

Ethan: Yeah.

P3: Yeah, so and they used it heavily and then we thought that might be a better idea so we use it, as well then. But obviously for that to work you kinda you have to use it for most of the communication, because if you have it in there and then you just send a bunch of emails, <Ethan: there's no point.> then whatever is sent by the emails, it's not in the base camp and you're not up to date. So you, I don't know you need a client that kind of behaves well on this. And these guys, actually, I think we're really good at using base camp so it all ended up in that place, I think

### Would you consider this stage “unique” to this project

Ethan:

Consider this stage to be unique to this project?

P3:

No, no. You always have to, you know, get get uh get resources to start modelling something that exists or existed.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

And could you describe any other collaboration between yourself and the client that hasn't yet been left?

P3:

No, no, that's that's it just.

Ethan:

That's pretty much it? OK.

P3:

Yeah

## Stage 3 – Modelling

### Describe the beginning of this stage?

Ethan:

For the modelling stage, could you describe what happenes at the beginning of this stage for me please?

P3:

Well, first you need to.

P3:

You basically go through the resources and because they're from different sources and not everything is to, i don't know, to pixel scale, if you wanna like if you if you put that in a viewport and try to model from it, you need to make sure that if basically in that picture 1 metre is 20 pixels it needs to be 20 pixels on all the images that you put in there otherwise it will be out of scale. So you'd have like a different width and a different height to all these aspects, and then it doesn't ever line up. So you need to make sure that you and also if it's a if it's a picture, you need to, you know rotate it and maybe make sure that the lines are straight and everything so that they get a good rescope that you can use to rotoscope upon. prepping off the resources. Basically just a few image alignments and crops and take out stuff that you don't need so that you're not looking at you know, detailed plans when you're just doing the big overview building and then vice versa that if if you're working on the details of the column that everything else is gone and it's just work through that.

Ethan:

Yeah. So you said just prepping basically.

P3:

So it's just prepping prepping the images so that you can actually model from it properly. And then you just start with the [short pause] with the big overview, so the first thing is just fill the the box so that the cube kind of fills the the the rough dimensions of the of the all objects and then you'll fill in the details. So that it that it's it's working like the the whole building was, [slight pause] apart from the fire break, I think was symmetrical, so the windows would be mirrored and then there were two windows on the backside and stuff like that. So that's all mirrored then and that's fine and uh. I don't know, they had these huge, tall windows and I would just Model 1 and then I would instance them across so that there would be uh you just need to, consistency across them, so they have like just in reality, the one window needs to be the same. It just needs to be a duplication of of the of the 1st one so, it's not organic, like in architecture, it's all um done individually and then [in] SoftImage [i] used instances as well so that you can add detail later on so you have it's like a it's like a clone but it's a live clone and if you add a feature to the the first one it will propagate to all the other stuff like that. So even if you didn't have all the details done then it was just the outline or whatever the pane of glass and it didn't have the internal linings and other details. You could still going back and and model that in. So it's just it I guess it goes from blocking out. So first you have to like, you know a cube with like 2 two triangles on top to represent, there's a roof on top, and then you just add in detail, add in detail and the cube just becomes like like a block of shape that you want. Once you're happy with what you have, you just delete it and that was just there to give you guidance basically. And uh. While you're doing that, obviously you have to check if you're doing it right. So that's that kind of goes already to the next point to to check in with the client and then coming back and doing more work on the modelling because this this was a big project and as you know, Rome wasn't built in a day, and this was neither, basically. Actually I've worked on two Rome projects and I built it twice so I know what I'm talking about [laughs].

Ethan:

So it's getting close to building in a day is what you're saying. [laughs]

P3:

Yeah. So it's it's just whenever you have a huge project, it's not just done in a few days like it's like we're talking weeks of modelling basically on this.

### Describe what occurs during this stage?

Ethan:

Were there any other tasks involved in this stage or have you covered the lot?

P3:

No, no, that's that's it. You're just 3D modelling. I I I am not sure there needs to be a clarification on that like I think. Pretty much.

Ethan:

It's just 3D modelling. Is is, is what it says

P3:

it is what it says. It's 3D modelling of of of the building and you just go from from blocking it out to further detail.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

Yeah. And then how do you know that this stage is complete? I think you mentioned

P3:

Yeah. Well, basically when when you come at an impasse or whatever and you, I don't know, sometimes like progress reports are, you know, done with the client. Then we obviously check with the client and then go back to uh changes or go further on if we just say is this the right direction? Do you like that? And they say, yeah, we'll just continue on with whatever we'll be do.

Ethan:

OK, so the clients happy.

P3:

The clients happy and you do this or or it might be an opinion that do you think this could have looked like that? And they said yeah, that's fine and stuff like that.

### From Noho, who (job roles) is involved in this stage?

Ethan:

And then from Noho who involved in this stage?

P3:

So obviously me and then I think most of the communication, like I said, was run by [Managing / Creative Director] on this, so he might have been in in meetings, as you know, he's he's heavily involved in most of the projects. Um. So it's also , I don't know, an information to the client that the boss is involved and it's not just You know your number and you hand it off to someone else, and then he was just there to sweet talk you into a deal and then he's gone. So he's kind of always involved in, in projects, especially with the big ones.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

And then from the client side, who's involved in this?

P3:

Well, those, those three guys, so like [Trinity? Modern History Historian] and [Trinity? Medieval Historian] and uh.

Ethan:

three guys. <P3 thinking> [ADAPT Centre Project Manager]?

P3:

[ADAPT Centre Project Manager], Yeah.

Ethan:

Just the three of those

P3:

Those those three guys, I believe.

### Can you describe the tools you used during this stage?

Ethan:

OK. And you mentioned that you used soft SoftImage during this stage

SoftImage exactly, yup.

Ethan

And did you use any other tools or?

P3:

Well, Photoshop for just, you know, doing the dealing with the images and cropping them, rotating and stuff like that, that. 3D wise, that was up until it was discontinued, was our main modelling tool, actually, even after it was discontinued, we still used it. Ethan: You still got a version, just use it, basically, right? I was doing the same with Photoshop CS5. Yeah, I still have a version on my machine that's that's running just fine. So if I need some 3D done, I use that and every time I open it, it's like there's an old friend basically, it's just it's still so nice and a great piece of software and it hurts my heart that it had been killed off. But anyway it's it's amazing that it's still, I dont know, does whatever I need it to do. It would take me a lot longer if I had to learn yet another 3D package.

Ethan:

Yeah, it's a pain making the swap.

P3:

Yeah. So. I'm happy with my transition to unity. It happened at a good time so I didn't have to switch over to one of the other packages I guess. I was there to learn something completely different as well, so I don't know if that if that was for a benefit, but I'd like the shift and the transition and it's more programming and and then it's just it's a nice mix and balance.

### Would you consider this stage “unique” to this project

Ethan:

Would you consider this stage to be unique to this project?

P3:

No. Modelling like if you if you have to model any like unique. For me currently yes because but that was back in the day. So now I hardly do any 3D modelling.

Ethan:

Yeah, so this modelling happens.

P3:

It happens when I had to do a lot of modelling so it it didn't. It didn't matter back then, it wasn't.

Ethan:

Yeah, but it happens in a lot of projects right this modelling stage?

P3:

Yes. Yeah. Like whenever we have 3D, well, it needs to come from somewhere. It can be an asset that you can buy, but it depends on the on the object, like if it's something unique then you have to do it yourself. Obviously, if you just need a giraffe, any giraffe will do. You just go to turbosquid and buy it because it's just not worth the effort to, I don't know, go to a zoo, take pictures of giraffes, then come back, model it. And by the time you did that, you don't know. You spend hours of work and for £100 get it on TurboSquid. So there's that's the [banner]. Obviously you don't do it for everything, like there's no point in buying a a basketball for £500, so there's a there's a threshold like it's something easy and also we have a good library of Of models and objects that come into place, but not for not for this one, because it's just the building and the architecture and that's kind of highly unique. So I guess in that sense it has to be done, you can't buy it.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

Can you describe any collaboration between yourself and the client during this stage if there was any?

P3:

Yeah. Well, we just had meetings, online meetings and just showing them the progress it could have been just an e-mail as well on the occasion where I just had you know, like screenshots. This is what it currently looks like and stuff like that. And um. That's about it. Just just showing them the progress. If they're happy and then continue on.

## Extra

Ethan:

You said all the the texturing, the animation and feed into the checking with client first as well, don't you?

00:11:02 P3:

Yeah, exactly so.

00:11:04 Ethan:

Yeah. So should we start with those two stages and then move on to checking with client?

00:11:04 P3:

Like if you.

00:11:10 P3:

Yeah. Well, the check in with the client is basically the same like I just told you. Like we have a meeting. We showed them the model.

00:11:15 P3:

They give us feedback and it's incorporated or we move along in the same direction that we just were.

## Stage 4 – Texturing

### Describe the beginning of this stage?

Ethan:

So for the texturing stage, can you describe what happens at the start of this stage?

P3:

Well, at the start of this stage is you look at the two photographs that are still there and you figure out how did it actually look, what materials were used. And it's just the, you know, the typical stone. So it's a it's a grey stone texture and and you have a bit of wood. You have steel which obviously does not have any real colour. And then you had a tile floor which had like a the two [bits] square black and white checkerboard pattern. So it it didn't run along the walls. It was rotated by 45°. So it had like, you know, each the points where pointed towards the walls rather than the flat sides if you know what I mean? And that was mostly it, so it it didn't have a lot of textures, some and then the roof were I think they were brick tiles or something so they had a normal roof. Then you just need to get textures either by using old stone textures that I had or making some making of something you know. Taking a picture, making it tileable and stuff like that so they would can be applied to the stones. In in that case, like I did [pause]

Sometimes there's a trade off between modelling and texturing, like if you model it detailed, you don't have to texture it, and vice versa. If you texture, you don't have to model it, for example the the ground floor as in many old buildings you have that really detailed stone [which is] just one big block like, I don't know, a metre by and ½ and you get heavy indentations between each block so you can see it was built like that. Whereas the other ones were kind of more tightly to a flat surface, so the ground floor I actually modelled so that you would see that data so didn't have to worry about the texturing.

Ethan:

Yeah, you didn't need height maps or anything like that.

P3:

Yeah, I didn't use the height maps so I I did it that obviously later on it was convert it to something else, but in the beginning I modelled the whole façade for the ground floor like that, so we'd have the geometric detail.

### Describe what occurs during this stage?

Ethan:

OK, where there any other task that occurred during the texturing stage?

P3:

Well, taking pictures, using Photoshop, and uh that was it.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

That was it? OK. And then how do you know that the texturing stage is complete?

P3:

Well, when it look when it when it's looking good enough for me basically [laughs] [below], well and then and then we just go, yeah, that's fine or say ooh, actually. When looks good enough, OK. Can it be more? I don't know. Beige or whatever. Yeah, but I think it was fine. Like they they didn't.

Ethan:

And is that the client saying going yeah, that's fine?

P3:

Yeah, yeah. Well, first it it might have been shown to [Managing / Creative Director] as well like obviously nothing happens solely independently, like so some stuff is shown to [Managing / Creative Director], before it goes out to the client, not always, but in this case sometimes yes.

### From Noho, who (job roles) is involved in this stage?

Ethan:

Then from Noho, who's involved in this stage, obviously yourself again.

P3:

Me. myself again [fumbled] like [Managing / Creative Director] to just have a look in between.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

And then from the client who's involved in this stage? um you said?

P3:

Well, the same the same three guys.

Ethan:

The same 3 OK.

P3:

So it's just, yeah.

### Can you describe the tools you used during this stage?

Ethan:

And then you said you used Photoshop for this.

P3:

And then obviously involved is SoftImage as well, because the textures have to be applied in 3D and to have a texture need a texture projection that you basically shoot onto onto the object, so it's just. You can't texturing solely with 2D, you need you need the 3D object.

Ethan:

So you said SoftImage and Photoshop. Were there any other tools used during this stage?

P3:

No.

Ethan:

No. OK.

### Would you consider this stage “unique” to this project

Ethan:

[…] And would you consider this stage to be unique to this project?

P3:

No, no, that's pretty much how texturing works.

Ethan:

Yeah, it's just. There's only one there's a couple of there's, like, yeah, I know what you mean. Yeah, I dont know what I'm trying to say.

00:16:07 P3:

Yeah, now nowadays we use. We use if if we have jobs the way we quite often use substance painter. Because obviously the texturing technology has advanced as well in between and there's yeah, great material libraries there in substance painter. And then so that takes time to optimise that so they get the same amount of detail everywhere you look and it's just not random. Totally random. And with that in in 3D, where you just have the texture projections, you can have, you know overlaps and it doesn't. It doesn't really matter and you can have ,you know, different clusters of of materials on the same object. That would contradict each other, but it it it still works because you don't need this unique UV layout

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

Um can you describe any collaboration between yourself and the clients during this stage, if there was any?

P3:

Well, collaboration in the way that we show them the progress and they just give us comments and feedback on that.

## Stage 5 – Animation

### Describe the beginning of this stage?

Ethan:

OK, so that's the texturing. So if we head on to the animation, could you describe what happens at the beginning of the animation stage?

P3:

Well, at the beginning of the animation stage, there is a talk with [Managing / Creative Director]. What are we gonna actually show and need? Because I think back then, there was a video and the video I believe was edited together by [Managing / Creative Director], so he kind of had in his head what he wanted to show. Like, I think we had different aspects. We also had like later on like a cross section that we showed internals and there was like an overlay of an image that kind of appears that shows you the name and numbering system of these uh, you know, for each floor, for each aisle that had a number. So you could say all these records would be in isle 6 or whatever on on the 2nd floor and you could easily find stuff that would just overlay that into it. And we had like a before and after of the photo and then it fades to the 3D model. And we started from there. So we had like a camera move that started from the angle of the photograph and then did like a a spiral move around it to to show off that we did the entire thing in 3D and not just here's a here's a here's a still image of our 3D render, so it was always in, in movement as well. But we might have started off from a photo or returned to a photo.

Ethan:

Yeah. So kind of like just having a brief for

P3:

Yeah, just like a a quick brief for me. What do we need? And then we start animating and then in, in between collaborate with [Managing / Creative Director]. Is that fine? Have us look at the edit and. And then obviously updates to the client in between to see. Do you like the video? Is that going to be nice or whatever?

### Describe what occurs during this stage?

Ethan:

Were there any other tasks that occur during this stage that you haven't mentioned?

P3:

For the animation, no, I don't think so, no.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

And can you describe how this or how you know that this stage is complete?

P3:

Well once, I don't know, once we are internally happy with the animation, the flow of the video and the client approves it, then this stage is done basically.

### From Noho, who (job roles) is involved in this stage?

Ethan:

OK. And then from Noho, who's involved in this stage, you've mentioned yourself and [Managing / Creative Director].

P3:

Yeah, that that will be all

Ethan:

just you two. OK. […]

### From the Client side, who (job roles) is involved in this stage?

Ethan:

[…] and then from the client who is involved in this stage?

P3:

Well, the same 3D guys uh three guys as as as before.

### Can you describe the tools you used during this stage?

Ethan:

OK. And can you describe the tools you use during this stage and what you used them for and why?

P3:

Yeah. Well, the the tools are are 3D program SoftImage and we animated it in there and then the video editing would have been done in Premiere.

### Would you consider this stage “unique” to this project

Ethan:

And then would you consider this stage to be unique to this project?

P3:

No, like we did lots of editing stuff where we just render out sequences out of 3D.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

You probably already answered this one, but can you describe any collaboration between yourself and the client, you mentioned just like meetings and discussions, was there anything else in terms of collaboration?

P3:

No, no. But like it's it's a, it's a simple thing. Basically they ask us to make a video we do and then they say, yeah, it's looking fine or they say, ohh, can we change this? There might have been voice over I'm to be honest, I don't recall if if they hired someone to do it, if [Managing / Creative Director] did it, or if they did it, I don't know.

Ethan:

So it's just sort of iterative design thing again, I guess where you just go back and forth with feedback.

P3:

Yeah, exactly. You just go back and forth and say How does it look? Do you like it?

## Stage 6 – Checking in with the Client

### Describe the beginning of this stage?

Ethan:

Asking about a lot the checking with the client stage and just do that one real quick. Yeah. So can you describe what happens at the beginning of this stage for me?

P3:

well we have a new version. Either you know, like a new model or there has been an update to the model has been update to a texturing issue or there has been an update to the animation and [the the - unsure] video as such, and then you show them the progress or you show them the changes and ask for their approval to continue on, basically.

### Describe what occurs during this stage?

Ethan:

Then are there any other tasks that occur during this stage?

P3:

No, not really. That's that's it. It's a straightforward process, normally. Like there can be clients who are quite picky about stuff and then others that are then they're giving you more creatively, but it depends on the client, what what's in their head, what they want and how well you understand their, I don't know, their vision from their brief, basically.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

And then how do you know that the checking with client stage is complete?

P3:

Yeah. When they say it's signed off [laughs], you know, it's

Ethan:

And they give you the thumbs up [laughs]

P3:

Yeah, pretty much so that's it. That's it. Yeah, that's grand. And then you go "perfect"

### From Noho, who (job roles) is involved in this stage?

Ethan:

OK. And then from Noho, who's involved in this stage?

P3:

Well, that would be obviously myself and [Managing / Creative Director] again.

Ethan:

yourself and [Managing / Creative Director].

P3: Yeah […] Like, I don't think it sometimes. Like I said, I'm not sure if we had a producer for this one. They're might have been the producer,

Ethan:

They're might have been a producer

P3:

[unsure] [Producer 2] might have could have been in there involved. I just don't know, to be honest. So ask [Managing / Creative Director] please. He might. He might remember.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

Will do from the client side who's involved in this stage?

P3:

Well, again, our our three, three main guys for the for the clients like there's no.

Ethan:

The three guys.

P3:

I'm not even sure if they have like a like a hierarchy who's who like for for me at least, it'll be seem to be kind of three equal peers, but.

Ethan:

Yeah, like a flat...

P3:

There could have been my observation could be totally wrong and in fact that was a leading guy who had, I don't know, who was in charge, but in my opinion it was always, I don’t know, constructive discussion going on between these three when they agreed on stuff. Yeah, so.

Ethan:

Like that, it's like a flat hierarchy I guess as opposed to.

P3:

But then again, could also be a follow-up question for [Managing / Creative Director] to confirm that or deny it. I don't, I don't know.

### Would you consider this stage “unique” to this project

Ethan:

Would you consider at this stage to be unique to this project?

P3:

No, no, that happens like the, you know, checking with the client that happens on any project. Unless it's an internal project, then then it's just for us anyway. And then we do the checking, but not normally for client work. It has to go to someone who says yeah, I'm happy with that.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

And can you describe the collaboration between yourself and the client during the stage?

P3:

Well, again, you know emails, video meetings.

### Can you describe the tools you used during this stage?

Ethan:

[…] can you describe the tools you used during this stage and what you used them for and why?

P3:

Well, probably Skype and uh and maybe screen sharing if I had something on my screen I was just going through it [takes a breath] to show what has been there. Sometimes it's easier, especially with the 3D model because you can look at it from different angles, it might be easier to show it in a viewport and just rotate around and see what we have this detail in there and this detail, rather than having a screenshot. It doesn't mean a whole lot to people if they if they look at the wire frame it, it might be uh confusing, like to the to the educated eye. It's easier to judge but if, if, if you don't see it, it it might be weird, basically for some. So sometimes screen sharing would have been used as well.

## Stage 7 – Final Rendering

### Preamble

Ethan:

I think that's the check with client stage done. That was like wait so just some understanding your flow chart. So the rendering doesn't go back to the checking with client so.

P3:

Yeah, well, it might have been a simplification.

Ethan:

So my understanding is once. So the modelling, texturing, animation all feed into the checking with client and then once the clients happy with those 3 stages then you go on to the rendering, right?

P3:

Yeah. Which yeah, technically is probably a simplification and not true, because in order to see that sometimes you need a rendering version to because in the view you can have for the flow of movement, you can have what we call a capture, a screen capture of the 3D object and you just follow the camera move and you get the animation in the path. However, their visual quality is not [slight pause] comparable to the render. So you just see you know the the wireframe of the 3D models and some shades of Grey basically and that's it. And so there could have been stills that were rendered so that you know, this is what it's going to look like and just imagine this move with this look and sometimes there could have been a sequence that had already been rendered and just just put in the edit, maybe not all of them, but that depends, I don't know, on the move basis and what has been done and if we and if we knew a move was good and it would end up being used, it might have been pre-rendered even before the whole thing was done and then it was in the edit already.

Ethan:

So it's like the final rendering?

P3:

It let's let's just call it a final rendering basically, when you when you check that everything is there that the resolution is to the desired output and everything works and then then you So you make all the render sequences and export it into Premiere or import it in Premiere.

Ethan:

OK, I'm just gonna rename it to final rendering so.

P3:

Yeah, call it final rendering please.

Ethan:

Yeah, because I'm glad that I understood that correct because it did seem like it seemed. Yeah, it seemed like you, once everything was happy. Then you you don't spend time doing the final bit when you don't think they're going to be happy with it, right?

P3:

Err exactly. <E: Like a prototype rendering?> But sometimes you need these inbetween stages, like they need to see the look as well., which can be from stills but sometimes you need the whole sequence. So there there would have been rendering of the thing inbetween.

### Describe the beginning of this stage?

Ethan:

So at the beginning of the final rendering stage, can you describe what happens at the start of this for me?

P3:

Well, the start is we're happy with the with the edit and we know that those are the sequences that we need. Now we want to render them at you know, be it full resolution that we have it for the final output, we there might have been rendered at the lower resolution or maybe if it's too time consuming like every second frame and stuff like that for for the final render you're just doing every frame full resolution and all the [bells and whistles?] that you have, basically. and you start that once you have approval, like this is the version that we want to go with.

### Describe what occurs during this stage?

Ethan:

Then are there any other tasks that occur during this stage?

Ethan:

P3:

Well, depending on how tricky the rendering is, it's just grabbing every machine you have [laughs] and letting it render.

Ethan:

Letting it do it's thing, yeah.

P3:

So there's not much you can do, like some some jobs are trickier to render than others and require a bit of massaging through. Just to overcome limitations of processing power and RAM. But in this case it was fine.

Ethan:

This case it was fine, OK.

P3:

To make another reference to the Rome project, it was not fine there, so it it needed lots of massaging so.

Ethan:

OK. Fair enough. It's very dependent on what you're doing?

P3:

Exactly how how much you push the boundaries, basically.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

Then can you describe how you know that this stage is complete?

P3:

Yeah. When when the progress bars have reached 100% and you've got all the image sequences done.

### From Noho, who (job roles) is involved in this stage?

Ethan:

And then who from Noho is involved in this stage?

P3:

Well for the rendering it it's the person who's involved in the 3D projects. In this case me.

### From the Client side, who (job roles) is involved in this stage?s

Ethan:

Yeah. OK. And then from the client whose involved in this stage?

P3:

For no one, it's just...

Ethan:

No one, it's just it's just press the button and go by the sound of it?

P3:

Yeah [drawn out a bit] , yeah pretty.... yeah, not not quite. Like there's a there's a composition stage as well that actually think about it, where you, because it's it's rendered in layers and elements like not everything is 1 frame fits at all like you add motion blur in the post production process.

Ethan:

OK, so that'll be another task, is this composition?

P3:

There, there might have been another. Yeah. Compositing could have been a box in between the video output um I I'm not sure it warrants a a separate box like it's the, for me, it falls under "let's render this" so it we get the sequences of the 3D program, feed it into after effects and get another sequence out basically.

Ethan:

OK. So I guess that makes sense. Yeah. OK, I get what you mean.

### ToolStage

Ethan:

So can you describe the tools you used during the final rendering stage and [what and why you used them?]

P3:

Yeah. So obviously it's SoftImage for the rendering and then after effects for the compositing to to mix all these layers that you have um [pause] with the with the whole thing. So mostly for depth of field and for motion blur.

### Would you consider this stage “unique” to this project

Ethan:

And would you consider this stage to be unique to this project?

P3:

No. So for every project you need that like if the output is a is a video, you always need to render it.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

And then you said your client wasn't involved P3: No, no client. Ethan: so there wouldn't wouldn't have been any collaboration with the client if they weren't involved then?

P3:

No, no. that's just a solo project, it's just render it and [dig?] in and there's a sequence at the end.

So for every project you need that like if the output is a is a video, you always need to render it.

## Stage 8 - Video Output

### Describe the beginning of this stage?

Ethan:

Could you describe what happens at the beginning of this stage, for me?

P3:

Uhh yeah, obviously the beginning means we have all the sequences rendered and I'm handing it off to to [Managing / Creative Director] or whoever is dealing with it in this case, it was [Managing / Creative Director] and he just replaces all the sequences that might have been, you know, preview or captures or low res versions with the final versions in the editing. And then he has put he outputs the final video from there. And that's the end. […] which which marks the end of this. It's it's just the video being exported from Premiere.

### Describe what occurs during this stage?

Ethan:

Are there any other tasks that occurred during this stage?

P3:

Mmmm. No, not really.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

And then you mentioned how it's how the stage is complete. The final video is put some- is exported.

P3: Yep

### From Noho, who (job roles) is involved in this stage?

Ethan:

Yep. And then you mentioned from Noho, [Managing / Creative Director] is involved. Is anyone else involved in this video output stage?

P3:

No, I don't think so. That that's it.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

Was anyone from the client involved in this stage?

P3:

Well, obviously they get the they they get the output.

Ethan:

Yeah. So the three guys again, I guess?

P3: yes

Ethan:

they get the they get the video output?

P3:

Yeah

Ethan:

OK.

### Can you describe the tools you used during this stage?

Ethan:

And then you mentioned using premiere as one of the tools. Can you describe any other tools used during this stage and what's and why?

P3:

No, should only be Premiere actually, yeah.

Ethan:

Only Premiere.

P3:

[Mumbling] For the [unsure] and then the exporting.

### Would you consider this stage “unique” to this project

Ethan:

And then would you consider this stage to be unique to this project? P3: No.

Ethan:

No. OK.

P3:

No, like any any editing job with the with the [timeline?] of animations, has to go through editing software and then you get a video at the end.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

OK. And then can you describe any collaboration between yourself and the client during this stage if there was any?

P3:

Well, during the stage, no. At the end they just get the video and hopefully are happy and say good job.

Ethan:

OK. So no during the stage, but it's all like they get it at the end sort of thing, OK.

## Stage 9 – Model from Before

### Preamble

Ethan:

OK, cool. So now we have version two VR. So so you lead on so. Take the animation and go into the model from before. So is this model from before? Is that a stage or just like?

P3:

Well, the the stage like [pause] Basically, these are kind of it's a it was a recurring project. So first we have this is the idea. Can we do this? Yeah, grand, you're done. And then because they are a company just dedicated to that they want to do more with the model and see what else can we do with this. And then obviously you don't start from scratch, but you say, OK, we we model the building we have that we take it and do something else with it. In this case, can we do a VR version of this building as if you were standing inside?

P3:

[unsure] - Which it's first defined]

Ethan:

OK, so this is basically another brief stage.

P3:

it's it's another brief stage, but also it takes in the assets that you've previously spent a lot of time creating.

Ethan:

So I think we probably could run through this because you said it. You said it's like you're getting the brief again for the next bit.

P3: yeah.

Ethan: so.

### Describe the beginning of this stage?

Ethan:

So how would this stage then start?

P3:

Well, it starts with a brief from the three guys, maybe just talking to [Managing / Creative Director] and [Managing / Creative Director] talking to me or all of us all, all of us together talking about. So how do we envision this? What do you want to do? And [pause] then, once we agree on how things should work um. We knew for the VR it has to be in in real time in Unity, basically. But we knew we had to adjust the model because it was just too many polygons for anything in real time, so it needed to be optimised [brief pause] and worked on.

### Describe what occurs during this stage?

Ethan:

And are there any of the tasks that occurred during this model from before stage? this brief.

P3:

Funnily enough, no [laughs]. Because we often reuse stuff so. It it can be, maybe. Let's call it semi unique because the whole project itself is kind of unique, especially with the [brief pause] with the multiple versions, that kind of always go one level deeper than before, kind of thing, if that makes sense, so that in a whole is kind of unique. You hardly ever get that, most of the projects are kind of once done and then they're done. Whereas assets might have been reused later on for different projects or different sub parts of the same project and stuff like that. So you get that a lot, like we have Dublin castle and we use we use it a lot on different medieval Dublin jobs, basically, because you need you, you don't build it for everything fresh like you have it there, you take it and you use it again. Um and in this case, obviously it is a unique building, but we've used it for that again and again and again, like in in four incarnation albeit modified and optimised further down from my first modelling that I did. um. But in essence it is the same building.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

And how would you know that this stage is, like, finished?

P3:

The model from before stage is finished when when we start with the when the brief is finished. Basically like it's just a a stage and we got, you know, we get the database that we have from the server the project and we we take out the elements that we need and just bring it into a new project.

Ethan:

So you you so you say you've the brief bit is finished and you've gathered what you need from the last project to pull forward to the future one?

P3:

Yeah, exactly.

### From Noho, who (job roles) is involved in this stage?

Ethan:

And then from Noho, who's involved in this stage?

P3:

Well, that would have been [Managing / Creative Director] and myself and probably at that stage [Unity Developer] I'd say.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

And then from the client side who's involved in this stage?

P3:

Well, our our three guys basically.

### Can you describe the tools you used during this stage?

Ethan:

And can you describe any tools you use during this stage and then what and why you use them?

P3:

Well, in that stage, obviously it's just in a meeting form.

P3:

Probably online for for me at least if they were there in person, I can't remember um. And then. You know. Just the Windows Explorer to get the data that we had. Just connect a drive and and pull it down again basically.

Ethan:

Yeah. So just online meetings and.

P3:

Yeah, and gathering the data that we already have. Yeah, so that I wouldn't even like consider, you know, hooking up a hard drive to get old project data to be something that worthwhile mentioning you know.

Ethan:

Yeah, it's the process of getting it doesn't really matter where it comes from, as long as you've got it, yeah.

P3:

Yeah. So you just you just take what you had previously built and normally we tend to never let anything go to waste that we did before. We we have a good backup system in place and we we have everything we've ever worked on.

### Would you consider this stage “unique” to this project

Ethan:

Would you consider this stage to be unique to this project?

P3:

Well, like I said, semi unique like we we reuse loads of stuff and we continue on from other projects in the same way. not that often so [pause] that it just is a follow on from the same thing to, you know, narrow it down and make it more advanced. I call it semi unique like it's [unsure]

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

Then can you describe any collaboration between yourself and the client during the stage?

P3:

Yeah, well it just. [pause]

Ethan:

I think you mentioned.

P3:

They told us what, What they had in [s], what what idea they had in mind. And then that was it. "can we do it in VR?" We said, yeah, we can do it in VR. Or if, but I think for that we only did two or three other VR projects, so we didn't have that many under our belt. Um. And it was kind of newish as well. [pause] So yeah, we just accepted the challenge basically and said let's do it.

Ethan:

Yeah, that's a good way of describing it, I like that.

P3:

But that that's that happens that's also not unique like that happens on a lot of projects. It's like OK, we've never done this before, but it sounds fun, but let’s give it a go. We will figure it out. Many, many of other projects go like that.

## Stage 10 – Adjust for Unity

### Describe the beginning of this stage?

Ethan:

so for the adjust for unity stage, could you describe what happens at the beginning of this stage?

P3:

Yeah. So at the beginning it was [Unity Developer] and myself talking. What do we do? How can we, you know, make this make this a real time model? And [pause and thinking?] I'm to be honest, I don't know if it was my first unity project or you know, but I wasn't I hadn't been unity developer for that long, when [we] started doing that so it was kind of first steps into the whole thing [I did the Keenan before - unsure]. I like I'm the memory is I don't know, faded uh so to speak, so I don't know. I don't have the experience I have now. So we just talked about how we're gonna do this for Unity. What are we gonna do? How do we navigate in this VR space? And stuff like that. And how do we optimise, optimise the model that it kind of looks the same what we had in the offline rendering but it's suitable for real time, so you can't you know, use the high res model. You need to make a lower version of it. You need to kind of [pervade - unsure] the textures if you can, or get a normal map of the details into the thing and [Unity Developer] took on the model and optimised it and made it smaller.

Ethan:

OK, so this sort of um figuring out how to do it is basically what happened at the start that they just...

P3:

Yeah, well, how basically how do we tackle it and what do we have to do to make it work?

### Describe what occurs during this stage?

Ethan:

Yeah. Are there any other tasks that occurred during this adjust for unity stage?

P3:

Uh. Well the the tasks are [pause] you know, making it smaller, shrinking it down its size, remodelling it in In [Unity Developer]'s case in 3D studio Max. Doing, creating maybe normal maps from the high res version that was there and just bringing it down to be performing.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

Then how do you know that this stage is complete?

P3:

Well, we know we know it's done when the model is optimised, basically when when it when it works fast enough in like this you can, you know optimization is good. But once it's running fluid and in that case this was always meant to run on a machine of ours and not to be distributed amongst people so they could download it and install it on some old machine that wasn't performant. So we knew we had this machine. It would run on this machine and if it's fast enough on that machine, it's fine. So you don't need to optimise further for other machines if you know it's only gonna run on this one in the end. So that's how you know, basically. If it doesn't, if it doesn't stutter and if it's smooth enough, then you're done.

### From Noho, who (job roles) is involved in this stage?

Ethan:

And so from Noho, who's involved in this stage?

P3:

So that would have been me, [Unity Developer], and most likely [Managing / Creative Director] as well, just to show him how is it looking in unity basically because he was keen and eager to see how it would work.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

OK. And then from the client side, is anyone involved in this stage?

P3:

Um we probably might have done the previous that just to show them this is in real time, I'm not sure [brief pause] we were ready to show it in VR just yet. Probably only the next stage, but we showed them we brought it in so it could have been just the shared screen session showing them the ideas in the other program or [longer pause] I don't know.

Ethan:

Then who would that have been? Sorry.

P3:

Well, again like the the client in this case is always our three guys.

Ethan:

It's always three guys. It's three guys.

P3:

It's all like it. There might have been meetings with one of them was not around. Yeah, I don't know. He was on at another business. Or like, it's hard enough to manage meetings between 4 individual parties, you know. So there might have been someone missing in these meetings, but for me my conception has always been like THE client is these three guys.

### ToolStage

Ethan:

And then can you describe the tools you used during the stage and then what and why? You mentioned 3DS Max and Unity, I presume

P3:

Yeah, the for the optimization, obviously unity to bring it into unity. [Unity Developer] was doing optimization in 3DSMax and I would have exported it out of SoftImage, obviously. So given him an FBX file or whatever to to tinker with. Now at that stage there might have been, uh. [pause] I dont know, adjustments that need to be made for my export in order to work like there is because I modelled it in like I like.I mentioned instances and they wouldn't go across in the export, so I might have to have you know, the whole geometry as individual items and then [Unity Developer] might have had to make instances again, out of these things for, in order work.

Ethan:

So it's going back and forth.

P3:

Well not always like in the beginning a little bit and once, once the model was there and fine. We could just dig in and do the optimization.

### Would you consider this stage “unique” to this project

Ethan:

Can you, would you consider this stage unique to this project?

P3:

[pondering] hm. In that case. Going from one 3D package to the other to bring it into unity. Maybe. Maybe I I can't [pause] we did it in others as well. Let's call it semi, semi unique.

Ethan:

It's semi unique. OK

P3:

So it it is. It is a push to say we made it in that application. Now we want to bring it there. We're going through a step of another 3D application to shrink it down basically. You know it's just a I don't know, it it it the issue is mostly, I guess, time resource management. That you can't do all the stuff yourself. And people who, like [Unity Developer] did a lot of optimizations for geometry up until, well, to now. So he's he's quite good at reducing it. And that's why he's probably faster at reducing it than I would have been. So he did.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

So we've covered unique. I think you covered the collaboration, unless there's anything you think you've missed?

P3:

Yeah. No, that's that's it. It was mostly [Unity Developer] and myself. And then which just showed it to to [Managing / Creative Director] and then to the guys occasionally.

## Stage 11 – Programming for VR

### Describe the beginning of this stage?

Ethan:

So at the beginning of the programming for VR stage, could you describe what happens at the start of this stage, for me?

P3:

Well, at the start of it we we're happy with the model we have it in unity and then we just need to figure out, so how should this thing actually work, so we have it in our unity 3D environment, but that that alone does not make it VR. So you need to make it work in the VR glasses and you need to have the method of transportation, shall we, you know, use the thumbstick of the controller to actually walk around. Or how should we tackle this and walking around is a bad idea, which probably anyone in VR would tell you. It would make you quite sick if you if you just had a I don't know, a forward shuttle and it just, you know, walk through it. It's [pause] It's hard on the eyes if you're not used to it, like if you're if you're doing 3D a lot, then obviously you you'd get used to it and your your mind works differently. But if you just put it on and just the experience alone for the first time to stand in this and look around can be overwhelming for some, like other people where you know, you had to hold the hands of of people when they looked into it [laughs] in some instances. Um and then the uh. I guess the the best method is the where I pressed with my arc and and that's it.

Ethan:

That's ways you can make the motion sickness better, if you just vignette.

P3:

Exactly so. Um so we that was just a bit of I don't know figuring it out like it's obvious now, but in the beginning, it wasn't that obvious. Let, let's say.

Ethan:

Yeah, it's just experimental.

P3:

An experimental thing. how do we program it? Where do we start? Where do we end? What do we want to do? And it was always meant to be like a like a kind of guided tour, like it didn't have an avatar in that, I told you so it was always personal and we told them you can explore the building and on the third floor in Isle G or whatever, there's a document there and you could actually go up to the second floor, whatever, go to this aisle. And it would have been a piece of paper Popped up. If I remember correctly and then and that was the experience you just have that. I think actually need to get this project and have a look what it actually looks like now. So the that was the basics. So it it was very simple but it would have been under the same idea that the guys had, so we have these records, we want to make them accessible to the people, maybe even in the building that was there a hundred years ago. So even though back then you wouldn't go up as a as a normal person in into the repository and pick up a document. But in VR, there's no harm. You can you can actually walk there, marvel at the building and its architecture, and then get the document. But that was just a a demo and that never made it into a live version that would have been distributed to anyone. Um. Yeah, the. I think I I might have run through all the stages now. [laughs] So in what stage are we?

### Describe what occurs during this stage?

Ethan:

I think so. Double check [laughs] Were there any other tasks that occurred during the programming for VR stage?

P3:

No, it's just, ,you know, figuring out how how does the VR work? Where do we best position our our tracking devices? Because it had like 6° of freedom and it was tethered to the computer. How do we manage all that? [pause] And the logistics of, I don't know, cable management, I guess. And then just how do we deal with the teleportation system? How do we deal with the internal logics that you can go up there, click on an object in the virtual space, because obviously there's no touchscreen and there's no mouse. What are we going to use? Well, obviously we have, you have these handheld devices so they can shoot out a ray to to do something for clicking it and thats what we used in the end.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

And then how did you know that the prepping? Ohh sorry programming for VR stage is complete?

P3:

Well. Once it works, I guess. [laughs] even like I said it was I think it was one of the first ones for me for VR. And it's just, it was my first VR, I think. And it was just a lot of getting used to it. The things work a bit different to a normal touchscreen application or a or something else or offline rendering, obviously in in total. To have it in real time and you need to deal with all the clicking and stuff like that. So it was it was a bit different.

### From Noho, who (job roles) is involved in this stage?

Ethan:

Then from Noho, who's involved in this stage?

P3:

In this stage, it was [Unity Developer] and myself.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

And then from the client side, who's involved in this stage?

P3:

In this stage, like we might have shown it to the client in between, obviously to get the the check up like I don't think it warranted as much for checking with the client as in the previous project. So I didn't make a box for that, but obviously. They were aware of the progress. I don't know if we invited them over to put on the glasses and show it to them, but I think we must have. I just. I just don't recall it, but they must have seen it in VR before the day of the demo.

Ethan:

OK. So that would have been the three guys again, right?

P3:

And would have been surprised as well. Exactly. Yeah, three guys.

### Can you describe the tools you used during this stage?

Ethan:

Then can you describe the tools you used during this stage and then what you used for them for and why?

P3:

Well obviously Unity, the SDK for it was either the Oculus or the Vive. I I can't recall which one we used. Either one of those and uh software wise, that was it. So there's there's nothing fancy going on other than Our normal unity.

### Would you consider this stage “unique” to this project

Ethan:

And then would you consider this stage to be unique to this project?

P3:

Hm. [pausing] Not unique. No, no. It was. It was unique for me. It was my first one. Back in the day, it was unique. Now, it wouldn't be so. I don't know if if you could call it unique like if you have to program anything for VR, you need to [pause] you need to have that thought how to navigate what's the goal, and you need to put in the work to code it so. That happens in all the projects. You can't, you can't omit that stage.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

And then I think you've covered your collaboration, but do you is there any any other collaboration between yourself and the client during this stage? I think you said they'd they'd come in.

P3:

No, not at that stage. We're we're kind of done. We're just basically viewing it and I don't know. Hopefully being, you know, if I remember correctly, when when you look at it through the glasses like it's.

Ethan:

Yeah, just I think you just said it was they maybe came in and tested the headset or got some updates. I think you said.

P3:

Yeah. Exactly so.

Ethan:

Yeah, which I guess would have been how were they received those updates, I guess.

P3:

I think good like. I believe we had a lot of positive feedback.

Ethan:

No, sorry. In yeah, sorry. In what way did they receive the updates?

P3:

But I I think they must have come in, like otherwise there's no update. It's it's a VR thing. So you only see when you put on the glasses and the glasses was in the company. So they must have come over

Ethan:

Yeah. Sorry, you're saying something about positive feedback as well, before I interrupted you, sorry.

P3:

Yeah. So I I think that the feedback was positive ,that this looks good and, obviously. Like I said, even when you're a 3D guy, the the change in perspective is tremendous when you put on the glasses and see that's how tall it actually is and how tiny I am. Whereas when you look at it from an observer kind of view, it's it's like, yeah, it's just another 3D object. So if it's, if it's significant for ourselves, then obviously for someone who is not 3D oriented in that way It is, I don't know [brief pause] Even bigger, I guess not. Not bigger. In terms of scale, but a more unique experience probably if if you never had that, then you just put it on and like, wow, I'm in here.

## Stage 12 – Live VR Demo

### Describe the beginning of this stage?

Ethan:

So OK, so starting from the live VR demo stage, could you describe to me what happens at the beginning of this stage, please?

P3:

Well, obviously at the beginning is there was a whole setup to be done on the venue. I I believe it was in Trinity College somewhere and maybe the head of the university was invited, or the mayor, I don't know, some obviously colleagues and and peer groups. I don't think it was open to the public as such um But in I don't know important people or people that that the three guys thought were good to have or good to show it off to you. Um so we had to, you know move over the PC and the the whole setup for the [pause] uh for the headset and the tracking poles and everything so. That was set up and then we obviously did testing that it works in situ as as you never know, you know. sometimes things don't work that just worked an hour ago. Um. So obviously there's that, but it worked fine and then we [pause] basically had to guide the people who wanted to experience this through the demo like it wasn't, there wasn't the narrative within the application itself that would say, OK, this is blah blah blah do this and that. Um. [pause] for once, I don't think there were, there would have even been time to do that and it was never [pause] in the brief to do it like that, it was always meant to be guided by us, the creators, basically. So we were standing there right next to the guys saying so when you put this on, you'll be teleported back in time to this building. And when you look around, you'll see the architecture up there and you can you can navigate around with the uh teleportation method, when you just click on the on on the handheld thingy and stuff like that, and obviously that was back in the day when you didn't see your hands so because now you have like glasses that have this, you know it's either see through part or a camera that records your hands so you can see what you're doing, whereas back in the day, you you didn't see what you were doing with your hands were gone. Once you put the headset on, and then you couldn't put the the, the, the, you know, the handheld devices into your hands. So there's always helping with that, um. And that was fine, apart from a few people who who were totally out of it once, once they had the headset on, they would feel like, Oh my God, I have to fall down, stuff like that. So but everyone thoroughly enjoyed it. It was a it was a great experience and everyone was amazed at how it looked. But uh. I think it went on for a few hours and then we showed it to a lot of people and the feedback was really positive. So all in all, it was a success, but it was only done once. So it was like just for this one day event we we made it and put it up in and showed it. Ohh, hang on did we show it a second time? [pause and thinking] I'm not, we might have shown it a the second time in the Bank of Ireland actually, come to think of it um at another event. [pause] Yeah, I think so. I'm like we definitely did something in the Bank of Ireland and just not entirely sure if it was this project or something else. I think it was this one. Maybe also ask [Managing / Creative Director] if if he remembers.

### Describe what occurs during this stage?

Ethan:

Were there any other tasks that occurred during this stage?

P3:

Um. No, just ,you know, lifting stuff and moving things around and you know, having having enough space like, you know, moving furniture to the side so that it actually can move. But then again you need the table for the PC and the monitor and all the whole setup and like it needs to be there and then they need wires going around the floor. So then you can, has been marked as the the the VR setup for the back like you need these these trackers on the back and you need them for the front and it's like, well. I don't know. That's the downfalls of of this technology. Like it is great when when it's working. However, obviously you have these pitfalls that you uh they have to set it up and then obviously there's the constraint on the when once people actually have it on, that they can move around around it, but not as freely as they might think, because they're still tethered to a PC with the cable. And then there's the furniture in the room that they don't see, so they can actually, you know, run into the into the table or run into the, I don't know the wall so you have to make sure that you guide them that they don't do that. So that happened obviously, um. [brief pause] But then there are the other people who are just completely static, not even moving their heads like, you know, turn around, look [laughs] move your head look up and down and....

Ethan:

So a lot of just guidance.

P3:

...experience the whole thing, so that's that's just different people have different [pause] , I dont know, needs and abilities or you know, some were scared and others were. Oh, what the \*\*\*\* is? This let's let's move around like crazy. So you just have to, I don't know [pause] deal with every individual individually ,if that makes sense.

Ethan:

Then yeah, makes sense. Everyone's different, has different reactions, basically.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

And then how do you know that this live VR demo stage is complete?

P3:

Well [laughs], when the event is over and everyone [has gone home]

Ethan:

When it's over.

P3:

basically. [laughs] then you know its done. And obviously you you'd have a chat in between at the end with the other guys and yeah, there was a success like people, people thought it's good. And uh. Then you know. Yeah. Job well done. We [brief pause] we did it. We did it. Let's go home. Or to the pub. Whatever you know.

### From Noho, who (job roles) is involved in this stage?

Ethan:

And then from Noho, who is involved in this Live VR demo stage?

P3:

So there was [Managing / Creative Director], [Unity Developer] and myself. [Producer 2] might have been there. I I can't remember to to be honest. I think she was there, but [pause] It also could have been the other event in in the Bank of Ireland. I'm I'm mixing those two up.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

The client side who was involved in the live VR demo stage?

P3:

Yeah, I think all all three guys were there.

Ethan:

All three guys OK?

P3: Yeah.

### Can you describe the tools you used during this stage?

Ethan:

And probably a stupid question, but can you describe the tools you used during this stage, what you use them for and why?

P3:

Yeah. Well, obviously, we used the build [laughs] from the unity thing like, I'm not sure we had to do a fix, but obviously on that machine unity was installed as well to if if we had to change anything, we could do it. um. I dont know that other than that, it's just the the PC and that's it with the with the setup for for the headset and that, like there's no other tools involved here.

### Would you consider this stage “unique” to this project

Ethan:

Yeah

P3:

Like I'd call it unique enough.

Ethan:

Sorry, say again, sorry?

P3:

I will call it unique enough like it's not, I don't know 100% unique given that we've done all the VR stuff as well and the VR needs to be ,I dont know, you need to be there. You can't just, you know, have it sitting there [there for me - unsure]

Ethan:

Yeah, you've never given a demo to this degree. Is what I'm kind of on, yeah.

P3:

There for me. Yeah, let's say. And also if we if we look at this from [pause] I don't know, if you had asked us about that project, I don't know, a week after that, it would have been unique.

P3:

Ethan:

Yeah.

P3:

Obviously for for us, so.

P3:

Yeah, I think we can go with that.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

Can you describe the collaboration between yourself and the client during this stage if there was any?

P3:

Well, the collaboration was just, you know the logistics of it. So how do we get in? When do we get in and stuff like that? Because obviously you can't just wander into Trinity College into some, you know, meeting room and [laughs] just carry equipment in or out, um they don't like that, so, I dont know, then we got some keys or whatever. Our key code and then we got in early to set it up, just to give us some leeway. We can't just show up on the time of the of the thing and expect it to work, so.

Ethan:

OK. And how would that have been like communicated, I guess?

P3:

Well, I I. I guess with e-mail or with phone calls, phone calls you you just get the stuff that we need and we meet at some time and Just, you know, they'll let us in and then give us a key. It's actually hard enough to transport the whole machine from, even though we're on S Williams St, which is quite near to Trinity College, but obviously it's still uh Yeah, lots of cobblestone and pathways and walkways, I think we have like a like a trolley to to to move it, but obviously the wheels on these they're They are solid, so the whole thing is kind of shaking. So yeah, Ethan: unfortunately to drag around a desktop computer too many times, yeah. Yeah. So actually for one for one event much later in we I built machines with a case that had a handle. That was that was great and that you could carry it on. That was perfect. Yeah. So solutions exist but obviously Not like you have to, you know, pre plan it in advance to have a version of that sitting around. And you can't really keep it since the rest of the technology changes so quickly that you can't just say, oh, there's our machine to go to. Because if you if you keep that on the shelf for four years, the graphics card is going to be outdated and probably if you want to update the graphics card. The port has been outdated or something else, so you need to buy a whole machine altogether.

## Stage 13 - Model from Before

### Describe the beginning of this stage?

Ethan:

OK, so now we have this second model from before stage. Could you tell me what happened at the beginning of this stage please?

P3:

Yeah. Well, at the beginning uh. The the guys told us so we want a touchscreen application now made of this to make it more accessible for people to to experience this, and I think that's always their main goal, make it accessible to the people and it it just comes in stages. At first we just have this reconstruction then we have a little video. The outreach of that I don't know how many people actually watch the video and then the next version is the live demo and there's a limited amount of people that watch that probably they had a screen recording or like a a video of these and some, I don't know [pause] photos that they could show around to other people, this is what we did. And then the next one is to actually have an app that could run potentially on any PC. I mean it, it is intended for touch screen, but the mouse would work just as well. Um so. That would give them a much further reach for connecting to other people who would want to have a look at what they've been up to. um. So that was the initial brief. So we came up with the idea that obviously the building itself is nice, but it doesn't [pause] get people to linger long enough if it's just a model, and we've done quite a few uh few of these in our lives, and it's always it has to be like a combination of the the 3D aspect of it, but as well as background information in form of text and maybe images and stuff like that, which we kind of always ohh sorry I'm I'm going on to the next step already so [...] yeah, we'll stick. We stick with the first one. So and so that was the brief. Make a touchscreen app and that's fine. And then we just took obviously the model that we have previously adjusted for Unity. Because since it's interactive, it needs to be live. It needs to be a Unity application. So the offline rendering obviously has been abandoned after versions one and in in the same in the third version for the touch screen, obviously, which we're just building on the lower Polygon model with Unity, it's just the [detects?] for the touch screen application to be launched here

### Describe what occurs during this stage?

Ethan:

OK. Are any other tasks that occurred during the this second model from before stage?

P3:

No, not really. Just you know grabbing the the previous database and just extracting what we need to go on with the next version basically.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

Then how do you know that this stage is complete?

P3:

Well, well, once we have the previous model and we just have a new, you know, Unity project where we just added it in and that's it. Then we are ready to to rock for the next version.

### From Noho, who (job roles) is involved in this stage?

Ethan:

And then from Noho, who's involved in this stage?

P3:

In this stage, I think it was me and and [Managing / Creative Director] obviously for the brief, so me myself and [pause] [Unity Developer], I think would come to it later on. He might have been in the brief as well, so we might as well add him because he's been there for like, I modelled the additional section later on, but he did the optimization again to that. So he was involved in that part too.

Ethan:

OK. So you, [Managing / Creative Director] and [Unity Developer], OK?

P3:

Yeah

### From the Client side, who (job roles) is involved in this stage?

Ethan:

Yeah. And then from the client side, who was involved in this state?

P3:

Uh the same uh like the three guys. Basically we just call them the three guys

### Can you describe the tools you used during this stage?

Ethan:

Then can you describe the tools, you use during this stage, what you use them for and why?

P3:

Yeah. Well, obviously, you know, taking notes for what needs to be done. And just like with all the other the previous briefs and then we used, you know, Unity and explorer to copy it of from a backup and that's it.

### Would you consider this stage “unique” to this project

Ethan:

And would you consider this stage to be unique to this project?

P3:

No. No. It wouldn't be unique

Ethan:

standard brief stage, pretty much.

P3:

Yeah.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan: Can you describe any collaboration between yourself and the client during the stage if there was any?

P3: Well, just, you know, we had a chat for what what it should be or like they were quite [pause] I don't know liberal as to the [pause] like we had a lot of freedom to to do stuff and, obviously they valued our input as well and how how things should be done. So it wasn't the the super strict briefs that say this is what we need, but just like with the stuff before, it wasn't super strict in in any of these versions. Just like, you basically you do what you do best and we'll give you feedback. And that that kind of thing. That's it.

## Stage 14 – Adding Extra Information (Hotspots)

### Describe the beginning of this stage?

Ethan:

Could you describe what happens at the beginning of this stage, please?

P3:

So basically what we've always been doing on most of our projects, you you need to , I dont know, spice up a 3D model to keep people engaged in looking at it and trying to find out extra bits. If it just have, I don't know, uh if you just had the Eiffel Tower as a 3D model, you'd know, yeah that's the Eiffel Tower. Great. Next one, basically. You, you'd want extra bits. So when was it built? Who did that? What is this about? So you have information dotted all over the place that gives you extra bits. Like if you look at the outside of the building and you see on the back of the building, there would have been the initial breach where they placed the bombs, they'd have a hot spot here like in 19, I don't know, 16. I don't know when it was blown, up the explosion would have happened here, and from there, you know, have a [unsure] and and you just make different different hotspots like these or this staircase was designed by Sir Arthur blah blah blah. And you would get extra information about him. Also in the reading room, once it was built so [unsure] there, that that there is uh that this was walled off and in order to get the document you actually have to register in the reading room. Say what document you want and then they would go into the archive and fetch it for you. And then you'd read it in the reading room so you wouldn't have access directly. But because this is a special version and we constructed it, you have access and you can actually walk in and and marvel at the interior design. Um. So loads of these are dotted all over the place, and they obviously happened in collaboration with the client as to uh, because that depends on the narrative that he wants to tell basically. So which parts are important to him or to to to them basically. Uh, that we need to [pause] have a closer look at basically when, when, when we walk through the experience.

### Describe what occurs during this stage?

Ethan:

Are there any other tasks that occurred during the adding extra information stage?

P3:

Well, figuring out how to place the hotspots and uh. What the best way is to show off the text boxes and stuff like that so there's a bit of graphic design involved. How the interface should look? basically, and making icons of of the hotspots so that it invites you to click on them. Obviously, like any any round floating circle [unsure] might as well invite you to click on it cause it it is clearly not part of the 3D scenery, so it is something extra and then you should click on it. [pause] I'm not sure if we had it pulsating or no, I don't. I think it was static, but obviously there's loads of things that you can try there so. Um. That that's just the the nature of, I don't know, graphics design and interface design.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

Then how do you know that this stage is complete?

P3:

This stage is complete when all the extra information is in there and is working. And that you're happy with the with the interface. Like how how does the box look? Where where's the image? How is the text? Is it all legible? Is it a nice font? and stuff like that. Is it, is it too much information? Is it too little information because clients often tend to give you too much text and then it needs to be shrunk down because no one, no one will read and I don't know anything more than a paragraph or two. So you can't have a big scrolling thing because no one's gonna read it. Though other other clients [laughs] have tried it before so it can be quite tricky to to condense it basically. um. yeah.

### From Noho, who (job roles) is involved in this stage?

Ethan:

So yeah, yeah. From Noho, whose involved in this adding extra information stage?

P3:

So that would be [Managing / Creative Director] and myself, and I'm not sure who made the

Ethan:

[Managing / Creative Director] and yourself.

P3:

graphics of the interface. Who came up with it? um. [pause] Like nowadays, normally [Digital Creative Manager] does it. I'm not sure if she was involved in that project. I think she might have, so I probably [Digital Creative Manager].

Ethan:

Probably [Digital Creative Manager] or someone with the same job, basically.

P3:

Basically, yeah. Or or maybe [Managing / Creative Director] did it himself. I don't know how we, how we came up with it so.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

Yeah. And then from the client side, who's involved in this stage?

P3:

Well, again our three people like it might have been if it's just extra information, it might have been just one guy because he's the expert on hm I don't know of the historian side of it, so he might have known details. I don't know it's just on the top of his head, he would say, oh, this, this is something that we need to put in, but I think it's it's always those three because they were in in big collaboration anyway, so they they would have, you know, figured stuff out amongst themselves and then we would have been given the information. I can't remember that there was a meeting where some one said Ohh I want this text and the other guy would say ohh no that's not what we want .So it was always like they were [slight pause] they were in line with, with with what they wanted.

### Can you describe the tools you used during this stage?

Ethan:

Can you describe the tools you used during this stage and then what you use them for and why?

P3:

Yeah. Well, obviously I used Unity to to put them in and programming what happens when you click on this and animate it, you know, boxes out there and probably photoshop to to hook up the textures.

Ethan:

Say again, it was Unity, did you say?

P3:

It's just it's just unity and maybe Photoshop for 2D graphics and I did use. I'm. Did I? Is it dynamic? If it is dynamic, which I believe it is, I always use a like a spreadsheet system, so I I just have a a Google spreadsheet where it's just each line is out spot and then you have a column like the the first column is the ID, the 2nd is the title, the third one is the main text, the. 4th one might be. Uh, I don't know something else. And then you just add that list and I export it as a as a tab separated value. And just to read it in with script of mine so that I get a big array of all these informations and when I click on the hotspot I just have to assign an ID to this and then OK if I place you there. I know your ID 2 and then I just read the second entry from that array and it will load in the text. Because it's much easier to [pause] to only have one graphic element, Like a panel that pops on with the text. Rather than have one for each hotspot where you have the text prewritten or have multiple text things and hide them so that the text is just replaced with a text that's loaded in from a from a text document, basically. And obviously it also makes the editing easier if there's a change you. Just, you know, fix it in the spreadsheet, export it, replace the file and and and that's just the ,I don't know, the sane way to to do this it guess, and it has served me well on many projects so. Even if it's not done, uh, you know, in, in real time like I [pause], I don't know, overly ambitious at once, I thought I need to hook into the the G drive document and just load the spreadsheet in directly. Wouldn't that be great? And then I thought. No, that's too much [laughs]. Just have a text file and it's fine, and it actually is so.

### Would you consider this stage “unique” to this project

Ethan:

Would you consider this stage to be unique to this project?

P3:

No, no, I've done this. Like I said on on many occasions, just have extra information with hotspots. That's pretty much a standard procedure. I I'm not sure if everyone else calls them hotspots. UM, but this is our when when we talk about the hotspots, it's a, it's an image representation somewhere in the 3D scene that you click on and you Get extra bits of information.

Ethan:

Ok, I think I know what you mean about.

P3:

So we've always called it, but I think other people have called it differently on on occasion and it was a bit of confusion. What is it hotspot? Yeah, it's like this is our hotspot basically.

Ethan:

Yeah, and it makes sense. The hotspots actually makes sense. When I was playing around with it said, yeah, these are definitely, I'd call them hotspots at least.

P3:

Yeah, but but not everyone does, so that there might be confusion as to what's going on there. But for us, it's always clear and in Noho anyone who talks about hotspots, that's it, yeah.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

And then can you describe any collaboration between yourself and the client during this adding excellent patience?

P3:

Yeah, well that would have been the, you know, emails or meetings with them to get the information that we needed. So what do you wanna show and what should it say basically. There's there's obviously certain aspects of the whole building that they wanted to focus on and they're important things to know, like the like, the storage, uh room that was locked in the reading room, where it would keep the documents of the day which help preserve a lot of documents, that had like extra thick, I don't know, a metal door and it had like bolts on the outside to prevent any thieves from coming in and stealing these documents and uh. So there would have been an entry and I think on the outside and on the inside too [pause] to talk about that stuff, stuff like that.

## Stage 15 – Adding Reading Room Section

### Describe the beginning of this stage?

Ethan:

Could you describe what happened at the beginning of this stage?

P3:

So at the beginning of this stage, because it was clear that they wanted to mimic the process of how it would have been back in the day, like it's great that we've reconstructed the reading room um not the reading the archive. Uh, the treasury um but they want to mimic the experience, I don't know as closely as possible, while still allowing people to look into the, I dont know, the most sacred part of the archive, which normally no one would have seen but for that we needed the first part of the building, which thankfully is still in existence, so that that was a bit easier to to gather like we had the plans as well and the downfall is like this is actually a court room, I think so. You can't go in and take photos. Which doesn't help. [CUT by P3’s Request] But we we we got a few images we had the plans and obviously the outside is freely accessible. So it it was easy to take pictures from the external sides. And for the roof, there's obviously Google images, not Google images. What's it called? Google Maps, where it has like the the top view, and I believe they also have the Street View section for that. So you could kind of also look at it from different different angles without being there because obviously I modelled it and I wasn't there because I'm I'm sitting in Austria and uh just to model that there was no point in travelling there to to do that so I got pictures from the guys and uh and Google Street View and Google Maps for sections in the roof that didn't make sense. And I had the plans um. [pause] So that was fine. Also the [brief pause] the reconstruction of that room was not that well complex it was. It was complex. But there was, the main thing was the entrance and the staircase and then the reading room itself, you would have basically gone straight into it, so it would have been a big double door. And then you had, I think, a second big double door, um to enter the reading room itself after the or in the stairwell, basically. [Sit right into it.] And the rest of the building to either side would have been offices. And we didn't have to build the offices because we were not meant to go in there anyway um, and therefore they are just empty obviously. For the outside we modelled all the windows and everything but the inside was not important. So it's just, I don't know, there's there's a ground, there's a floor and there's a wall that sections of the uh stairwell and that's it. So. That is. [brief pause] to kind of simplify it so it's not the whole building, but it was tricky enough and to get that reading room was a a mixture of there was also one photograph, thankfully. So one photograph from back in the day., as to what it looked like because it had been renovated, redecorated like twice in its existence, so the current room does not look entirely like back in the day, but some features were still there, like in the ceiling and stuff. So they hadn't changed that. parts and the doors they had changed and uh but the lower Like some panelling and and and uh wooden panels kind of extended skirting boards, stuff like that. Yeah. So that that would, that would have been clearly visible in the photograph. And we modelled also the furniture from that one photograph. Now, thankfully again at least one photograph more would have been preferable, but yeah. We can make this happen with just the one. Yeah. So that's the the extra bit that was that was needed was the first like I call it the reading room section, but it's actually entire building, yeah.

Ethan:

Yeah. The other side of the fire break, wasn't it?

P3:

Exactly. So we needed that and obviously we needed the fire break too. And there was a bit of confusion as to how these are connected. [brief pause] Cause the [pause] like would you have gone through like a courtyard kind of thing for the fire break or was it shielded off? Was it a wall and the roof around it? So you'd kind of have like a little passageway to go from one door to the next. And I think we opted for that. But I'm not sure that's clear.

Ethan:

OK, so it just wasn't clear from your references, so you had to um creative license?

P3:

Exactly. So I think it was a decision to be made, stuff like that. How, how did it actually work?

### Describe what occurs during this stage?

Ethan:

Could you describe any other tasks that occurred during the adding reading room section stage?

P3:

Any other tasks? No, it's just a lot of research trying things out and then if if there's not enough information, making educated guesses. And then that was it, so. It's just down to modelling, so I modelled it again in in Softimage. And once we're happy with that, I had, I gave it off. I gave it to [Unity Developer], who did the optimization again in 3D Studio Max before bringing it into Unity.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

And then how do you know this stage is complete? I think you may have just mentioned it?

P3:

Yeah, once. Once we got the optimised version in in unity then we know it's it's complete.

### From Noho, who (job roles) is involved in this stage?

Ethan:

It's OK then who from Noho is involved in this stage? You mentioned yourself and [Unity Developer].

P3:

Yeah, and [Managing / Creative Director] obviously as well just to make sure it's going in the right direction, looking nice like this.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

And then from the client side, who's involved in this stage?

P3:

Well, again our three, our three guys there.

Ethan:

Just three guys, OK?

### Can you describe the tools you used during this stage?

Ethan:

And then can you describe the tools you use them? Sorry, the tools you use during the stage and then what you used them and why? you mentioned Unity and SoftImage

P3:

Yeah. So yeah, so wwell it's SoftImage, [Unity Developer] used 3D Studio Max and then obviously Unity to end up in, in, in the end. Yeah, obviously, Photoshop for you know, adjusting images and textures to bring them into uh you know the right, the right way to model from it, basically

### Would you consider this stage “unique” to this project

Ethan:

Would you consider this stage to be unique to this project?

P3:

No, no.

Ethan:

No, it's still a recreation.

P3:

It's another recreation of [pause] Of things that were there, or were not there anymore.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

And then can you describe any collaboration between yourself and the client during this stage?

P3:

Yeah. Well, the the collaboration would have been um We don't know what's there? Can we do this basically? What do you think? Does it look nice, basically. Do you think this is uh proper reconstruction of what would have been.

Ethan:

So more feedback and advice by the sound of it?

00:34:57 P3:

Ethan:

Yeah, and confirmation that you're doing fine. P3: Yeah, Ethan: like, just it's a very fairly typical feedback.

P3:

Yeah.

## Stage 16 – Walkable Version – Interior & Exterior

### Describe the beginning of this stage?

Ethan:

So if we head on to the walkable version stage could you describe what happens in the beginning of this stage for me please?

P3:

So the walkable version was then the the actual ,I dont know, brief, from what we had talked in the beginning of the project that we want this touchscreen application that you can actually...

Ethan:

Sorry, the brief from the beginning of version three?

P3:

Of of version three. Yeah, yeah, sorry. Beginning of of of the third incarnation and we go um to have I think we did it [brief pause] I'm not sure if he actually walked around or if you use teleportation to move around. [brief pause] I'm not sure because at the very end it was scratched, so I think we were we were still [pause] trying out what the best way would be, but I can tell you is that we had like a initial animation like when we we started outside the building, so you'd see the entire entrance and then you'd move in and uh get a look at the staircase. Get a look at the reading room. Move through the opening doors of the archive to go into the archive and look at that. And then you start out, I think inside the archive and you'd have hotspots there. They would tell you about the the building and its lost and stuff like that. And um [pause] with, you know images and text and stuff like that. So they would have been uh [pause] part of the whole experience. So some of like pre-ren... like a, I don't know, like a like a cut scene in the game, basically, to to start it off, that would lead you directly from the outside to the inside, mostly also to tell you you can actually go wherever you want, you know? You're not restricted to not going in there or.

### Describe what occurs during this stage?

Ethan:

Are there any other tasks that occurred during this stage?

P3:

Well, no, mostly figuring out what's the best way to move around, move about um. Figuring out how to switch from the from the cameras. That it makes sense because the other one obviously. Uh. You can move around with your mouse so that it can look everywhere. And you don't want that while you're doing the the predefined camera move basically. So there has to be a a switch programmed in, In order to limit people to what to do because if they wiggle with the mouse frantically while you have this move, they're just gonna be sick.

Ethan:

And then they need to. Sorry.

P3:

No, no, go on.

Ethan:

No, was there anything else you wanted to add about the task stage?

P3:

Ethan:

Ohh, you think that's it?

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

OK. Yeah. So could you describe how you know this stage is complete?

P3:

Well, we know the stage is complete once we're [pause] We we can walk around and I think in the in the version that we had, you could still walk around. You can walk around in I think through walls and through objects, so that hadn't been checked yet. Basically, yeah, we hadn't. We hadn't implemented any. collision detection to limit people that way. UM. [pause] But like I said, this is kind of the unfinished version that I that I'm quite sad about, but it you know, it was still [pause] a good version.

### From Noho, who (job roles) is involved in this stage?

Ethan:

So from Noho, who was involved in this stage?

P3:

That would be myself and [Unity Developer], I guess. And [Managing / Creative Director] just to, you know, for the for the narrative and how to [tactically] do things.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

From the client side, who's involved in this state?

P3:

Well, again our, our, our three clients.

Ethan:

Three clients again...

### Can you describe the tools you used during this stage?

Ethan:

... and can you describe the tools you used during this stage, what you use them for and why?

P3:

Yeah, well, this is just unity basically to to go through it and. That's it. Just to program and figure out. Most of the camera moves were done in Unity, so we didn't like there's no point in doing a camera move somewhere else and bringing it in. Unless it's super complex, because the animation tools in unity are not great. Unfortunately, if you if you've ever used the other 3D package to do animation, you...

Ethan:

Yeah, I'd I'd prefer not to use unity for animation. It's very simple.

P3:

Yeah. So it's it's hard like to to especially for complex camera moves to to animate that also you don't have the proper key to where it's just you know hit the button and it's sets a key and stuff like that. So yeah it's it's a bit

Ethan:

Finicky, basically?

P3:

cumbersome, finicky and also they the function curves aren't great to manipulate and uh it's a bit tedious, whereas if I'm using soft image to do a complex camera move, it's just much easier to to get the results, however you you have to [pause] you know, have a have a good scene. You have to have the entire scene there. So I would have had to export it out from unity into there and and for a move like that it it just wasn't worth it. Like also the like interface stuff that animates also do in Unity, like there's no point in doing it anywhere else, especially since it it's it's not even 3D object, so it's a 2D canvas thing. and I can't animate it anywhere else. So you have to live with the capabilities or downfalls of of Unity's animation system. For interface stuff it's OK anyway, and for if you have to do a character thing you need to do it somewhere else anyway, like no, no one's ever gonna use it to animate the character in unity. Well, unless they're insane.

Ethan:

I'm sure someone has tried

P3:

But yeah, someone has surely tried it. But yeah, obviously you shouldn't.

P3:

So um so it's just unity and that's it.

Ethan:

Just unity, OK?

### Would you consider this stage “unique” to this project

Ethan:

Would you consider this stage to be unique to this project at all?

P3:

No, no, like we we did more walkable versions of stuff where you can look around and click on hotspots so.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

OK. Uh, could you describe any collaboration between yourself and the client during this stage if there was any?

P3:

Basically just giving them progress, progress reports and this is what it looks like. Are you happy with it basically?

Ethan:

OK. And how would you have given these progress reports?

P3:

Sorry, what?

Ethan:

How would you have given them these reports?

P3:

But probably through an online meeting.

## Stage 17 – Hook up to REST API

### Describe the beginning of this stage?

Ethan:

If we hop onto the hook up to the rest API stage, could you describe what happened?

P3:

OK, well, the how it started, it was. Way. Well, it might have been [pause] the last step here, but obviously we knew that we want to tie it into their database so that they can actually look at the document in there. So we needed access, so I got the user account or whatever to to log in and I had to figure out all the uh ,you know, the web request stuff to to authorise first and then to get the web request and then get back the JSON, dissect the JSON and uh populate my 3D scene with whatever information I get there and the uh to handle with how to handle that basically. So it was a mixture of [pause] like canvas elements for the for the search which had like a [pause] ,basically, the search results would be prefabs in 2D, where you'd have like a preview image and the title and stuff like that. And when you clicked on it, you you'd pick it up and get the details for the whole thing, say say to download [brief pause] the the whole set of scans like some of these could be like 4-5 hundred pages of scans in in the whole thing, and then figure out a way how to display those. So there was like a little preview part, a little page, just what you could scroll across and the preview pane, that would have been sitting [pause] as a texture on like an open book that was standing on like a, you know, like a slanted wooden , I dont know, reading device or just put it down and then you could Like I didn't have something that actually would fold the pages, but had like a button that would go on to to the next and it would just replace those two textures for the left and right. Um the image basically. So they would have another, was it just one image? Might have been just one and just to make it easier because obviously if you have two, you'd have to start seeing your page to make a double page. I think it was just one image, but you could actually look at it in 3D scenes. It would have been teleported to you and actually reading section . Once you've requested it from the desk, you would you would go to a chair and uh sit there and the camera would obviously move or switch to there so that it look at your document and you would have a different perspective off the room. Um and that actually worked. So um. I was quite happy with that, but that was was the point when they decided uh Now we want it as a web version. So there you go.

### Describe what occurs during this stage?

Ethan:

Were there any other tasks that occurs during this stage?

P3:

Well, other tasks? Well, it was a lot of figuring out how to how to deal with these web requests for the API stuff like it was my first deep delve into web requests in Unity. And uh. I don't know it it wasn't that. Well, in hindsight, it wasn't that hard. Like it wasn't too easy either. But it's it. It makes sense. It's kind of logical and it's uh, I don't know. I guess a neat way of doing things. So we've we've done it on other projects before. We just have these these web requests to to get the JSON and to populate whatever you need. It's a, it's a handy feature and Actually, now we just made an app that does it for the entire almost entire content of of the app, but we just pull it all in from from the Big JSON and they can create their own hotspots in the in the back end, that we have. So they type in the information and the images and other media like audio and video and just upload it there and I can download and populate the app with it. Um. So it was great to have been doing it back then, even though it wasn't used in the end.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

And how did you know that this stage was complete?

P3:

Well, it it never was complete so.

Ethan:

Never was complete, OK.

P3:

It was never completed like I had it working and we would have, I don't know, would it need more time to figure this stuff out, like they also wanted to show connections, which I don't believe they have now in this version, but uh where where you would see connections from uh from your document to other documents in the archive, so you would have kind of a look of the archive and see like where is it all branched out. Um but I think This idea has been abandoned. And and it wasn't done. So basically, this is unfinished so I can't tell you

### From Noho, who (job roles) is involved in this stage?

Ethan:

So from Noho, who was involved in this stage? guessing yourself?

P3:

Me and [Managing / Creative Director], just to show what I've been doing basically.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

OK. And then from the client side, who was involved in this stage?

P3:

Where we had our three guys, but we had our extra fourth guy who was the the developer for the the rest API implementation.

Ethan:

Developer for the REST API. Yeah. OK, so the four guys plus three guys plus the REST developer OK.

P3:

Yeah.

### Can you describe the tools you used during this stage?

Ethan:

And then can you describe the tools you used during the stage and then what you use them for?

P3:

Well, the the most important tool probably was Google. To figure out how to deal with it. And then obviously Unity to to to do it and testing and for the for the , I don't know JSON, I used uh Notepad++ or whatever to to look at the JSON to figure out how to how to bring it all in and how it, how it dissects as you know, because even though like getting in a JSON is not just , I don't know, you can't just read any JSON, you need the structure behind it so that you can extract it into your own internal formats that you need in order to do something with it. Cause by itself, it it, it doesn't do anything like the the JSON implementation that you that you have in Unity, or actually I think it's a script simple JSON, that's just bring in the stuff and then uh [pause]. You have to know what to extract, like how deep down do you need to go either with, you know enumerating through an array that's in there in JSON or go by name and stuff like that. Umm. And and that's. [pause] That can be tedious, but once you have it figured out, it works for everything, so that's that's the neat thing about it. So if you have it down on the one uh example you can you can look at all documents and they will work. So, that was kind of nice. So once you had that Eureka moment, it was like \*\*\*\*, it's working. [...] Yeah, like I remember it being a being a great, I don't know, accomplishment might be a bit far fetched, but it I was quite pleased with myself to have figured it out and to have it hooked up to Unity. Obviously other people have done it, so it's it's nothing unique per se and uh [pause]. More people will do it, but for me it was a good step in [pause] I dont know, figuring out how to do things differently or more dynamic.

### Would you consider this stage “unique” to this project

Ethan:

Then would you consider this stage to be unique to this project?

P3:

Well, at that stage, let's say yes, but later on we've used it on other projects but um.

Ethan:

OK, so it was unique and then you carried on...

P3:

It was unique and then I don't know, three years later, it wasn't anymore, um. But, but back then, it was unique.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

And then can you describe any collaboration between yourself and the client during this stage if there was any?

P3:

Yeah, there was with the programmer guy, obviously. To figure out what's in there, how to deal with it. And there was also different sections that they had for um if a document was completely lost, or if they knew about the document, they just didn't have the document anymore. Or if they have a backup copy from some other archive, or if they still have the original one. So like that was like multiple stages, and they were all in the rest API. So it was kind of ,I don't know tricky to navigate around it.

Ethan:

OK. And how would you collaborated with this fourth person, like in like.

P3:

Well, we had e-mail and and Skype just to.

Ethan:

E-mail or Skype OK.

P3:

Just to figure stuff out.

## Stage 18 – Model from Before

### Describe the beginning of this stage?

Ethan:

from before stage, can you describe what happens at the beginning of this stage for me?

P3:

So yeah, like, but like I said, I'm like I I clocked out after version 3. And version four is just as I know what must have happened. You you would need to talk to [Unity Developer] and [Web Developer] to get the proper insight for this. Obviously it it is phase.

Ethan:

I guess answer as best you can than, that's fine

P3:

Yeah. Yeah, I will. I will. Yeah. So it's based on the latest model that we had in unity there. Yeah, and. All the textures and everything, but even at that we figured out having that model in there would just drag the browser to a halt, so it's just too much for the browser. Now in my opinion, uh [laughs] They err ,I don't know. Nowadays people tend to do too much with the browser that it was never designed to do. It was there for websites. If you want 3D stuff, it's not there, but it works beautifully and fast now. So they did some truly magical thing but it has its limitations and you need to optimise it heavily in order to make it usable. So [Unity Developer] went in and oh so sorry, that's the optimised so basically that that's how it ends. So we took the model figured out. \*\*\*\*, this can't be run from there we need. We need it to be faster and then also we need it light mapped since the whole thing. Every light that is real time is just gonna bring it down so it needs to be light mapped and that needs to be baked down into a really, really low res version of the thing and [pause] They obviously also had to figure out. So how do I move my camera? How do I animate this? How do I do anything really? Because we have never done a web job like this so

### Describe what occurs during this stage?

Ethan:

Were there any other tasks that occurred during this model from before stage again?

P3:

Doing the model from before, now we just, you know, grabbed it from Unity, [Unity Developer] had it, we just had a shared collaboration version and he took it from there and also he gave the optimizations in the 1st place to So they had [ a max] version of the of the interior and the exterior, and the [unsure] you know the front and back part. So he had everything himself. Anyway, there in, in unity and in 3D studio Max. Um. [longer pause] So there's no other task I guess.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

Then how do you know that this stage is complete?

P3:

Well, this stage is complete once you, once you have it. But like I said, it was just in the first few tests it was going to be it it was clear that this is not gonna work as easy as we had hoped to just, I don't know, bring it in or I don't know, export something from unity and bring it into BabylonJS and say make us the version now. It's just not gonna work.

### From Noho, who (job roles) is involved in this stage?

Ethan:

from Noho, who's involved in this stage?

P3:

So in this stage, [Unity Developer] and [Web Developer] for the programing, I was just, you know, [pause] there to have a look at it basically, but I I was I was out of the the whole web scenario and further optimise things. Especially since the optimization would have been done by [Unity Developer] anyway. And yeah, I'm no no web developer for for BabylonJS, I can't do that so. I I was out and [pause] jumped onto another project.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

OK. And then from the client side, do you know who was involved in this stage?

P3:

Well, the three guys plus uh [BabylonJS/3JS Consultant], who they brought down as a consultant for bringing it onto the web and he, I don't know, they he pushed us into [BabylonJS?] Then again, then the client. So it's it's it's wrong to say they pushed us into doing it like this. Yeah, that's what they wanted. So, we did. [laughs] But even for [BabylonJS/3JS Consultant], who was, I don't know, more knowledgeable about the BabylonJS stuff and the 3JS stufft stuff, he [pause] um he couldn't do magically, you know, just bring our model in and make it look nice and be fast.

### Can you describe the tools you used during this stage?

Ethan:

Can you describe any tools that were used during this stage? And then if you know what they're used for and why to the best of your?

P3:

Well, they, they, they you like. I think BabylonJS has like a [pauses] has like some editor or some sandboxie thingy? I'm not sure, but they tried out different things before [pause] ,I don't know, [pause] limiting them or I don't know, going forward, BabylonJS They tried different things because they only needed to be on the web, like which implementation that is in the end, they didn't care too much about it. So I think they just tried a few things and figured that this would be the easiest or the best route to. I don't know, get [pause] information, get tutorials, get resources to figure things out and have the best result with the model.

### Would you consider this stage “unique” to this project

Ethan:

OK. Would you consider this stage to be unique to this project at all?

P3:

Well, yeah. Well, now we've done two or three more, so probably not anymore. But back then... Ethan:

At the time it was?

P3:

it it, it was definitely unique to putting it on the like we've done a web version of some other project years ago but back then, unity still had like a the web export option.

Ethan: WEBGL?

P3:

But it was like, yeah, I think it was Web GL, but it was their own player. So like the they had like their little plugin for the browser and you had to download that plugin and then it would run in the pretty much it was like flash or whatever. So they had a little component that would stuck onto the browser and then it would run there. So. But by the time we were doing this, this implementation was gone from unity, so they they didn't offer that anymore. And also I think it was a limitation they wouldn't want to accept anyway that you would have to download these plugins, to make it work. And that's why it went down the the three- BabylonJS Way anyway though.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

So very quickly, will it make this the last one will take the rest another time. So can you. Was there any collaboration between yourself and the client during this stage?

P3:

Well, from from their side for for me personally, no. Like I was. I was out basically. But the other guys would have obviously been in contact with them and with like the three guys and [BabylonJS/3JS Consultant], so they they would have been in collaboration.

## Stage 19 – Optimisation

### Describe the beginning of this stage?

Ethan:

I've lost my question. Where is it? Can you describe what happens at the beginning of this stage for me?

P3:

Well, at the beginning of this stage like, like I said, there I wasn't personally involved in optimizing it, but obviously the guys figured out that it had to be uh really brought down from like Polygon count, draw count, how many materials does it need to be in? So it actually runs smoothly in the browser because just taking the model from unity and plonking it into a web 3D 3JS version or whatever just didn't didn't work smoothly. Like it it did something, but obviously it was not usable so. Uhm. And then it was just down to optimizing the the hell out. Of it from from [Unity Developer]'s point of view so. Um. And then he made it into a very smooth model that's currently on the website and it and it works totally fine. And [Web Developer] kind of figured out how to. Make the camera move and go between different different versions and zoom somewhere and stuff like that. So that's, that's great. Um [pause] But yeah, the start was just, uh. This isn't working out-of-the-box. It needs It needs to be reduced by a lot. And obviously we need to, like you can't have any lights, it needs to be all light baked and if it's not light baked then it doesn't. It doesn't fully, you know, work in a nice way because then you have to have real time lights and then that means it's it's just out of uh out of proportion to to add 10 lights just to make it look nice, it would just add so much overhead. So it needs to have like a a proper UV set for the entire optimized model so that they can actually do the light baking. Because if you have overlapping UVs it it doesn't work. So, it's just down to, I don't know, [pause] to painstakingly process of reducing it to yeah, to a few kilobytes. Basically. Now it still looks nice. As it is in the optimized version, but if you if I I don't know, think back to the first version that I had in the city program, it's obviously shrugged down to to a a tiny amount.

### Describe what occurs during this stage?

Ethan:

Can you describe anything else that occurs during this stage? Any other tasks?

P3:

Well, obviously I think it went hand in hand with uh what can we give into 3JS? What? What format does it need? What can we do with the textures? What can we do with animation? What can we do with the camera? How can we handle all these things that we normally just use Unity for? Or you can back then in in a standalone 3D application. How does it all work in there? How do we access it and how do we trigger stuff? How do we trigger an animation? How do we make the camera move to if you click on on a label that it moves over there? How do we do that? And and things like that. So there was a lot of figuring that out. And then how did we do deal with the light map? Can it handle it? How is it accessed? How is it drawn on top? What other settings do you need make?

Ethan:

So a lot of just figuring stuff out you said basically?

P3:

Basically, because we've we had used a 3JS or Babylon JS in that case version to make a 3D model appear on a website. [pause] Like we had different like we we did obviously models for sketch fab and all that. So that that's fine and we can bake stuff and even sketch fab I think has a [pause] as an option for light baked models so, but it's still different to the the 3JS part.

### Describe what this stage ends with / how you know this stage is completed?

Ethan:

And then how do you know that this stage is complete?

P3:

When it's small enough, and looks decent and it's snappy in the browser. Basically I can move around without without lag.

Ethan:

Small enough, decent.

P3:

Yeah, yeah. And then the guys knew they had cracked it basically.

### From Noho, who (job roles) is involved in this stage?

Ethan:

And then from Noho, who's involved in this stage? So you said [Web Developer] and [Unity Developer].

P3:

[Unity Developer] and [Web Developer], yeah, so.

Ethan:

Yeah. Were you involved in this stage?

P3:

No, no, I wasn't involved. [3D Artist] might have been involved as well. Um, but I I'm not sure to be honest, but maybe he was.

### From the Client side, who (job roles) is involved in this stage?

Ethan:

Do you know if anyone was involved from the client side?

P3:

Yeah, I think there was correspondence with [BabylonJS/3JS Consultant]. Who were the guy that pushed us into doing that. And he wasn't like he was. He had, like, a time limited contract. So before we were even finished, he was gone. But I think we let him know in the end, like it worked in there, that's the website. Check it out basically and...

Ethan:

OK. And can you just remind me who [BabylonJS/3JS Consultant] is?

P3:

So [BabylonJS/3JS Consultant] was a guy that the uh the the three main guys or whatever brought on to help them get the model onto the web, but basically he was not in charge of putting on. He was in charge of pushing us to putting it [on the web?]. So.

Ethan:

Ohh OK yeah, I thought it was. I just wanted to double check.

P3:

Yeah, it was it was like a weird weird function because he was like he , I dont know, he wasn't actually doing anything for us, for the model, it was just you know, sending us resources and links and tried out a few bits and bobs and um. Yeah. So not not really sure what his job role or title was.

Ethan:

OK, so consultant?

P3:

He was a consultant. Yeah, basically. So he was a consultant.

Ethan:

Yeah, I think I think the last time we talked about him, you said consultant or something like that.

P3:

Yeah, yeah, something like that. Yeah, that would be. That would be right because it's not part of the core team and he's not there any longer. It was always temporary role. It was never meant to be. ,you know, going on for years.

### Can you describe the tools you used during this stage?

Ethan:

Can you describe any tools that were used during this stage and then what they were used for and why?

P3:

Uh. ooh. Well, I I didn't use it, so I'm the wrong person to ask, but obviously [Unity Developer] will have used 3D studio Max to shrink down even more on on the geometry part, and I think he did the light baking in Unity. I'm not sure but I guess because it has it has a nice light baking application called The Bakery and uh it it gives really good results and works on a graphic card and it's really quick and I guess he used it there, but I'm not 100% sure.

Ethan:

Yeah, the best of your knowledge is great.

### Would you consider this stage “unique” to this project

Ethan:

Yeah, the best of your knowledge is great. Yeah. Then would you consider this stage to be unique to

Ethan:

this project?

P3:

Well for that project, definetly.

Ethan:

It was unique.

P3:

To bring it on to the web. But now we've done two more or whatever so.

Ethan:

Yeah, it was unique at the time, yeah.

P3:

Guys are getting used to it basically it was unique at the time. Yeah.

### Can you describe the collaboration between yourself and the client during this stage, if there was any?

Ethan:

And then so you mentioned there was the collaboration with [BabylonJS/3JS Consultant]...

P3:

Yeah

Ethan:

sharing just links and resources basically. Was there any other collaboration between yourself and the client, that you know?

P3:

Well, probably there was some progress report, you know, just showing the clients progress like the main three guys. So we're heading in this direction, it's doing this.

P3:

And we can, we can have it on the website and we are working on this and that part like the textures are still missing or we have don't have the camera animation yet, but it's we're getting there basically yeah, just keeping them posted

Ethan:

and and how would this progress reports have been shared.

P3:

Well, probably like e-mail and and meetings. Yeah, like or online meetings.

# Would you describe any of these stages as a bottleneck?

Ethan:

Last question for the final stage, so now I just have these final two. So for any of these stages, would you describe any of these as a bottleneck at all?

P3:

As a bottleneck ooh well. Stage per say. [pauses and thinks] [unsure] Back in the day when we did offline rendering for almost all our projects like the rendering always was bottleneck like you only have yeah so many machines and that amount of time and it needs to get out on a certain date. So the is the bottleneck of getting it rendered into sequence of images. So that is, I don't know per definition a bottleneck for anyone who's outputting a pre written sequence I guess. Then the [pause]. Anything that you have to worry about the delivery date, like a live VR demo, I'd say would be by definition also bottleneck because you're limiting yourself to It needs to run on that day and that's it. Like you, you don't have a second try a week later, if it doesn't work. So it needs to work there. So I guess that could be [pause] called that bottleneck there, but that's just by design rather than we did something wrong. So it's it's just the way nature is. Like if you if you set a date, then it's gonna turn into [pop noise] you never if even if you know the date long in advance. You never say, OK, so we finished this project three months ago and now we just pull it out of the drawer and there you go as the final delivery. Because up until this point there will be changes and demands from loads of sides and you need to Accomodate them before you make the final delivery. And I I guess that has always been the case in ,I dont know, in any digital work that you have to pre-make it and just let it sit on the shelf. And then when the client says so, where is it now? And then you pull it out and say there you go. So, because I don't know in the heads of people, it's happening in the computer, so it can be changed at will at any stage. Uh. That. That's that's what people do basically. Now, sometimes, obviously the delay is there because you have to work multiple projects and you only have so many hours in the day. And you need to, I don't know, fit everything in the time span that you have there. So some of the some of the stress vectors are your own and some of the stress vectors are from the client, but you never, I don't know you. You never really can do it in advance. So you have to work to the deadline and then it's always a scramble at the end.

# Do you think any of these stages could be modified with the addition of a different tool or piece of technology?

Ethan:

And do you think any of these stages could be modified with addition of a different tool or piece of technology?

P3:

Well. [pause] Kind of shifts anyway with the with the offline rendering part for example so. We we don't do as many pre render parts anymore. Many of the stuff we do is live render and obviously it's real time render. Then it happens in real time and you don't have to wait for hours or days or even weeks for it to be finished because it's happening there. But then the prep work is there, and sometimes we also do a a capture out of the real time version. So we have we make an animation move in there... Um, so yeah, with the with the change from the pre render to the real time, there is already technology that changed our way of working.

Ethan:

Yeah. How about something like completely new that could?

P3:

Something completely new. hm.

Ethan:

Hmm. Yeah, so like looking at any of these steps is there any tool in your that in an ideal world that you can dream up that would help and.

P3:

Well, there, there is a tool that we actually saw recently on a. On a uh Congress, it was the [pause] AWE which is a like a [pause] thing for XR, AR. VR stuff, a big exhibition that kind of travels the world and yeah, last time in autumn or whatever it was in in Vienna and [Managing / Creative Director] and I went to that and we saw a software there that's called Wonderland, which claims to be kind of your one step solution for making uh 3JS web applications in in 3D so. We checked it out. I think [3D Artist] did and it it it looks a bit like Unity and you have similar build up and it claims to be doing all the optimization for it under the hood. However, that is only partly true, obviously so if you if you really need to make it work in a , i dont know, really smooth. Then you need to put in the work and no software is gonna magically. Do it for you. So it was something that we heard about and we thought, oh, that looks great. And on the closer inspection it it is nice. It's not bad, but it's it still doesn't save you from. Uh, doing all the optimizations. So the manual after that it still remains and [Web Developer] was much more comfortable now that he had figured out in his code.

Ethan:

The manual side, yeah. So something...

P3:

He's just doing the development the the way he's he's used to like. There's no point in learning a piece of software that does the same thing that you already can do in the same amount of time. Because then then it doesn't give you any benefit. It's just a different piece of software, that's all. That you have to pay for as well. It's not like if if [Web Developer] could code it as fast in in notepad then, there's no point in forcing him to use something else, especially if the models have to be optimized manually anyway.

Ethan:

Yeah. So something more about optimizing Your workflow instead of adding a new.

P3:

Yes. The new tool that that that claims to be doing it for you. I guess ,I don't know, in the future it might be that you or even other Unity brings back a web side of all of the things and then crunches it down. In into a nice set of 3JS assets and you you can load it on the web. I don't see that coming. I don't think it's it's gonna be a huge. [pause] I dont know, hugely important to Unity to go into that market again like, yeah, they ditched it years ago and I don't think that they're gonna come back on that part of things. But I don't know. I'm if if if it pops on. I wouldn't mind. You know. Making our lives easier. But yeah, it's like some things can be [pause] advanced with technology and for others you just have to put in the work.

Ethan:

Yeah. Some bits have to just be done by hand.

P3:

Pretty much like, yeah, even now, with AI coming in like it is great, some of the stuff you can do. But I doubt it can, I don't know. It can model a building that's long gone from 2 from 2 photos you know. So hopefully it never does [laughs]. [...] Well, hopefully I'm retired by then and then I don't care anymore. Yeah, but there will always, I don't know, be the need for manual labor. No matter how advanced things get like it's it's obviously you're always fighting with technical limitations. You're pushing the boundary technology catches up again, you're pushing the boundaries. It's like [pause] when you first did the renderings and you had like a I, I think it's like a word constant the amount of time you can wait for a frame to be rendered in a in a normal small , I dont know, company environment. [unsure] So you don't care if it renders for a week per frame, you just give it a gazillion machines and then it's gonna be done again. But if you If you work in a in a, I don't know, In a smaller sector There. Then you only have a certain amount of time to wait for those frames, and the thing that's always been universally constant, like, no matter how how pretty the images get like it needs more computer power to make nicer image, the resolution rises. It takes more computer power, so even though you always get more computer power, you use it up for something else, but you're not actually finishing any sooner. because of it.

Ethan:

OK. So just some understanding so. Um. So you recognize there's always going to be a human element To these steps.

P3:

So I hope, [laughs] so I hope actually.

Ethan:

[...] You where did you so? What am I trying to say so? So, like a tool that would help would sort of be doing. UM. I guess more of the grunt work is what you're saying or.

P3:

Yeah, well, there's, I dont know, there's always something like, even if you. Uh. In my normal everyday workflows. It's a bit wrong because I don't make a new app every day. But bringing in the [pause] the assets and arranging them or even exporting them from an Adobe UX [XD?} file to get all the different buttons and design elements bringing exporting them from uni[misspeak] from Adobe XD and bringing them into unity. Making them separate elements and [pause] rearranging the interface as it was, I I wouldn't mind having it tool that doesn't automatically.

Ethan:

Yeah. So just some...

P3:

Because at the moment like the XD file looks pretty and it's there for the interface, but I can't bring these so-called interface elements into Unity automatically.

Ethan:

Yeah. So it's well, it's tedious, it's tedious.

P3:

Yeah, It's, it's it is tedious and then obviously have different pixel resolutions then in in Unity you need to, I don't know, [unsure], you need to make sure that if it's 100% Do need to scale it down or up a bit to make it look in the right proportions as to. how it was designed and approved by the client. So there's always this extra extra work that's kind of.

Ethan:

A pain in the \*\*\*\*.

P3:

Annoying, yes, but it's if, if if that will be automated, I would. I would welcome that. If Adobe just said OK, here we spit out the different the different elements and bring it into Unity. it already makes sure it's a Sprite node and you can, ,I don't know, if it's if it was a button, we'll give you a preset for a button and just drag and drop it in and it's. It would be nice, but obviously it doesn't work like.

Ethan:

Yeah. So like I said, something to sort of deal with this sort of tedious work, but also not interfering like you said with [Web Developer]'s stuff, he's got 3GS, Babylon stuff down down pat now. So having an additional tool isn't necessarily helpful.

P3:

Yeah, but that would be helpful. The tool I'm I'm talking about. They will be oh, there are simple stuff like swapping out the font, like if we have a a huge interface then obviously this text everywhere and we we changed the font because you know the last project we had a font that couldn't do all the special characters that were needed and [pause] then you have to find all the text elements and swap out the font. And even though a font should be the same size, if it has the same point size. Sometimes it's not, and then you need to readjust all the all the size values again it's like. Why? Why can't this happen in the 21st century, like designed [unsure] Probably, and it should be the same size if it's twelve points, it's 12 points and not some arbitrary value that makes the font go bigger or smaller than with different font. And also Unity could make it easier to swap out an entire font family. I don't know. if if if needs be. But anyway, that's just minor thing like it's just, you know. 50 minutes work just to do all the font stuff and maybe it's not, but it's yeah, it's more annoying than anything. and when you get an e-mail, we need to change the font again. It's like Ohh, just did and I have to do it again. So. Minor bits and bobs. And with everything else you you just need to be aware of your own workflow I guess, and make the best of it.

# ExtraComments

Ethan:

Yeah, makes sense. So that was my last question. Have you got any other like anything else to add? Any other comments or?

P3:

Hmm, well I think I think it went pretty in depth on this one, didn't I?

Ethan:

You really. Yeah. Did I love it. Yeah.

P3:

But it was it was a big [project?]. It was long running for many years, so I also did learn [pause] A lot about the stuff I do myself and, through this project like, you know, hooking up to rest API's and stuff like. That so that's [pause] It's always good if a project kind of pushes you and you're not just staying still, doing stuff that you're, I don't know, 100% comfortable with and you need to do something else that you haven't done before. But I don't know in in our line of work it kind of happens naturally anyway, so there's always some request from a client. Oh can we do this and you just go [ooh?] Never done this before, but let's figure it out. And that has always been our approach, I guess in in the company. We we get crazy requests from from clients sometimes, and we just think, OK, can we do that? Can we how much of this can we actually pull off? And it turns out we can pull off quite a lot [unsure] [laughs]