

Researcher: There we go. So I don't think I have introduced myself yet, I'm Reinard Baertsoen, I'll be the person conducting this interview here. So I do want to thank you of course, for lending me your time here, it's very well appreciated.

Participant: No problem.

Researcher: Basically, the goal of this research is finding out what effects the head-up display has, in Counter-Strike 2, on somebody's mental state of flow.

Participant: Okay.

Researcher: Basically, how we'll be going on with this. I'll ask you some questions about you, so that I have a bit of a background on you. Then we'll have some baseline questions, we're going to focus more on what the research is actually about.

Then we'll do a little gameplay session. This consists of a warm-up round in Counter-Strike 2 deathmatch and then an actual round. And then afterwards I'll just ask some questions, see what your experience was like.

Participant: Okay.

Researcher: Yeah, that's practically it. Is that all fine with you?

Participant: Yeah, definitely.

Researcher: Any questions now?

Participant: Nope.

Researcher: All right, perfect. So first question is basically, would you rate your attention span high or low generally? So when you're doing something, do you feel like you're able to concentrate on it properly?

Participant: I think it depends on the task, but if it's something that interests me, I can definitely concentrate.

Researcher: Okay. And something a bit different here. Can I ask you what your occupation is?

Participant: I'm currently a student, I'm studying independent game production at DAE.

Researcher: Okay. So you do need your PC quite a lot for that, right?

Participant: Yeah, definitely.

Researcher: Because game production, do you believe that the amount of time that you spend using your PC for your studies, for example, affects the way that you play games? And in what ways do you believe so?

Participant: I believe it, I don't think it corresponds with the amount of time I spend on my PC because I guess the workload for us is so high that I've been playing video games less.

However, I will say that the more you use your computer, I definitely feel like it would make you better at playing video games, because you're just used to the controls and how, well, how sensitive your mouse is, for example, stuff like that.

Researcher: Yeah. Okay. And would you say that your studies themselves impact the way that you play games?

Participant: I would say in a bit, yes, because it's focused on games. So like I can sort of imagine the colliders that would be there or like how I could break a game.

Researcher: Yeah. So you'd mess around a bit more, for example.

Participant: Yeah, definitely.

Researcher: Okay. And now that we're on the topic of, you know, playing games and such. Can I ask how long you have been playing Counter Strike for? So CS-GO and CS2 together.

Participant: Counter Strike. I would say like six years or something.

Researcher: About six years, okay. And how often do you tend to play?

Participant: I used to play a lot. Recently, I haven't been playing that much. It's like once a week, but I have like 2000 something hours in the game.

Researcher: Okay. And, you know, because you do have quite a bit of time, you know, in a way you're an expert player because the amount of time that you've put into it. How long do you tend to play per session?

Participant: Depends, but sometimes if I'm playing with my friends, it can last up to like five, six hours. But usually I just boot up one match and it's like 40, 50 minutes and then I just stop playing.

Researcher: Okay. Let me just not that down here. Okay. And, you know, you did spend quite a lot of time in this game so far. What do you particularly enjoy about it?

Participant: Okay. I think like Counter Strike has this feeling that other games don't have, for example, like the encounters are really fast. Like you die really fast in the game. And also like the controls feel really snappy. It's like, you know how there's no iron sights in the game. There's like you run by default instead of walking. And basically like how other shooters are like cluttered with features. Counter Strike is like very clean compared to that. And I think I really like that.

Researcher: So the simplicity of the game is something that attracts you?

Participant: Very much. Very much. Which is like funny because I think it's because like it's such an old game and like they're barely changed. So I guess that's where the simplicity comes from.

Researcher: Yeah. So the thing that you like is about is the simplicity. Is there something you particularly dislike about the game?

Participant: Not really, no. I guess like the skins sort of. It's not a dislike, it's more of a I don't see what they add to the game. But as long as it's not necessary, I don't care that much.

Researcher: Yeah. So just cosmetics or something.

Participant: Yeah.

Researcher: You don't look at them much?

Participant: Yeah, definitely. Definitely.

Researcher: Okay. So the visual style of the game. What do you think of that? Because it does very much get linked with that simplicity of it. For example, the head-up display being quite simple.

Participant: Yeah. Same with like the, for example, when they made the new UI, which is like circular and stuff, I don't really think it suited the aesthetic of the game. I preferred it older, but I am sort of getting used to it. Also, like the new effects in the game, like the bloom and everything, which is like not from the UI, but like in the actual game. It was kind of distracting to me earlier, but same with it is I'm getting quite used to it now. I think like the game has a good way of distinguishing like focal elements from like the background elements. So that's really nice.

Researcher: And why do you believe you had difficulties adapting to that at first? Was it because of habit?

Participant: I think because yeah, definitely like it was like in my muscle memory exactly where to go to buy what. And I just had to like, relearn it.

Researcher: All of a sudden you had to start thinking about it again?

Participant: Yeah, definitely.

Researcher: And would you say that your performance in the game while, you know, so while you're playing with this new UI. Did you find yourself struggling to play as well?

Participant: I guess the game play was pretty much the same, but I ended up like not buying things at the correct time sometimes or like buying the incorrect things. And also like, how would you put it? What was that thing? There was something related to buying that I completely forgot.

Researcher: Yeah, not a problem.

Participant: Yeah. Oh, right. They also like added this new thing where like, you can make your load out and can be like five weapons or something. Instead of like, you know, having those preset loadouts and that kind of confused me a lot for quite a while.

Researcher: Okay.

Participant: I never really bothered to look that much into it.

Researcher: Okay. But besides having to learn how to navigate this new UI and GUI as well, you did not really see any difference in your gameplay behaviour. Is that correct?

Participant: Not really. No. Yeah. Yeah.

Researcher: Okay. Now to get away from Counter Strike 2 again for a little bit. Is there any other first person shooters that you play besides CS2?

Participant: I don't think so. I mean, I played a little deep rock galactic and oh yeah, I play Overwatch. I play Overwatch.

Researcher: Okay. Which is, Overwatch very clearly also a tactical shooter, right?

Participant: Yes, definitely.

Researcher: Is there anything that you particularly dislike or like about that game in comparison to Counter Strike 2?

Participant: I guess Overwatch has like a high time to kill. There's so many abilities in it and I kind of find it irritating personally that like, for example, some characters clearly cannot fight other characters or like someone like Mercy is very clearly a support role. So I think that's both an advantage or disadvantage of that game depending on how I feel like playing it.

So for example, if I'm playing with my brother and like he's, sorry, sorry, I'm not that good at Overwatch, but like if I'm playing with him, I still feel like I have an impact on the team because I can heal. But if you're playing Counter Strike, then it's like everyone has the same role pretty much. So he will be struggling a lot because he doesn't play it a lot.

Researcher: Yeah. Okay. It's interesting that you bring that up. Because you feel like you can still contribute in a game like Overwatch because the abilities and such. How do you feel, you know, not having that in Counter Strike 2, impacts the amount of control you feel over your game?

Participant: I think not a lot because like there's also Valorant which is pretty much between Overwatch and Counter Strike. And I think it, I sort of like hate it for it because you're both managing your economy and trying to understand all of these abilities. And I think at that point it just gets too much for me to keep track of. So that's why I either play like either Counter Strike or Overwatch.

Researcher: Yeah. So, you tend to lean more towards the extremes in these two to say like that?

Participant: Definitely. Definitely.

Researcher: Either be simple or be...

Participant: Completely into the other thing.

Researcher: But not a mix of two?

Participant: Yeah, definitely.

Researcher: Okay. And when you play, you know, games like Overwatch or Counter-Strike 2. In what context do you usually play them? So when, where, do you play alone with others?

Participant: Overwatch, I think I would divide it pretty much into half for Overwatch. So either I play it with my friends or my brother or I play it alone and Counter Strike, it would be like three fourths times alone and one fourth with friends.

Researcher: Okay. So, you tend to play more alone in Counter Strike 2?

Participant: Definitely.

Researcher: Okay. And is there any particular reason for that?

Participant: It's because like most of my friends don't play Counter-Strike.

Researcher: Honestly, fair. I think, from somebody else, I also heard that simply the friends are on a different level within Counter Strike, that was difficult playing with

them as well. So, completely understandable. And when you do play the game, because you tend to play alone quite a bit, do you communicate with others then?

Participant: Funnily enough, usually I used to do it a lot, but usually now I just like have a habit of muting everyone.

Researcher: Okay. And when you used to do that, do you feel like you were able to fully concentrate on the game?

Participant: Hmm. I think a little bit of concentration definitely went away sometimes, but usually it was fine.

Researcher: Okay. And would, and is this also something that you would say about, for example, the head-up display? Do you feel like the head-up display kind of takes away some concentration from your gameplay?

Participant: Hmm. I think it would if you're just staring at it. And I definitely had some moments where like I check up my head-up display and at that time someone just walks in. But usually I think it's quite a good indicator of like just opening it and seeing what's happening.

Researcher: Okay. But generally when you're playing, you don't get bothered by it?

Participant: Yep.

Researcher: Okay. All right. So we've got a bit of an idea of how you play, you know, when you play this and that. So next up we'll be moving up to some baseline questions.

This is more specifically focused on the research itself. There will be three things I'll be asking you about these being concentration, a feeling of control and the way that you perceive time. Don't worry. We'll get into that right now. Any questions so far?

Participant: No, no, no. Not really.



Researcher: Any remarks? You think: hey, I forgot to tell you this or that?

Participant: No, not really. I should tell you, even though I have like 2300 hours, I have never played Counter Strike seriously.

Researcher: Okay, so you're more a casual player?

Participant: Like I play competitive, but I play it just for fun. Because like I definitely like never felt like I wanted to rank up. I never had that thing.

Researcher: Okay. That is a good point. It's good that you mentioned that.

Participant: I send you my steam if you need it.

Researcher: Yeah, that could help. Could help in showing the amount of hours on the game. There we go. I won't open that right now, but I'll check it out in a bit. Once this whole interview is done, right? So, like I said, now we'll be setting up some baseline, in a way.

How would you currently rate your mental effort? So the amount of attention you've got currently dedicating to what we're doing right now.

Participant: Oh, okay. I am a little distracted. But I think I got distracted immediately because like I got a message from someone. So I was just like responding at the same time.

Researcher: Okay. Not a problem. Can I ask you though for during the gameplay then, to turn off notifications and such?

Participant: Sure, sure. Definitely.

Researcher: Because concentration is a part of the research, from there.

Participant: Yeah, definitely.

Researcher: And when playing Counter Strike 2 deathmatch, I don't know if you've played the game mode before?

Participant: Yeah. Yeah.

Researcher: Do you ever feel helpless while you play? Is there anything that makes you feel helpless?

Participant: Not really, no. I mean, sometimes I get irritated when I keep dying again and again, but usually no.

Researcher: Okay. And why is that exactly? Is it because you've done... is it due to your own...

Participant: No, no, no. I think it's when you're spawned near enemies who are just staring at you because they know you're going to spawn there. Like when there's people camping. Yeah, definitely.

Researcher: Yeah, all right. Fair. So then that, you know, it feels unfair in a way?

Participant: Yeah, definitely.

Researcher: Okay. And kind of related to that, would you say that the Counter Strike 2 deathmatch, when you play it, do you feel like what happens to you is mainly dependent on yourself, or would you say it's more of an external thing?

Participant: I think it's kind of both.

Researcher: Would you elaborate?

Participant: For example, like, I do definitely have friends who are like, who don't face the same problems as me. So like, definitely I do have a major gap in skill over there. But it's also like the game also in a way promotes you to camp, I guess, or like... Of course, you're trying to get more kills without dying. So yeah, there are some ways to play that really better than the other.

Researcher: All right, so these were like the first two things of baseline. Here comes a bit of the most annoying part of the baseline, or the most awkward one in a way, because I'll be basically trying to assess the way that you perceive time duration.

Participant: Okay.

Researcher: Right. So, I will ask now put everything on doing a disturb and to also make sure that you don't look at the clock or anything.

Participant: Okay. Yeah, I turned it off. Yeah, yeah.

Researcher: Perfect. Basically, what we'll be doing is I'll be playing a tone. I'll do that right now.

Participant: Give me one second because like, there's also like the clock at the bottom. Let me see if I can turn that off. Taskbar settings... Let me see. No, but that's for behaviour. Yep. And I think it automatically hide the taskbar. Yeah, should be fine now.

Researcher: All right, perfect. So basically what I'll be doing is I'll play a tone. I'll just give you an example of what that tone will be. [Plays tone]

Participant: Okay.

Researcher: All right. It's a very short sound. It's a bit easier. And of course it's integrated into Discord. Basically, once that tone starts, I'll start a timer and then after that timer I will play the tone again.

And I'll ask you then to estimate.

Participant: Yes. Yeah.

Researcher: The time that has passed between those two tones. I will ask you to avoid counting in your mind. So no one, two, three, right?

Participant: Sure.

Researcher: Do it mainly intuitively. All right?

Participant: Okay.

Researcher: All right. I'll mute myself. You should normally still be able to hear it. Okay?

Participant: Okay.

Researcher: [Plays tone]

[Plays tone]

There we go. How much time would you say that was?

Participant: I'd say like 45 seconds or something.

Researcher: Okay. Let me just note that down. If you want later once everything is done. I'll tell you how wrong or how correct you were. All right?

Participant: Sure.

Researcher: Basically, so we've set a bit of a baseline. Now we'll be heading up to the game itself. So do you have the game open?

Participant: I will open it.

Researcher: All right. Just as a heads up, we'll be turning off the head-up display through some settings with the developer console.

Participant: Okay.

Researcher: No need to worry. I'll help you revert it back afterwards. So that the game is back to normal then.

Participant: Do you want me to share my screen?

Researcher: Yes, exactly. I was just about to ask.

Participant: Okay. It doesn't like it if I. I think I'd have to share my whole screen because it doesn't want to like share just the game.

Researcher: That should be fine. Okay. If you could go to settings for me.

Participant: You're telling me what to write.

Researcher: Wait, there's still some settings to turn off. So if you could go to the settings and then the game. So developer console is set on. And could you turn on full screen mode for me?

Participant: Full screen mode... Is it over here? Yeah it's full screen.

Researcher: Now from there you can open up the developer console.

Participant: Yep.

Researcher: And I'll send you the code itself. Basically, what this will do is, it will turn off your head-up display and any death messages that come in.

Participant: Okay.

Researcher: And then I will also send you this command. And this will mute everybody, except for friends and party.

Participant: Sure, sure.

Researcher: So that we don't get any interruptions while playing. So, if you could select deathmatch. I see that the party is already closed.

Participant: Should be, yeah.

Researcher: And you can select Dust 2 as a map. And press go.

So, basically, we'll use this as a warm-up round. And then, once that is done. We'll play for real, in a way. I'll be again doing that time duration test. So, with the tone. But I'll tell you again once, you've done your warm-up.

Participant: Sure, sure, sure.

Researcher: I'll mute myself so that you can warm up.

Participant: Oh god, I'm not used to this.

Researcher: Alright, so that was the warm-up. Do you feel a bit warmed-up?

Participant: Yeah, it was fine. That was a trip.

Researcher: Yeah, it seemed like quite a difficult match, that one.

Participant: I was wondering if I can press tab during the game to check the scores and shit. Or would you rather me not do that?

Researcher: It's okay, it's mainly because it doesn't already affect you while playing.

Participant: I would open it while playing, that's the thing.

Researcher: Ah okay. If you do it mainly in between down times, that's alright. But avoid doing it while playing.

Participant: Sure.

Researcher: You can go back into a deathmatch game.

Participant: Yeah.

Researcher: You can again start. And again, during the game I'll again play the tone, and then play it again. Then you again estimate the amount of time that passed.

Participant: Sure.

Researcher: Alright. So, I'll mute myself, see you in a little bit.

[Plays tone]

[Plays tone]

Researcher: How much time do you believe has passed?

Participant: I'd say something between 45 to 60. Closer to 60.

Researcher: Okay, that was the game. How do you believe it went?

Participant: Horrible.

Researcher: I mean that happens. You can have an off game.

Participant: Yeah.

Researcher: So, you played and now we'll do a post assessment thing. I'll ask you some questions about your experience in the game. Is that alright?

Participant: Sure, sure.

Researcher: You rated your mental effort earlier quite low. Would you say there's been a significant change in comparison to earlier?

Participant: I had to use most of my mind, so yes definitely.

Researcher: And is there any reason that really pops out?

Participant: Yeah, so there was a lot of information that I was missing. For example, multiple times it wasn't confirmed if I killed somebody. Like, they would turn into a ragdoll, but I can't see it. So maybe they were crouched. Sometimes somebody would die in front of me in a fight, and I wouldn't realise that they are dead, and I was trying to kill them.



And also, I had no idea where enemies around me were spotted. So, I really had to just rely on my ears.

And I also had no way to gauge my performance. So, it was like, I was playing completely blind.

Researcher: Would you say this has a positive or a negative impact?

Participant: I'd say negatively, definitely.

Researcher: What do you believe had the greatest impact? So, you mentioned information missing being a big thing. Anything else?

Participant: I'd say it's mainly not being confirmed whether I kill someone or not and not knowing how far we are into the game.

Because, I guess, those two extrapolate a lot more.

Researcher: So, do you think that this is something that is related to you being more of a casual player?

Participant: Sorry, your voice cut off.

Researcher: Is this something you tend to... is it related to you being a casual player? So you look more at the time of the game, and the information on the head-up display for example.

Participant: I guess I wouldn't really have an answer to that. I guess I like looking at the time just to know when I'll be done with it. And for the kills... The game does play a sound when you kill someone but I guess it really feels rewarding to see that kill counter. It tingles that fancy in your brain.

Researcher: The ooga booga in a way?

Participant: Yeah, yeah.

Researcher: So, you said information missing had quite a big impact. Is there anything that had less of an impact on this mental effort?

Participant: Not really, no, I wouldn't say so.

Researcher: So, it was just the head-up display not being there?

Participant: Yeah, I think it was also quite disorienting for me, because I'm not used to that at all.

Researcher: That makes a lot of sense. While you were playing, did you have the feeling that you had control of the situation?

Participant: I think the first few minutes definitely, it went nice but then I started losing track of time. I got into these cycles where I was dying repeatedly and then trying to get back into the match as soon as possible. Then I immediately realised that I'm getting into that state again. Then I just started taking it slowly and it would go decent for a while again.

Then I would start losing control again. I had to remind myself, otherwise I would just let the match slip away. I would say that happened at least three or four times.

Researcher: Okay, and would you say while playing, and these things happening to you, did you ever feel helpless while playing?

Participant: I guess in a way, yeah. It was more irritating than helpless I guess.

Researcher: Okay, and then it was mainly because of getting killed and then getting right back into it...

Participant: And then getting killed immediately. Yeah, yeah.

Researcher: Okay, that makes a lot of sense. Also, connected to that feeling of control, would you say that what happened to you was mainly up to you or was it mainly impacted by your environment and what was happening around you, in the game?

Participant: I would say it was more up to me because I couldn't really focus without everything. So, I was sort of going into autopilot because I don't really know what's happening anyways.

Researcher: Okay, due to that lack of information.

Participant: Yeah, definitely.

Researcher: Okay, no, no, I mean it's definitely a preference, right? Some people really want or need added extra information on screen and especially if you're used to it. And then related to the time duration, that test that we did earlier, did you at any point feel like you were losing track of time while playing?

Participant: Yeah, definitely. It felt longer to me. Yeah, because like the first match, I think like when I pressed tab, and I realize oh, I can see the time and then I realize it's been five minutes, but then I was like, oh, I shouldn't keep track of it. But like, I was still surprised that it had only been five minutes. So it definitely felt way longer.

Researcher: Yeah, so opposed to the warm-up, you know, when somebody was warmed up and kind of more used to it, you started losing track of time more?

Participant: Yeah, definitely.

Researcher: Okay, interesting. And when do you think that experience of losing track of time was stronger, and when was it least?

Participant: I guess like during the start of like both of the games when I was just like getting into it, it was like, yeah, I could keep track pretty good. And then as I got more and more into it, I just had no idea.

Researcher: So it was as the game goes on, you start losing track of time.

Participant: Yeah, yeah. Yeah, definitely.

Researcher: And during these moments that you were just, you know, not keeping track of time, that you were just engrossed into the moment, if that makes sense. Did you really miss the head-up display elements then?

Participant: I would say like there were definitely a few moments where I didn't miss it. But like they lasted like four or five seconds at max.

Researcher: And when would these moments be, in what context?

Participant: I guess like when I was in a... involved in a firefight. And then like I immediately get a headshot and I'm like going for the next enemy because I heard him. Those would be the moments, but otherwise, no.

Researcher: So, basically when you were completely concentrated on the task, of killing the other person?

Participant: Yeah, definitely.

Researcher: Would you say, were those also moments that you felt most mental effort and most concentration?

Participant: I would say most concentration, yeah, but mental effort not really.

Researcher: Okay. And would you say that you had a lot of control or feeling of control during that moment as well? So when you were completely focused on that thing?

Participant: Yeah, definitely.

Researcher: Okay. Yeah. Amazing. Perfect. That was basically it. So I very much want to thank you for participating in this research.

Participant: No problem.

Researcher: You give some very interesting insight. That will most definitely be interesting to look at.

If there's... you have any questions or say maybe I don't want this information to be used in the research, don't worry, you know, your name won't be put anywhere or any sensitive matter. But you know, if you were to change your mind, you could just send me a message on Discord, or through my email address, which should...

Participant: Oh, sure. But like, I don't mind. Don't worry.

Researcher: All right.

Participant: Yeah.

Researcher: Well, I'll stop the recording then. And if you'd like, I can help you with the changes that we made.

Participant: Yeah, that would be very helpful.

Researcher: All right. Perfect. Let me just close that recording then.