Researcher: So, first of all, hello. Thank you very much for wanting to participate in this research. I'm Reinard. I'm a Buas student doing my master's degree in game technology. And for this research, I'll be looking into how the head-up display, in a game like Counter-Strike 2, affects somebody's mental state of flow. Basically, what we'll be doing, we'll be setting a bit of a baseline. For that, we'll talk a bit about you, get some background information about you.

Secondly, we will set a bit of a baseline for some elements. Then we'll play the game a bit. So, I'll let you play, I'll watch.

Afterwards, we have a bit of a looking back on it, you know, seeing how things went and some more questions. Is that all right with you?

Participant: Yeah, sounds good.

Researcher: Okay, do you have any questions so far? Or is everything clear?

Participant: Yeah, it's clear.

Researcher: All right, perfect. So, for the first question to get to know you a bit better, what is your occupation exactly?

Participant: Currently, I'm a year 1 student at Buas as well, doing games programming.

Researcher: Okay, so you do need your PC quite a bit because of that? Do you believe that you're using your PC that often affects the way that you play games.

Participant: Yeah, probably, I would say so, yeah, it depends, I guess. It's kind of hard to say. But if I were to think about it deeply, I would say yes, mostly because, you know, sometimes you may watch some other people play other games and then sometimes you might want to try to, you know, simulate some of the things you see. Then being good or bad depends. But yeah.

Researcher: So you very much try to look at the elements of the game itself and how you find them good or bad and see how you could use that in the game for yourself, for example?

Participant: Yeah, I mean, not always, right? Sometimes I just put a game on, like, I don't know, like a CS2 match, like a pro match in the background for entertainment purposes, but sometimes when I feel like it, I just like to see the game more deeply, especially played by better people to potentially gain some insight, right?

Researcher: All right. And on the topic of Counter-Strike 2, how long have you been playing the game for? So, including Counter-Strike Global Offensive?

Participant: Right, so I think since 2018, around 2018 I started playing Counter-Strike Global Offensive. I haven't really had any background in 1.6 or Source, so Go was my first game. If I go now to my Steam, I currently have 3100 hours, so that's including CS-GO and CS2. As for CS2, I haven't played the Beta, I didn't get an invite, sadly. But I did start playing it ever since it came to the public. I haven't played it as much as I did with CS-GO, but that's also mostly because I started university, so therefore less time.

Researcher: Yeah, that makes a lot of sense. And how often would you say you play?

Participant: Well, if I was to speak about CS-GO or CS2?

Researcher: Both. You can talk about the past and the present.

Participant: Okay, so for CS-GO, I used to play it a lot. I used to play FaceIt with my friends a lot. I even reached level 10. I would play it every week for sure, maybe every day, sometimes like some days on some special occasions I wouldn't. But it would mostly be like 1 or 2 hours every day in CS-GO, pretty much.

Maybe more if there was a vacation or something. And with CS2, since it was dialled down, I think it was the first 1 or 2 months of CS2. I haven't really played it a lot, maybe once per week or twice per week, something like that. And recently there was an update which increased performance as well and reduced peekers advantage, which was a real issue when CS2 initially got released. And it started feeling better and more enjoyable to play as well. And for the past 1 or 2 weeks, I've been playing it about 5 times a week, let's say, maybe 4.

Researcher: Okay, and then when you play, how long would each session be?

Participant: I mean, it's hard to say. It depends on how much time I have. But usually I just try to play at least FaceIt game or a competitive Premier game. Sometimes I do, I think the most I've done in CS2 was maybe 4 games in a row.

Researcher: So that would be maximum 2-3 hours then?

Participant: Yeah, something like that.

Researcher: So, you've been playing the game for quite a long time, about 3,000 hours, I think you said?

Participant: Yep.

Researcher: What kept you playing? What do you enjoy about the game?

Participant: Well, first of all, I enjoy that I can play it with my friends and it's a team game. Like, many people say that it's just a game, right? You just go shoot people in the head. That's just a game, but I tend to disagree. I think it's a really good team environment game. It's a really competitive game as well, obviously. And that makes it really fun. I also don't really like losing, so I tend to get very competitive sometimes. But yeah, it's just the joy of playing and winning, and also winning with your friends and teammates, therefore. It just kept me going.

Researcher: Alright, any things that you particularly dislike about the game?

Participant: About CS2 or go?

Researcher: Both of them, as they're quite similar.

Participant: Okay, well, about CS2, obviously it's a huge change from Global Offensive. It's totally a new game, right? It's hard to say because I also haven't played it that much

or as much as Global Offensive. But I would say what I don't currently enjoy with CS2 is that at least on my machine it's not very performant, so I'm getting less FPS and therefore sometimes it can be less enjoyable. I feel like the movement isn't still the same as it was in Global Offensive. Of course, that's not going to be the case because you're making a game from the ground up with the new engine and everything, so it's very difficult to imitate what you had in a previous build of your engine. And I understand it and there have been improvements which I acknowledge and I'm happy about. But yeah, I would say mostly these two things.

Researcher: Okay, and of course, Counter-Strike 2 does have a head-up display as it is a tactical first person shooter. Do you make use of it quite often or would you say it's rather something that can distract you or are you impartial to it?

Participant: Well, at first I found it weird, right? When I first played CS2 and when I first saw the gameplay of CS2, it was very different from what we had in Global Offensive. It was very new and it took me a while to get used to it. But yeah, I wouldn't say I don't enjoy it or that it distracts me. I would say it's a nice feature, it's a nice ad. Overall, I enjoy it.

Researcher: And do you see yourself using it often or find yourself using it or is it something that's just there and you don't really pay attention to it?

Participant: Right, well, I'm going to be honest, I need to clarify. By the HUD, you mean for example when you get a kill, you get the cards at the bottom of the screen. Is that what you mean?

Researcher: I mean to complete overlay of UI on top of your gameplay. So while you're playing all of that UI, so your mini-map, the players, your gun layout, your health, everything.

Participant: Right, so everything. Well yeah, I mean of course I use it, I think everybody uses it at least to some extent. Maybe some players look at the mini-map for a less amount of time, let's say, or they don't really tend to look at who killed who at the top right, at the kill feed. But yeah, I mean I definitely use it quite a lot. I think it's quite useful.

Researcher: And are there any particular elements off the head-up display that you use way more than others, or are there elements that you use way less?

Participant: Yeah, I mean for sure. I think it's very hard to keep it balanced, right? But probably the ones I would say I would use the most is probably the radar, the mini-map, and probably the scoreboard at the top. Probably also I look at my health and my armour level quite usually, quite a lot of the time. So I would say those are my main things I look at when I look at the HUD. But something that I don't really look at is the kill feed. I don't really look at it too much or like, yeah, I don't really like intentionally look at it and scan through it thoroughly, right?

Researcher: So mainly the mini-map and your health.

Participant: Yeah, yeah, and the score. And the score.

Researcher: And the score. All right. And besides, Counter-Strike 2, are there any other first-person shooters that you play?

Participant: Let me think. I have played a little bit of The Finals. I haven't played it in a while, like a month or two. I've also played a little bit of Battle Bit Remastered, but I've also haven't played that game in a month or two. So not really at the moment, no.

Researcher: So, Counter-Strike is like the game that you keep going back to?

Participant: Yeah, pretty much.

Researcher: Is there a reason for that or is it just that you're use to Counter-Strike 2, and you stick to it?

Participant: Well, I mean, it's a little bit about the latter, right? I am used to it. I have played a lot. I still enjoy it. But it's also that's what my friends play and that's what keeps me going to some extent, right? If all of my friends stop playing, I will probably stop playing as well.

Because it would be maybe quite a pain to find other friends that I can enjoy the game as much as I do now. So yeah. That's that.

Researcher: So, the social aspect is a big thing for you?

Participant: Yeah, absolutely. Absolutely.

Researcher: So when do you usually tend to play Counter-Strike 2? So is it mainly in the weekends, or ...

Participant: Right. Yeah, sometimes in the week after school if I have time. And in the weekends, yeah, the weekends are the time when I'm most free, let's say. But usually it would be around in the evening or maybe late midday towards the evening.

Researcher: Do you tend to play at the desk or do you play at the couch?

Participant: Yeah, I play at the desk for sure.

Researcher: And when you play, do you tend to play alone or do you tend to play with others?

Participant: Yeah, I mean, it depends. If I play FaceIt or Premiere, then yeah, for sure I'm going to play with my friends if they're available. Otherwise, I probably wouldn't play. But if I go like in a warm-up session or something like that, if I feel like playing some aim bots, right, it's just an offline map where you just warm up yourself, shoot some bots that don't shoot back. Or maybe sometimes I'll play some deathmatch which is online with other players. But I guess you could say solo queuing in deathmatch, right? It's only me that's playing against random people that I don't know.

Researcher: Alright. So when you play the game with others, do you tend to communicate a lot through voice or text chat?

Participant: Do you mean within CS2 or...?

Researcher: Yeah.

Participant: Or just in general.

Researcher: About the game, but you can also maybe talk about in general.

Participant: No, but I mean, do you mean that I communicate via voice chat in the game, like in CS2 or external software?

Researcher: Well, it could be both.

Participant: Ah, okay. Yeah. So usually when I play FaceIt or Premiere, I usually go on TeamSpeak with my friends and we communicate via there. But sometimes it will be a party of four of friends and then we'll have to queue in four and then we get a random guy. So we usually either talk through text or voice chat in CS2, so in game.

Researcher: Okay. And when you then communicate with your team and with your friends while playing, are you able to fully concentrate on the game? When you do so?

Participant: Um, depends. This is also a pretty complicated aspect because it's, I would say like if you're dead and you communicate, okay, maybe there's a guy there or I heard the step that you didn't hear. So be careful. Right then, then I'm focused only on that aspect. So I'm focused on talking and giving as much information as I can to my teammates. But when I'm alive, obviously it's a bit different. It's always hard to give a lot of information when you're alive, when you're constantly looking at your radar, constantly listening for footsteps yourself, constantly, maybe you're in a fight like in a 1v1 and let's say Mirage in the middle. You're CT in window, just fighting a guy on top mid, right? It's hard to give information that you also heard the guy step out from under or you heard them flash B, right?

So it's very hard to say. But yeah, while let's say when you are in a fight, like in a 1v1, 1v2, whatever it may be, it's very hard to get concentrated on speaking. And if you're speaking, then yes, I would say you would get distracted naturally.

Researcher: So what you're saying, it's a bit of a double edge sword?

Participant: Yeah.

Researcher: So when you're really having to concentrate, you can't really talk. However, when there's information that you would normally have to gather by looking at the head-up display, for example, you believe that communication through speaking is more direct. Is that correct?

Hello, can you hear me?

Participant: [Texts about a technical issue]

Researcher: Oh, okay.

Participant: Okay, I'm back. Can you hear me?

Researcher: Yes, I can hear you.

Participant: Can you repeat that?

Researcher: So, just so that I understand that correctly, when somebody's talking to you it can be distracting, or when you are playing, you can't really talk yourself. However, when there's information that somebody is somewhere on the map, you prefer that information coming through voice rather than having to look at the head-up display, for example?

Participant: Yeah, absolutely, absolutely. It helps, because if you're in the game, you're still alive fighting, maybe let's say one of your teammates died and he heard the guy under in mid, on Mirage, let's say, in under. Hear the guy in under from another teammate's POV. It's obviously going to be easier to hear that while you're looking at whatever you're looking in the game instead of switching your eyesight from what you were looking currently, which is, I don't know, just moving around or maybe throwing

some utility to looking at the top left of your screen to the mini-map and seeing if he's actually there. So it does help and it does improve that fact quite a lot.

Researcher: Okay, so it's interesting because in a way that also ties back to the head-up display, would you say that you make use of the head-up display then while you're in these tense moments? Or is it something you maybe use when you have some downtime, for example?

Participant: Yeah, I mean, it's hard, right? If you're in a 1v1, it's really silly to look at the head-up display. You have to focus on killing the enemy, right? Securing the round. It's very difficult to get distracted and it's usually not a good idea. Even if you're holding an angle and let's say there's just silence on the map everywhere, your CT maybe, right? You're just waiting for the terrorist to come to a bomb site or to an area of the map and you're just holding that angle. You're holding that area.

I've had this previously before, like a lot of times I would just look at my mini-map and yeah, I just get killed. A guy just peeks me. It's just a little bit of randomness as well, so you can't really determine it 100%. That's what makes it fun as well and it keeps it interesting. But in that case, yeah, it would be distracting of course, but you kind of do it to yourself, right?

Researcher: So it's a very conscious decision in a way, looking at the head-up display?

Participant: Yes, of course.

Researcher: Perfect. So we've got a bit of background on who you are and how you play games. Now we'll be going into setting a bit of a baseline for some elements that this research is focusing on. Are there any questions so far or things that you forgot to tell me about?

Participant: No, not really.

Researcher: All right. So for the first baseline question, at this current moment in time, how would you rate your mental effort? So the amount of attention you're currently giving to something, or the amount of concentration, right?

Participant: I'm not sure I understand the question. What exactly do you mean? Like, could you rephrase it maybe?

Researcher: So mental effort basically is the amount of concentration you are giving to a task, right? And the higher that mental effort is, the less you can do besides that one action that you're doing. So my question is how would you rate your mental effort?

Participant: I mean, it's really hard to say, right? I mean, it depends on the task at hand, I would say. Like, do you mean within the game or outside of the game?

Researcher: As in in this current moment.

Participant: Oh, you mean towards the interview?

Researcher: Yes.

Participant: Right. On a scale of 1 to 10?

Researcher: If you'd like, sure.

Participant: So 10 being very focused?

Researcher: Yeah, works.

Participant: Yeah, I mean, I would say, I would say maybe a 9, 9.5 towards the 10, yeah. 9, 9. Yeah, I would say 9, yeah.

Researcher: I'm not sure that you completely understand it. It's more about so if you were to have to do something else currently with this interview, right? Would you still

be able to focus enough on the interview and on that task at the same time? Does that make sense?

Participant: I mean, it does make sense, but it's just, it's really hard for me to say because right now, I mean, I am focused on this interview. So I try to like, if there's another important task that I have to do, I try to postpone it, right? Because this is also pretty important for you. So it's really hard for me to say.

Like if it's, let's say like my doorbell rings, right? I'd have to go and answer, but it's very, I don't know how to say. It's just really hard to say, I would say.

Researcher: Perhaps, think of this situation. If you were to be, so we're talking right now, imagine, could you still fidget with something quite a bit? If so, kind of look at something, play around with it while answering the questions.

Participant: Oh, I see. Yeah.

Researcher: In that way, so the amount of mental effort you're currently having with doing what you're doing.

Participant: Yeah, I see what you mean. Okay. So yeah, it's also a bit difficult, right? Because it's not really a face-to-face interview. So I also don't, I can't look at you and you can't look at me. Usually in a real-life situation, or if I would put on my camera and you would as well, then yeah, I would be looking only at you. But currently, maybe I might look around, maybe I play with my fingers or something like that, you know? But I would say that's relatively normal, to be honest.

Researcher: Yeah, definitely. Would you, would it be correct to say that you then have a low mental effort currently?

Participant: Yeah, I guess, I guess so, yeah.

Researcher: Yeah, all right. So, to get away from that mental effort, I'd like to ask you a bit about how much control you feel while playing Counter-Strike 2 deathmatch. So, in that particular game mode.

Participant: How much control I feel I have when playing deathmatch? Is that the question?

Researcher: So, do you ever feel helpless, for example, while playing that game mode?

Participant: Yeah, for sure. Sometimes it is just unfair in deathmatch. So, you'll get spawned and somebody is already behind you, aiming at you, and just waiting to left click to shoot your head, right? So there's just nothing you can do about it sometimes. But, there are times as well, right, when you are on the other side of that situation. Then, obviously you are in control. So again, it just depends.

It depends. But that's what makes that much fun, right? Because it kind of prepares you for the moments where you don't have control. And some people might, like in the beginning, you might get frustrated, right? Because how is it fair? He was behind me, I couldn't see him.

But, you know, if you manage to get past those interactions and situations, then your mental strength will probably be greater. And it will help you in a competitive match, for sure.

Researcher: So that's interesting that you say that. So, during these moments that you kind of feel helpless, do you still feel like the things that happened to you are dependent on yourself or more on the others?

Participant: Yeah, it depends. Sometimes maybe it's dependent on me, like, let's say I spawn, like I died and then I get respawned at a random location, whatever it may be. And then I have like three or four seconds to move, and then I get shot in the back.

Then I'd probably be like, okay, but then why didn't I look behind me? Like, did I miss something? Is that something that was on me that was a responsibility that I should have took, I guess? So it does depend. Like, whenever you get instantly shot from behind, like when you are spawned, obviously there's nothing much you can do, so there's no point in putting blame on you. But in some situations, yeah, I would say it's important to think back and say, okay, what happened here? Was that fault? What could I have done better?

Researcher: Yeah. And would you say that these moments happened more than moments that you feel like, oh, I couldn't do anything about it?

Participant: Yeah, let me think. Yeah, I would say so, yeah. Yeah, yeah. So the random moments where you get spawned and then somebody is behind you and instantly kills you, they're less, they're not as frequent as the other ones. But it's also, yes, yes, they feel less common, but it's also because the people that... [Coughs]

So yeah, I feel like the people who created the deathmatch servers and all of the spawn points and have created all of the algorithms for choosing when to spawn or where to spawn a dead player, they also took into consideration what we're talking about right now, right? So they try to not have these awkward situations too much, right? It's not always possible for them to be like that, but yeah.

Researcher: All right. So, we've kind of talked about your mental effort of, you know, in this moment and then also, whether you tend to feel a sense of control of the game itself or, you know, during deathmatch. Lastly, I'd like to set a bit of a baseline of how you perceive the duration of time.

Basically, what I'll be doing is, is I will play a tone. I'll just give you an example of that real quickly.

[Plays tone]

Right?

Participant: Okay.

Researcher: So that tone plays. I will let some time pass and then play the tone again. And then you tell me how much time you believe has passed between those two tones. Right?

Participant: Okay, so I'm supposed to count seconds, right?

Researcher: Yeah, it's actually that's what I wanted to say as well. I would ask you to avoid that counting in your head to keep it more of an intuitive way of telling time. Right?

Participant: Okay.

Researcher: And of course, do make sure that you can't tell the time by looking at the clock, for example.

Participant: Right. Okay. It's a bit difficult to do. I'm not going to lie, especially that now that I know that I can't count in my head, but I will try my best.

Researcher: Yeah, that's not a problem. Just if you need to and have... other participants also do this, play with something in your hands, you know.

Participant: Okay.

Researcher: Just play around. Just make sure that you don't just count in your head and you don't look at the time. Right?

Participant: All right.

Researcher: All right. Perfect. I'm going to mute myself for a bit so that you know doesn't impact it, but you should still be able to hear the tone. Okay?

Participant: Okay.

Researcher: All right.

[Plays tone]

[Plays tone]

Okay.

Participant: Okay. Um, yeah, I guess I thought have to be. I'm guessing around maybe 25 seconds, maybe 20.

Researcher: Okay. So, 20 to 25 seconds?

Participant: Yeah. That would be my guess.

Researcher: All right. Okay, let me just note that down. So I can remember that for later.

So that was basically setting up the base-line. I don't know the last one felt, I can imagine feels a little bit awkward because you're sitting here in silence and just trying to not count.

Participant: Yeah. To be honest, I was kind of like dancing around trying to play music in my head or something like that. So I wouldn't actually count. But yeah, it was very weird.

Researcher: It's completely fine. Don't worry. We will be doing this again.

Participant: Okay.

Researcher: It will be while you're playing. So, you know, while you're concentrating on the game and shooting people, we'll be doing this again. Okay?

Participant: Okay.

Researcher: So should be a bit less awkward.

Participant: Okay. Yeah. Are you going to tell me how far I was?

Researcher: Once everything is done, I can tell you how, you know, correct you were.

Participant: Okay, okay.

Researcher: So if you could open the game for me if possible, and also stream.

Participant: Sure. Give me one second.

Researcher: By the way, if there's any questions or something unclear, you can always ask. Okay?

Participant: Okay. I mean, I'm kind of curious what I'll be doing in game.

Researcher: There's a few things. Just as a heads up. We will be changing the head-up display of the game. Basically, what we'll be doing is we'll be turning it off with commands.

Participant: Okay.

Researcher: Don't worry, I will help you revert all of those changes once this is done so that you don't have to play the game without head-up display forever.

Participant: Okay, that's good. Okay, let me see.

Researcher: While you are playing, there won't be too much input from me, I will just be observing.

Participant: I see. Okay.

Okay. Here it is. Let me know if you can see...

Researcher: The stream is currently paused. Yes. Okay. I can see. All right. Let me just bring up the procedure. So, um, are you by any chance familiar with the developer console Counter-Strike 2?

Participant: Indeed, I am.

Researcher: All right. Perfect. You can close that for now. It's just to make sure that we'll be using commands. If you could go to the settings menu and make sure that full screen mode is on.

Participant: Yes.

Researcher: Perfect. And also to turn off the voice chat. It should be under game if I am not mistaken.

Participant: Okay. Okay. Communication, I guess.

Researcher: Oh, yeah, you can put it on always. I think.

Participant: Yeah. And this one as well?

Researcher: Yes. All right.

Okay. So I'll send you two commands, basically. One of them will make absolutely sure that you don't get any messages or voice chats going on. And the other will turn off your head-up display. So this one turns off your head-up display. And this other one will make sure that everything is muted. In terms of communication.

Participant: Okay.

Researcher: You'll have to do them one by one, I think.

Participant: Does this work?

Researcher: Let me just look. Yes, it's the correct one. So you just press enter. You won't get anything coming back from it.

Participant: Oh wait, I need to do the last one. Okay, that should be it.

Researcher: All right. Perfect. So basically what we'll be doing right now, I'll let you do a warm-up. Maybe before we start, you make sure that everything is on Do Not Disturb. So Steam and Discord. Just to make sure that you don't get messages.

Participant: All right, one second. Okay, and Discord. There we go. That should be fine.

Researcher: All right. Perfect. So now you can press on play. You can select deathmatch, Dust 2, and if you could kindly close the party on the left hand side on the screen.

Participant: Close. All right.

Researcher: And if you now press go, you can just play one warm-up. Just make sure that you're, you know, used to playing again. And then afterwards, you will do the real game. So once the game is done, don't leave it and just keep on playing.

Participant: Okay.

Researcher: All right. I'll mute myself from here, so good luck and have fun.

Participant: Thank you.

Participant: Wait, do you think I could turn it back on so I can get an AK every time? This is a bit annoying.

Researcher: If you press B, you should be able to buy. I'm not mistaken, while spawning.

Participant: Wait, I think I need to be. Hold on, let me try. Oh, okay. I do see it. And I think I need to press F2 to turn off random buy.

Researcher Yeah, F3 is the one.

Participant: F3? Okay. Thank you.

Researcher: No worries.

All right. Just stay in the lobby. So now you're playing for real in a way. And remember, I'll be playing the tone. Don't think about it too actively, but just so you don't get overwhelmed by the fact that the tone plays again.

Participant: Okay.

Researcher: So I'll play it and then I'll play it again. And then the time between is the one that you should estimate. Okay?

Participant: Alright, okay.

Researcher: All right. Good luck.

Participant: But just to be sure you haven't played the sound yet, right?

Researcher: No, not yet.

Participant: Okay. Okay. Okay.

Researcher: [Plays tone]

[Plays tone]

Participant: Let me think. I would say around 30 to 40 seconds, maybe, maybe 35 something like that. Yeah, I would say 35.

Researcher: All right. You can finish this game by the way.

Participant: Or should I leave or should I just finish it?

Researcher: You can just finish it.

Participant: Okay. Also, I'm just going to say I'm not playing that great, but I'm also streaming on Discord. So my FPS is a bit lower than usual.

Researcher: All right, that was the game. So how did it go?

Participant: Decent. I haven't played, I must say, I haven't played official deathmatch in a while. I usually play on like a community server, you know.

Researcher: Yeah, and normal games. Yeah, no worries.

Participant: Yeah.

Researcher: All right. So, if you could just dequeue and go back to the main screen.

So now that you've played a bit, how would you say that you would rate your mental effort while you were playing?

Participant: I would say probably around an eight. So yeah, I was pretty focused while playing. I was putting quite a lot of effort. It wasn't a full try hard as they say, but yeah.

Researcher: Yeah, not a problem. And so that is quite a substantial change from what it was before playing.

Participant: Yeah.

Researcher: What would you say had the biggest impact on this?

Participant: So what caused this, you mean?

Researcher: Yeah, in a way.

Participant: Yeah, I mean, I guess I'm just used to when I play deathmatch or competitive or whatever. I'm just used to really focusing really hard and trying to do as well as I can. But it's also because it's a difficult task. Like it's more difficult to do well in a competitive shooter compared to an interview, let's say. Or maybe it's like, it's really hard to compare. But yeah.

Researcher: And what would you say had very little impact on that change? So is there something in the game itself that you'd say of: it did not have a much of an impact on my mental effort?

Participant: Compared to the previous question or like my previous state?

Researcher: So the previous state and what things had a small impact on that.

Participant: Right. It's very hard to think of something. Not really sure to be honest. I mean, I don't really think there is anything. Yeah, it's very hard to think of something.

Researcher: Not a problem. So as you might recall, we did talk about what feeling of control you can have, while playing Counter-Strike 2. Would you say that you had a general feeling of control while playing?

Participant: Yeah, most of the time. I would say I had control more often than not. Yeah. I mean, sometimes I did whiff my shots, I will admit. It wasn't my greatest performance. But yeah, I would say most of the time, yeah. Like it was in my hands to win the duel or win the 1v1, whatever it may be.

Researcher: So the events happening to you while you were playing the game, depended on yourself rather than others?

Participant: Yeah, that as well. But I would also say my FPS being lower than usual also played into that a little bit. Not fully, but a little bit, yeah.

Researcher: And so, did you feel helpless while anything was happening?

Participant: I did feel helpless a few times when I encountered other players that just got spawned. And there's this God mode thing when you spawn for a few seconds until you move, I think, when other people can't shoot at you.

And it's a bit disadvantageous for the guy that's shooting at you, because you can just instantly shoot him and your God mode will be gone. But other than that, not really, no. Maybe some unfortunate situations where I did get killed from behind, but nothing super special.

Researcher: Yeah, in general, you felt like you just had control over what was happening and you didn't really feel helpless? As general statement.

Participant: Yeah, yeah, yeah, yeah, for sure.

Researcher: And now, relating more to the sound that I was playing earlier, so how you perceived time? Did you at any point feel like you were losing track of time while playing?

Participant: Not really, like I didn't think to myself, oh wait, what was the time? Like, do I still have to count? I mean, I wasn't counting, but do I still have to... I wasn't actively thinking about it. I was kind of focused on the game, really. Focused on, yeah.

Researcher: So during these moments of focus, do you feel like you could have accurately estimated time, or would it have been more of a guess?

Participant: I mean, it's hard to say because I wasn't actively having it in the back of my mind. So I would say it's more likely an educated guess. Yeah, I mean, it would have to be the same with the first guess I made.

Researcher: So do you believe that you, concentrating on the game, had any impact on it?

Participant: Yeah, for sure. I mean, if I wouldn't have been concentrated on the game, I would have probably tried counting, or I don't know... Like, even on the first try, like as I said, I tried to do other things to distract me from thinking about it and counting. So yeah.

Researcher: Okay. And when would you say that the experience that you were, not really having an eye on time. Were there moments when this experience was strongest or when it was weaker?

Participant: Wait, could you repeat the question once again? Sorry.

Researcher: So when you lose track of time, you can also call that time transformation in a way. Were there moments that this experience was stronger or weaker?

Participant: It was probably, I mean, yeah, I would say it was probably stronger when I wasn't fighting people. I mean, I would like, maybe for like a slight millisecond or something, I would be like, oh wait, I'm on a timer, so I should try to maybe think, okay, maybe around these amount of seconds passed for like a very brief second, right? And then I would go back to fighting and it would like snap out and kind of...

Researcher: And all of the sudden, you couldn't think about that anymore, yeah?

Participant: Yeah, yeah, yeah.

Researcher: Okay. And during these moments when you were losing track of time, did you miss the head-up display while playing?

Participant: Yeah, it felt really weird. I haven't really played like this before, but I would say the most noticeable part was probably, like, knowing when I killed other people. Especially when not head-shotting them, because when you head-shot them you get a sound confirmation, right? But when you kill them only with body shots, then you don't really know, like, you have to actually look.

And when it was like a very long distance duel, like a very long distance 1v1 or something like that, I had the intuition to maybe look at the top right for the kill field, or actually, like, look in detail, wait, did I actually kill him? So, yeah.

Researcher: So, did this give you the feeling that you were kind of snapping out of concentration all of the sudden, because you were getting caught of guard?

Participant: A little bit, yeah. Yeah, I would say so.

Researcher: Okay, yeah. But, and then on the other hand, because it was not there, so while you were shooting, so not yet having killed somebody, did you feel like not having head-up display forced you to concentrate more on that shooting? Or was it something that you just did not really think or care about at that moment? That it was not there.

Participant: Yeah, I mean, in the beginning, like, I kept thinking about it, like, okay, this is a bit weird, I have to get comfortable without playing the HUD, right? So it was just a question of kind of adaptability, I guess.

But I wasn't like fully thinking of it consciously, I think it was just, I guess you could say an instinct or something.

But, yeah, I mean, it also didn't feel like, okay, I can't play because I don't have the HUD because. I mean, if it was a real game, like a competitive game, yeah, for sure, I would probably be very annoyed. But it's because it's deathmatch when I usually play deathmatch with head-up display on I usually don't really look at the mini-map quite at all or at the score because they don't really matter, right? You just, you just spawn in, you move a few meters, let's say, and then you shoot some other people to try to kill them.

And then you either die or you go on. You don't really need to look at the mini-map or at the score, so I was already kind of used to not caring about the head-up display too much when playing deathmatch if that makes sense.

Researcher: Yep, that makes sense. All right. Well, that was basically it. Thank you so much for your time.

Participant: Yeah, no problem. It was a pleasure.

Researcher: So, if you ever want to change your mind on this data being used for research, you can always send me a message on Discord, or through email, or whatever.

Participant: Okay.

Researcher: And then, you know, can get rid of that. But other than that, I'll stop the recording now and help you with turning back things back to the way they were.

Participant: Okay, sounds good.

Researcher: All right, I'll stop the recording here.