

Questions about the experiment and questionnaire

Interviews while wearing an HMD

1. "We informed you in advance that the images on the smart glasses would move, but did you notice that the entire image on the smart glasses moved while you were solving the Rubik's cube?"
 - If Yes: "How did the image move?"

(If asked in a question format such as "It moved like this, right?" respond with "To avoid influencing the interview, we will address this later. Please understand.")
 - If both: "Where do you think the Rubik's Cube image was located before it moved, i.e., during the application practice session?"
 - If the respondent is confused or unsure: "Could you try to indicate the approximate position using your hands or the Rubik's Cube in front of you?"
 - If the response is only gestures or abstract, say, "By the way, if you try to describe it more specifically, such as 'how many Rubik's Cubes away from the current display position when you were holding it in your hand,' what would that look like?"
 - If only non-continuous movements: "Did you notice anything else unusual?"
 - "Specifically, what did you feel?"
 - If the image seemed to be shaking, "Did it feel like it was shaking, or more like a gentle swaying motion?"
 - If the video was difficult to see at times: "Was it blurry, double, or difficult to see in any other way?"
 - "By the way, when you were practicing using the application, where do you think the Rubik's Cube in the video was located?"
 - if Continuous only "Did you notice anything else unusual?"
 - "What specifically did you feel and how?"
 - If you felt the video was shaking, "Was it a shaking sensation, or a slow, steady swaying motion?"
 - If the video was difficult to see at times, "How was it difficult to see? For example, was it blurry or did it appear double?"

- "By the way, when you were practicing using the application, where do you think the Rubik's Cube in the video was located?"
 - if Other "(Ask follow-up questions based on the response. Ask where the Rubik's Cube in the video was located during the app practice session.)"
- if No "Even if it's not about movement, did you notice anything unusual?"
 - If no, "Does the current video seem like it hasn't moved from the start?"
 - if Yes "Specifically, what did you feel?"
 - "(Ask follow-up questions based on the response. Ask where the Rubik's Cube in the video was located during the app practice session.)"
 - if You felt the video was shaking "Was it a shaking feeling, or a slow, swaying motion?"
 - if The video was hard to see at times: "Was it blurry, double, or how was it hard to see?"

"Let's try moving the video back to the position it was in during the app practice session. Could you please hold your right hand in a palm-up position for about 10 seconds?"

Once the video position is confirmed,

2. "Is the Rubik's Cube in the same position as you thought it was earlier?"
 - If the same location: "Were you consciously trying to remember the original location?"
 - If it's in a different location "Compared to where you thought it was, where is the Rubik's Cube in the video?"
 - "(If necessary, ask how many Rubik's Cubes it is or how much it differs specifically)"
 - "How did you feel when the video returned to its original position?"
3. "If you hold your left hand in a 'palm-up' position for about 2 seconds, the video will instantly move to the previous position. Then, if you hold your right hand in a 'palm-up' position for about 2 seconds, the video will return to its original position." "Please take a moment to observe how much it moved and share any thoughts you may have."

Interview after removing the HMD

"First, could you please tell me your department or major?"

"(After hearing the answer) Thank you."

"Next, I will ask some questions about the survey. This research may lead to new discoveries, so please feel free to share any thoughts you have."

"For question number 11, if you answered C or D, could you share your thoughts on why you chose that answer?"

Move on to the next question once finished

"Next, I would like to ask you a few questions about the experiment."

"Some of the questions may overlap with the survey you just completed, but please understand."

Question content

1. "Did you notice any other issues besides the entire video moving during the experiment?"
 - If you felt any discomfort
 - "When and where did you feel the discomfort?"
 - "Why did you feel this discomfort?"
2. "While operating the application used in the experiment, did you feel any stress other than the movement of the entire video?"
 - If you felt stress,
 - "When and where did you feel stressed?"
 - "What do you think caused the stress?"
3. During the interview while wearing the HMD, regarding continuous movement
 - If you noticed
 - "Did it bother you?"
 - "How did you notice it?"
 - "Can you estimate when you noticed it, such as around the third or fourth move?"
 - "Regarding the overall slow forward movement of the video, did you notice anything else?"
 - If you didn't notice it but felt something was off
 - "At what point did you notice the discomfort?"
 - "(Before the non-continuous movement, after, at the end, etc.)"
4. During the interview while wearing the HMD, regarding non-continuous movement
 - If you noticed it
 - "Did it bother you?"
 - "How did you notice it?"
 - "Did you notice it while moving?"
 - "Did you notice anything else about the entire image moving forward?"
 - If you didn't notice it but felt something was off
 - "At what point did you notice the discomfort?"

- "(Before moving continuously, after moving continuously, or at the end, etc.)"
- 5. "Have you ever studied how to solve a Rubik's cube?"
 - If Yes
 - "Can you solve it on your own now?"
 - If No
 - "When did you study it?"
 - "How much did you study?"

In addition to the above questions, please note any movements of the test subject during the experiment (take your own notes).