

Researcher: So, well, first of all, let me introduce myself. I'm Reinard Baertsoen. I am a master in game technology student at Buas in the Netherlands. And for my research for this master's, I am looking into what the, or what effects the head-up display has on a person's mental state flow while playing a first-person shooter. So, from there, the usage of Counter-Strike 2. Basically, what we'll be doing this evening is simply I will ask you a bit about your background in terms of gaming and the context in which you game and such. Afterwards, we'll go more into some deeper questions regarding the actual research question. And then once that is done, we will, you will be playing the game and I'll be watching.

And afterwards, you know, lastly, we will have another chat basically talking about the results that you had and any reflections that you might, that you could have. Right? Are there any questions so far, or is that clear?

Participant: No, sounds right.

Researcher: All right. So, I do need to ask you this real quickly, as is something that might be relevant to this study. Whether you have any type of autism or ADHD?

Participant: I don't think I do. No.

Researcher: All right. That's good. Because basically originally, research would exclude people with these conditions as it could affect the mental state of flow, but due to scope and time reasons, it will most likely be included. So, from there, I'd like to keep that. All right. Well, we'll start from here. So, the first question is, what do you do as an occupation? Are you a student, do you work?

Participant: I'm a student. I do game graphics. I'm studying game graphics production in DAE.

Researcher: Okay. And anything besides that, or just studying?

Participant: Besides that, as in work or...

Researcher: Yes, a student job, or...

Participant: It's actually pretty funny because my student job is related to Counter-Strike. I make skins sometimes. One of them recently got into the game. So...

Researcher: Okay. That is actually very interesting.

Participant: Yeah.

Researcher: That actually perfectly fits with, you know, the next question. Because basically, I'm also wanting to know if your occupations, so what you do, affects the way that you play Counter-Strike as a game?

Participant: I'm just a casual player. I have a thousand hours, but I'm not that good. And I never try hard. I just play for fun. I don't think it affects it. But, yeah, I'm way more distracted when I play with a weapon made by a friend because I keep looking at it and not paying attention to the game.

Researcher: Yeah, that makes a lot of sense because you're so involved with the making of it. All right. May I also ask, how long have you been playing Counter-Strike 2 for?

Participant: I might have to look on Steam support when I bought the game. Apparently, 2016.

Researcher: Okay.

Participant: And I have a thousand hours. So, I mostly played those hours in the past four years. Four to five. Before that, I was not very active.

Researcher: Okay. So, you know, I assume that you've been playing more now than back in the days, right?

Participant: Yes, more in the past few years.

Researcher: And how long do you play per session then? Because, you know, somebody can't play 24 hours, for example.

Participant: I don't count, but I get bored fast. I cannot play like five matches back to back. About two or three matches. One match is 30 minutes. So, from one hour and a half to two hours, I think.

Researcher: Yeah. Okay. And, you know, of course, you've already put about a thousand hours into the game. What keeps you coming back to the game? What do you enjoy about it the most?

Participant: One reason is that every week you can gain a bonus. And it's only weekly. And your XP also goes up. So, that's the reason why I go. Might as well fill the bar for this week and return again next week. So, even if I have a busy schedule, I still find some time to relax sometimes. And another reason that doesn't have anything to do with the game itself is the voice chat. In most games, it's pretty empty. And people don't really talk about anything but the game itself. But in Counter-Strike, it sometimes gets funny. Sometimes people talk with each other.

Researcher: So, it's mainly the casual slash communication based gameplay that is important to you?

Participant: Yes, it's more of the social aspect. I care more about that than the game itself.

Researcher: All right. And, you know, now that we know what you like about it. Are there things that you dislike about Counter-Strike?

Participant: What I dislike about it? Some maps. All of its streamers. I don't get... I don't go looking into the community.

Researcher: And what about the maps is something that you dislike?

Participant: They sometimes rotate them. And there are some maps that are not really on my liking. In Premier, for example, you have two teams that ban maps.

So, at the end, you might have to play something that sucks like Vertigo. And also, the legendary Dust 2 got removed. Because the company that made it thought that it's too played and it's already worn out. I cannot really think of another reason why I dislike it. Maybe it's what makes me stop playing after an hour and a half or two hours that it's just repetitive. So, after a few matches, it's not fun anymore.

Researcher: Because the game kind of feels the same for you at this point after each game?

Participant: Yes. It's just the voice chat that makes it different. If I lose a game but I have fun interactions with players, then it's a win for me.

Researcher: What do you say then that you have a high or a low attention span generally?

Participant: Depends on what. If I'm engaged with something, I have a high attention span. So, in Counter-Strike, when I'm playing a game, I'm fully attentive to it. Sometimes I alt-tab when I die, but other times I just look at how the match goes even though I'm not participating anymore.

Do you want me to answer this question outside of the game too?

Researcher: If you'd like, yes.

Participant: I cannot really sit still. I need to do something all the time. And by that I don't mean scroll through my phone or something.

I don't really like doom scrolling. I think about being productive, so I always keep my mind on that. My attention span is mostly focused on not sitting still and not doing anything.

Researcher: But once you start doing something you're able to concentrate properly?

Participant: As long as it's an interesting topic, yeah.

Researcher: All right, perfect. Then, less related to the attention span of things, but more to the actual gameplay. As CS2 is a first-person shooter, it does of course have a head up display. Do you make use of it often? Is it something that ever distracts you?

Participant: By head up display you mean the bar on top of the screen that shows the pictures of everyone?

Researcher: I mean all of the overlaying UI. So your health, the mini-map, your layout, your gun, everything that is on your screen.

Participant: While I'm playing, no, I never look at it actually. But when I'm dead and just spectating I sometimes look at it, since I don't need to focus on every single corner if an enemy shows up.

Researcher: Okay, yeah, interesting. Because some people, for example, do tend to really look at it even when playing. So good to know that you're a person that is not like that, right? And besides Counter-Strike 2, are there any other first person shooters that you play?

Participant: Do I? I don't think so. I used to play a long time ago some cooperation games, or single player games that are simply first-person shooters, but multiplayer ones like Valorant or Call of Duty or Battlefield, no, I don't.

Researcher: Okay, so generally you're not interested in other first-person shooters that are tactical?

Participant: No.

Researcher: Okay. And then lastly for the background information, in what context do you usually play games?

Participant: I play games to relax at the end of the day, I almost never start playing a game when I wake up. But there are seasons in which new games release, like in the summer Baldur's Gate 3, in which I just sit and play all day for a few days and then that's it and I return to a normal life. But they're not really, it never happens with competitive games, just single players with story I play through them, I get to the end of the campaign and then I leave them.

Researcher: So Counter-Strike 2 is one of the only games that you keep getting back to them?

Participant: Yes, I think it's the only competitive game that I play.

Researcher: All right. Well, and then you mentioned that you play maybe at the end of the day, is it only throughout weekdays or is it also in the weekends?

Participant: Also in weekends, since I work on my computer with 3D art, I mostly do stuff by myself and I stopped making the difference between weekdays and weekends for me, it's all the same. So I work any day of the week and I relax any day of the week at the end of the day.

Researcher: Yeah, makes sense. And do you play at your desk or do you play at a couch? Maybe you play at somebody else's house? So where do you play?

Participant: It seems very uncomfortable playing anywhere other than a desk. If I played on my bed, for example, I would just lose it would be so uncomfortable to move around that I would get frustrated and stop playing.

Researcher: Yeah, no, that makes sense. And then complete last thing now, because for the context in which you play, do you tend to play alone or with others?

Participant: In a party, you mean?

Researcher: In a party, or...

Participant: Most of it. Yes, sorry, go on.

Researcher: You also communicate with teammates, you know, in your [unintelligible], or anything like that?

Participant: I think the reason why I'm not really playing multiplayer games is because I always play them alone. It's not like I don't have friends that play the same games. I just don't make a habit for me. It's annoying to organize and meet up and wait for them to get ready. It sounds like precious time that I don't want to lose. I just queue with randoms and I play alone all the time.

Researcher: And when you queue with these random people, do you use voice or text chat to communicate with them or do you just keep to yourself?

Participant: I see how this question is related to the interface. Because since so many people don't really pay attention to it, if I wrote in chat, nobody would really look or acknowledge what I'm saying. So I'm using my voice chat.

Researcher: Okay. And when you do communicate with people, then do you feel like you can fully concentrate on the game or does it take away some of that concentration?

Participant: Only if the talk is about the game, if they're giving callouts to locations, then yes, the voice doesn't really disturb me with anything.

Researcher: So for example, you feel like you can still aim properly even when people are talking to you?

Participant: Yes, I think so. It's just that the more people talk, the less footsteps I hear and that might be a problem.

Researcher: So besides the sound signatures of things, you don't tend to have troubles with people's all into you in game.

Participant: No, no.

Researcher: Okay. So now that we have a little bit of a background on you, as you know, as CS2 player, we'll go back, we'll go a bit deeper into some more substantive questions. So these are more related to the actual research question. So first, actually before I do that, are there any questions or things that you still want to note upon?

Participant: No, it's all good.

Researcher: Okay. So first thing that I want to ask you, how would you currently rate your mental effort? So the amount of attention you're currently dedicating to your actions?

Participant: By this, you mean how much attention I'm giving to this conversation that we're having?

Researcher: Yes, for example.

Participant: An eight or a nine out of ten? Because I know that I'm only focusing on this conversation. I'm staring on my window and I'm fidgeting with something in my hands. So if I'd to give it 10, I would have to close my eyes and not do anything with my hands and only speak in the voice chat.

Researcher: Yeah, it's more about basically how much mental effort are you assigning to this?

Participant: How difficult it is?

Researcher: So in a way, yeah, like how many things could you still do besides this? If that makes sense?

Participant: Then I don't think the conversation would be that hard then. I could literally go around my room and clean up and put stuff in other places, broom and all of those stuff while still probably talking the same as I'm doing now.

Researcher: Okay, so relatively low mental effort currently?

Participant: Yes, right now I'm not doing that since it's simple polite I think, but if I was with a friend and we're just casually playing, I would do that in the meantime.

Researcher: Yeah, that makes sense. And I don't know if you're familiar with Counter-Strike 2 deathmatch game mode, so the free for all.

Participant: I think it got introduced recently, but yeah, I played it once.

Researcher: Okay. While you're playing, do you ever feel helpless, that you feel like control was not on you?

Participant: I just think that because people spawn in all places all the time and there are so many players that don't mind dying in competitive, they do so they hide and they're more cautious with their movements.

But in deathmatch, it doesn't matter in which corner I focus because at any time someone can come from somewhere else and kill you without you even seeing them in the first place. So in some... But it's a luck-based.

Researcher: So there could be a feeling of helplessness sometimes?

Participant: Yes.

Researcher: And would you say that what happens to you within that game mode is dependent on mainly yourself, or is it something that is mainly dependent on your environment?

Participant: I think it gives a fair chance to everyone. But there is a little bit of randomness. For example, spawn positions. You have a very high chance to be spawned in a dangerous place. Someone might be behind you. Someone might be camping next to you and you don't know. So you need to get used to environments in new places every single time.

Researcher: And would you say that, the chance of you surviving, for example, is mainly reliant on your own skill or on the luck that you're experiencing?

Participant: Skill, I'd say. Even if you get spawned in a bad position, you can still outperform other people and stay alive. Yes.



Researcher: Now, lastly for setting up the baseline before we head into the game itself, I'd like to set a bit of a baseline for your perceived time duration. So basically how much time you feel like has passed. So basically how we will be doing this is I will play a tone. I'll just give an example of that tone in Discord over here. [Plays example tone] That's the tone. And after an unspecified amount of time, I will play that tone again.

And I will ask you how much time has passed between those two tones. Does that make sense?

Participant: Yes, sure.

Researcher: Of course, this is a test about subjective time. So I will ask you to not look at any clocks. So don't have a way of telling time. And to also avoid counting in your head. So to keep it more intuitive, if that makes sense.

Participant: So I should just forget about it and think about the time after you play it again.

Researcher: Exactly. And if you need to play with your hands, play with something, whatever, go ahead.

Participant: Can we do it again? Can you play it again since I looked at the clock before you mentioned?

Researcher: No worries. [Plays example tone]

Participant: Okay, from now.

Researcher: Not from now. So that's just the tone. I'll mute myself now. I'll play the tone and once the tone plays, the counter begins.

Participant: Okay.

Researcher: [Plays tone] [Plays tone]

Participant: I think it was about two minutes.

Researcher: About two minutes. All right. Let me just note that down. All right. So if you could open up your Counter-Strike 2 then we'll do...

Participant: It's open.

Researcher: Okay. Could you screen share for me? So that I can have a look.

Participant: Yes, sure.

Researcher: All right. So if you could go to the settings menu for me and turn on the full screen mode.

Participant: It's not full screen right now?

Researcher: I'm not sure. Just to have... Okay. So it's already on full screen.

Participant: It is.

Researcher: Perfect. Yeah. I'm going to... Wait, do you have... Are you familiar with the developer console in the game?

Participant: Not really. Where is it? Oops, not...

Researcher: If you press on game.

Participant: It's developer... developer... Where is it?

Researcher: If you go to game, you're currently on audio.

Participant: In game, okay. I was just checking every single one.

Researcher: It's already on, I just saw it.

Participant: And it's enabled on... Oh, okay, good.

Researcher: Exactly. So I'm going to send you a tiny piece of code. If you could just... Oh, sorry. This is the wrong text, one moment. Here you go. If you could just put that into the console and press enter.

Basically what this does is mute all people in the game chat so that you do not get distracted while playing.

Participant: Okay.

Researcher: So, indeed if you select deathmatch, could you close the party for me?

Participant: Close party? Oh.

Researcher: So, Dust II is selected. And you can now press go. Basically, we'll be using this game as a warm-up, so that you're used to playing again. And then once that is done, don't leave the lobby, and then you can play that match. Okay?

Participant: Okay.

Researcher: I'll mute myself for now, but later.

So in the second round of playing, we will be doing the time duration perception test again while you are playing, okay?

Participant: Yeah, sure.

Researcher: All right. Good luck.

I'm just noticing that you are enjoying the very late stage. So after this, you can do another warm-up.

Participant: Yeah, I'm a bit unlucky here. I'm being spawned in weird locations. In this case, it was just skill issue.

Researcher: It happens, but because I think if there was only like two minutes left, when you joined.

Participant: Ah, with the timing. Okay.

Researcher: Indeed. So to make sure that you're warmed up, next game is also warm-up.

Participant: Minus 97. No. Okay. So now I should play a full length one?

Researcher: Yes, but it will be again as a warm-up because this one was a bit too short to actually be warmed up.

Participant: Okay.

Researcher: All right. That was the warm-up. And, yeah, I'd say, just stay in the lobby. And as I said, I'll be... [Realises that still muted]

Participant: Okay, that was the round.

Researcher: Yes, that was the warm-up. My microphone was muted in a different way. But, yeah, stay in the lobby, play the game. And again, I'll be playing the tone at some points, and you, you know, guesstimate how much time has passed. Do make sure that you try to avoid looking at the timer up top, if that's possible. Okay.

Participant: Okay. I didn't even know that they have... Oh, wait. Yeah. Okay. Oh, well.

Researcher: Perfect. Thank you.

Participant: I'm not sure if you played the sound yet or not. Just letting you know that I haven't heard it.

Researcher: No worries, playing it soon. [Plays tone] [Plays tone]

Participant: I think it was about two... three minutes. No. I'll say it was two minutes.

Researcher: Two minutes?

Participant: Yes. Should I leave the game, or...?

Researcher: You can finish the game.

All right. Perfect. Good job.

Participant: Should I leave it?

Researcher: Yes, please.

Participant: Okay.

Researcher: So, if you want later on, I can help you revert the changes that we made in terms of muting everybody but your team.

Participant: I'll just write the same thing, but zero.

Researcher: Yes. Yeah. Indeed. That is... Indeed how it works. Okay. And so, once you've played, this is the assessment point of the interview. So, first of all, I would like to ask you how do you rate your mental effort while you were playing, so in comparison to earlier?

Participant: While playing like that, I don't think I could chit chat with a friend. I was pretty focused.

Researcher: Okay. So, just a lot of mental effort was being assigned to what you were doing?

Participant: Yes. I'd say that I put a lot of mental effort on it. I couldn't really do anything else in the meantime. And if I did, my performance would decrease. The game is engaging just because of this, that I need to be careful.

Researcher: Yeah. Okay. So, the reason for that change in amount of mental effort is just because of the game, you know, it being that engaging, you're feeling that you wouldn't be able to perform otherwise. Right?

Participant: Yes.

Researcher: Okay. And what in the game had the biggest impact on this change?

Participant: Well, I'm facing an enemy trying to shoot each other down. That's when I'm focusing the most. I'm focusing less when I'm reloading, but still being careful because another enemy might be next to me. Yeah. And I'm focusing the least when I'm waiting for an enemy.

When I'm camping somewhere, waiting for someone to come to me. And I don't think anything else happens there. But in a competitive match, we would have a lot more waiting than it would require way less focusing.

Researcher: Yeah. Okay. And so, while playing, did you feel like you were having a feeling of control over the situation?

Participant: Most of the time. Sometimes, like, I don't know if you were watching my gameplay, but once I had shotguns and I was spawned next to the car and trash bags. And that's the worst possible case for it. I was pissed off that it gave me that horrible spot, the worst in the map.

Researcher: Yeah. So at that point, you said, well, it's not in my control here.

Participant: Yes, I just wanted to be killed faster so I can get to somewhere else.

Researcher: Yeah. Would you say that was the moment that you felt helpless?

Participant: No, just, I could still change my situation, but the luck wasn't on my side. I could have, I still could have killed someone, but way harder and I would have needed more time and all of that.

Researcher: Yeah. And did you ever feel helpless while playing?

Participant: No.

Researcher: No?

Participant: Oh, oh, sorry. When I was reloading and I had an enemy in front of me, that's when I knew that that's it. I want to win this because I cannot shoot.

Researcher: Yeah. Okay. Make sense. And would it, did you in general feel like the events that were happening to you while playing were dependent on yourself or do you believe things were more dependent on the environment or other players?

Participant: I'd say mostly on myself, I did, I had the control and I did pretty good. I got second place. So if, of course, if I had a little bit more luck, maybe I could have done more score and I would have been the first place, but I don't think that that would have been fair to the other person since I think we had the same amount of luck and bad luck. He was just better.

Researcher: Yeah. So you'd say that it maybe felt like your skill was the thing impacting the gameplay the most?

Participant: Yeah.

Researcher: Okay. And last or not lastly, but you know, relating to the time thing, did you at any point feel like you were losing track of time while playing?

Participant: At all times. I never looked. Actually, the thing is that I never looked at the timer. I never looked how much time I have left except in the last few seconds because some music is starting to play and I could see that I have 10 seconds left. But in track of time, in small, small scale, I just knew that I didn't think about the time, but I knew that the round is only about 10, 15 minutes, whatever it is there. So it's not like I can stay playing for hours on end and not notice it.

Researcher: Yeah. But if, you know, for example, I would ask you if half of time has passed and you would not be able to tell me for sure because that, you know, you lost the track of time, would that be correct?

Participant: Yeah. Actually, no, no, I would be able to tell. I would know that I played for quite a while already. So my time is probably coming to an end. I did have the feeling that I already after changing a few weapons after dying like 10 or 20 or 30 times, I was thinking that yeah, I think I went past the half time of the match.

Researcher: Yeah. Okay. So at what moments do you feel like you were losing track of time the most and at what time was that experience the weakest?

Participant: I think it's when I was waiting to respawn, I was most aware of the time. And when I was fighting someone face to face, that's when I didn't think about time at all. A few seconds felt like way longer. Yeah.

Researcher: When fighting your enemy, did you find yourself looking at the head-up display? So at the overlay in UI?

Participant: While, fighting face to face with someone? No, never. The only time that I looked at my UI was when I shot a little bit and I wanted to see if it's worth reloading. I checked my bullet amount. And at the end of the game, I saw that I'm second place, which I didn't know beforehand. So about like three or four times during the entire match?

Researcher: So would it be correct that you would have been perfectly fine playing without the head-up display?

Participant: Yes. I don't think the display on top of the screen matters at all. I could have played the same without it.

Researcher: Okay. Interesting. Well, are there any other questions or remarks, things that you wanted to still say?

Participant: I don't think so.

Participant: No. Okay. Well, that was it then. I want to thank you for your time. I very much appreciate it. If there are any further questions or you don't want this data that we gathered here during this interview to be used for the research, do feel free to...

Participant: And if I didn't want it, I wouldn't have participated. It's just that if I put that effort anyway, I want to help with that research. So I just want to be let known about the results of the research.

That would be pretty interesting. I don't know. Whenever you finish it. If you can write my name somewhere and just let me know when you're done and publish it.

Researcher: Yeah, okay. I'll write your name down.