

Questionnaire Results

Personal Information and Previous VR Experience

3rd User Test: 05/06/2023

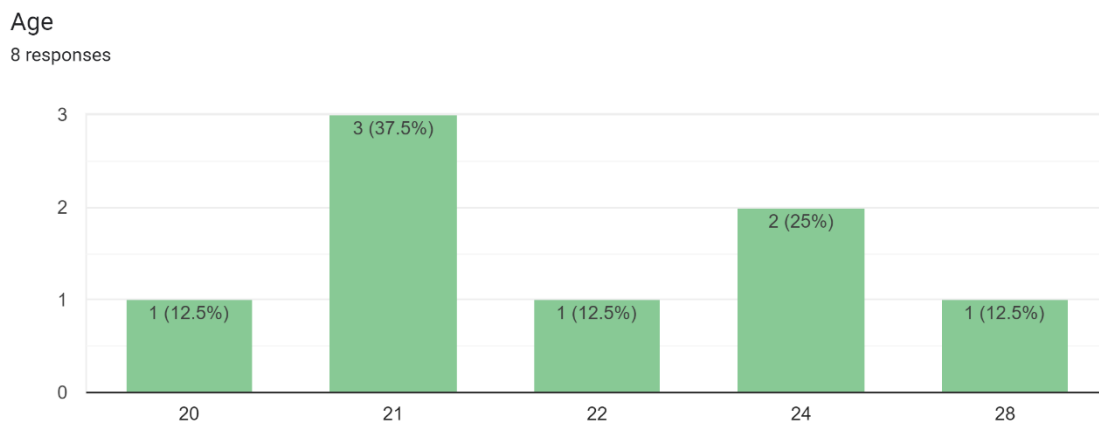
For this third user-test we have merged all the questions in one single questionnaire, in order to make it more comfortable for the volunteers to answer them. Nevertheless, we have followed the same structure as in the previous cases: personal information and previous VR experience, virtual experience and feedback. As such, for analysing the results, we will be following that same structure.

Personal Information and Previous VR Experience

The first section of the questionnaire gathered personal data about the participants. The results show that 8 people filled in this questionnaire, both male (3) and female (5) between the ages of 20 and 28. There were 4 nationalities present in this group of volunteers: Bulgaria, Germany, Turkey and Spain (one from the Basque Country and another one from Girona). All of them were students and belonged to the fields of social sciences, education, tourism, journalism and public relations (see Graphic 1, 2, 3, 4 and 5).

Regarding their VR experience, just one person didn't know what Virtual Reality is and three of them had never had previous experience with it. The ones that had previously tried VR, they had done it through our other experiments, other EPS demos, an immersive experience in an event and a game in a friend's headset. These experiences were for all of them positive. When asked to explain their answer, the volunteers stated that it was "something new" and that "the feeling is really nice". One of the participants even had a business idea to mix VR and tourism. Another user confessed that it was interesting to see how to develop a "VR cardboard game" and another one that "human curiosity is limitless" (see Graphic 6, 7, 8, 9 and 10).

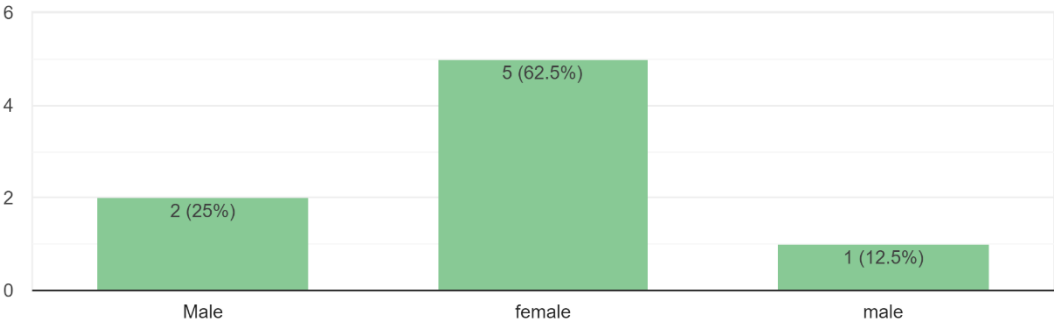
These are the graphics with the answers of the participants.



Graphic 1

Gender (if you don't feel comfortable disclosing your gender, skip this question)

8 responses



Graphic 2

Country of origin?

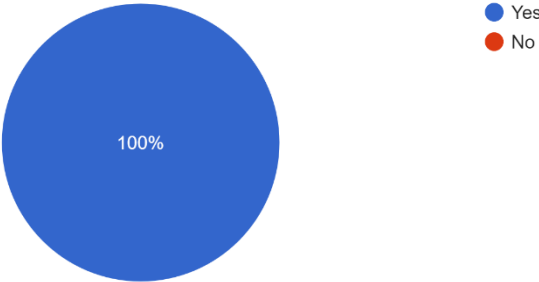
8 responses



Graphic 3

Are you a student

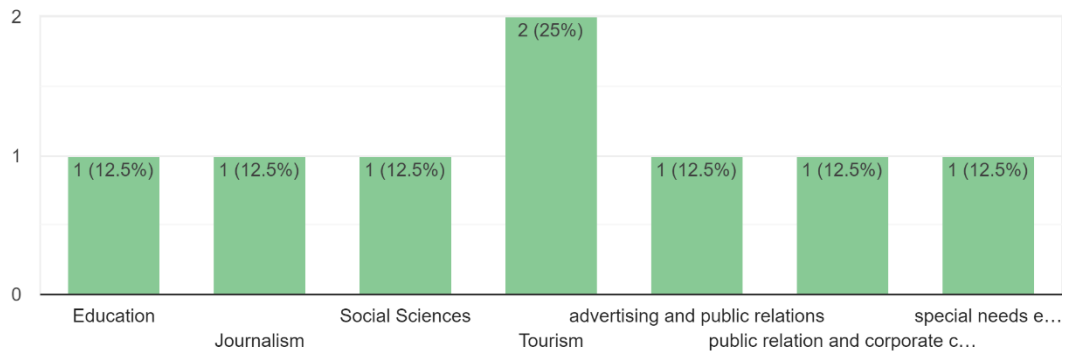
8 responses



Graphic 4

What is your field of study?

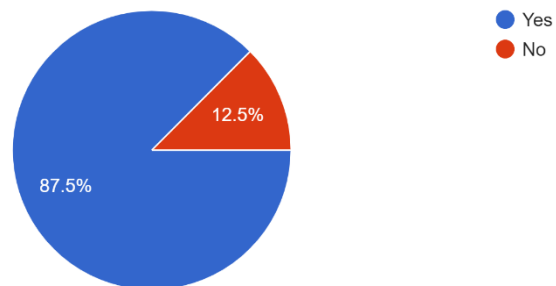
8 responses



Graphic 5

Do you know what Virtual Reality (VR) is?

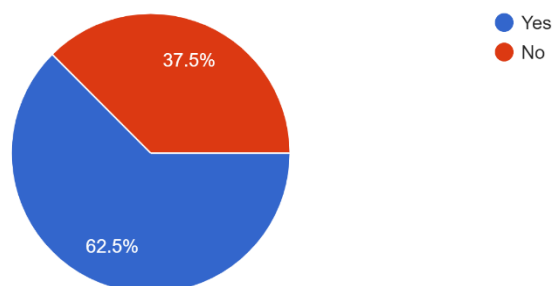
8 responses



Graphic 6

Have you already had VR-Experience before?

8 responses



Graphic 7

Personal Experience

Please tell us a little bit about your prior experience with VR. Was it a game? An immersive experience like a roller coaster? A 360° video? Please, specify the approximate duration, how many times you have experienced VR, etc ...

5 responses

I was in the first lab 3 month ago and I had experiences with Phillip he showed us with a VR some different levels

Game demo in AP Hogeschool, game development in cardboard for EPS. Aproximation of 4 months

Games from the headset + previous experiments for EPS

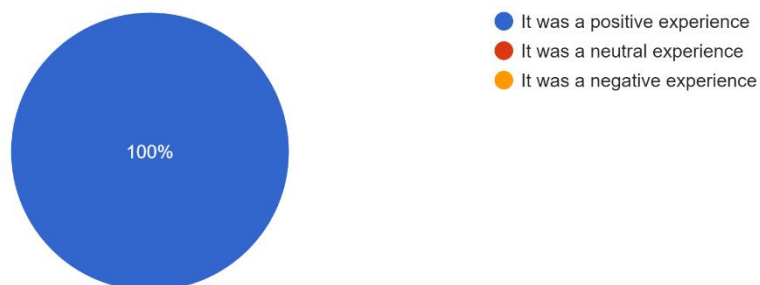
It was an immersive experience aswell in an event. It was like a kind of game in which I was a woodman and I had to cut some branches.

it was a game that you should smash the boxes with music, i tried 2 times with my friends vr set

Graphic 8

Choose the option that best describes your previous answer

5 responses



Graphic 9

Why? Please, explain your previous choice

5 responses

Its something new and the human curiosity is limitless

It was interesting to experience a different type of virtual experience and to see how a VR cardboard game is developed

The textures, the air and the sound felt that they matched and helped

Because I like this type of new technologies, in fact, once I had a bussiness idea about VR mixed with tourism.

the feeling is really nice even you know where you standing when you put the vr glasses its so good

Graphic 10

Virtual Experience

The second section of the questionnaire aimed at measuring the level of immersion of the user. The experience included physical inputs that consisted of different surfaces (grass, sand and rocks) and ventilators.

Questions 7 and 8 evaluated the impact and quality of the visuals. All of the users rated that the environment looked similar to a real forest and that this made them feel more immersed (see Graphic 11 and 12).

Questions 11-13 asked the users about the usability of the headset. Just one person didn't find it easy and safe to move around the place (see Graphic 13). This user said that there were a bench and a rock that were in VR but not in the physical world, so this felt weird. The user would also have liked to touch the water. For the rest of the volunteers, the answers they provided can be seen in Graphic 14. All agreed that the ease of movement helped them be more immersed in the virtual environment (see Graphic 15). Only two volunteers didn't have it very clear where to go in the virtual environment (see Graphic 16).

Questions 14-16, 19 and 20 asked about the physical stimulus. Results show that all of the volunteers stated that the platform matched what they were actually seeing on VR and that this made them feel more immersed (see Graphic 17 and 18). Almost half of the volunteers found disturbing that they couldn't see their feet or body in VR. One user complained that this made him/her dizzy and that he/she couldn't see where he/she was going. Another one noticed that there were times when the feet and a rock didn't match their real location. The third volunteer confessed that if he/she had seen his/her feet, it would have been easier (see Graphic 19 and 20). Regarding the wind, three people actually felt the wind, while the rest didn't feel it as much. Except one, all of the volunteers admitted feeling more immersed because of it (see Graphic 21 and 22).

Regarding the questions about the sense of being immersed in the virtual environment, half of the users quite forgot that they were in a laboratory. Also, five volunteers felt as they were standing in a real forest and the others felt neutral about it (see Graphic 23 and 24). Half of the testers felt they could fall into the lake and three quarters of them thought of deliberately stepping into the lake (see Graphic 25 and 26).

Three of the volunteers felt like taking off the headset while on the VR experience. Half of the users felt the sense of being in the VR world stronger than being in the real world, three were indifferent and one person disagreed (see Graphic 27 and 28).

Finally, six participants felt disappointed that the experience was over and all of them except one would like to experience it again. (See Graphic 29 and 30).

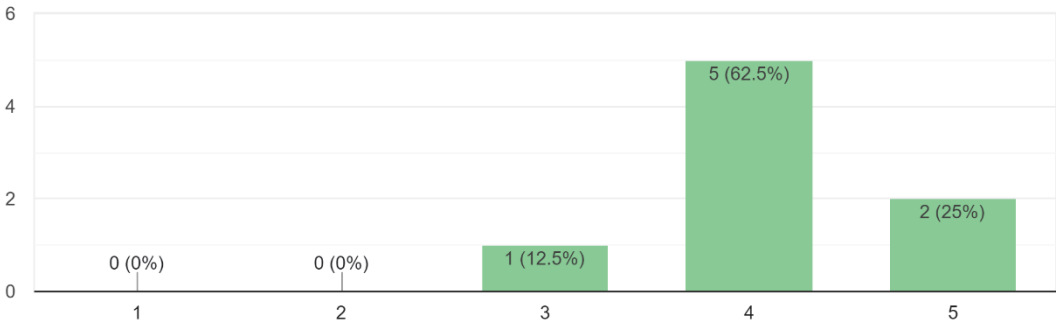
We asked if they would change in any way the physical input and two answered no. Nevertheless, some of the suggestions left by the other participants were the following ones (see Graphic 31 and 32):

- Spray water
- Scent of leaves
- Add water to touch (simulate lake)
- Remove the umbrella and add a walking stick instead
- Correctly place the flat rocks where people step on

These are the graphics with the answers of the participants.

How realistic did the forest look like?

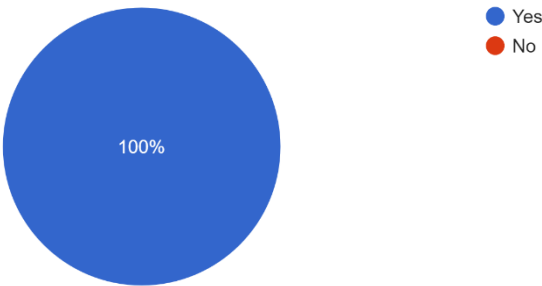
8 responses



Graphic 11

Did this make you feel more immersed in the environment?

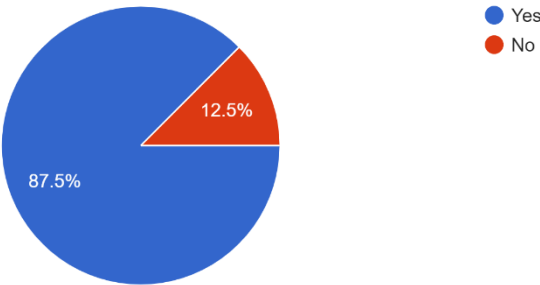
8 responses



Graphic 12

Did you find it easy and safe to move around the place?

8 responses



Graphic 13

Explain your previous answer

8 responses

with the stones and stuff like that was that kind of realistic

It was quite easy to move around, still, not knowing what happened in real life was a bit hard to move around

the idea of the torch was cool, and also the moving towards the little lights

I find it easy to move around the place and find the different obstacles, but at the same time I feel a bit scared about what I was going to find.

i trusted you, and because of the blue crosses I felt save, because I knew were I have to stop

There's a bench in the VR that there's not in the real life, and the same with a rock. But for the rest, its so good. I would like to could touch water.

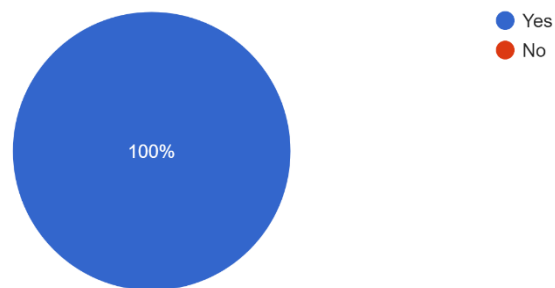
The lighter is amazing idea, really fun, the carpet makes you feel as if you are stepping on wet leaves for real

it looked so real tbh i was scared bc of the dark

Graphic 14

Did this help you be more immersed in the virtual environment?

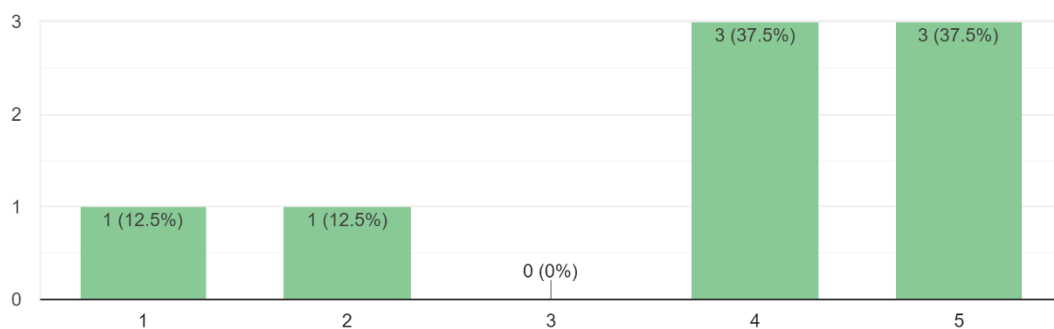
8 responses



Graphic 15

Did you understand where to go in the virtual environment?

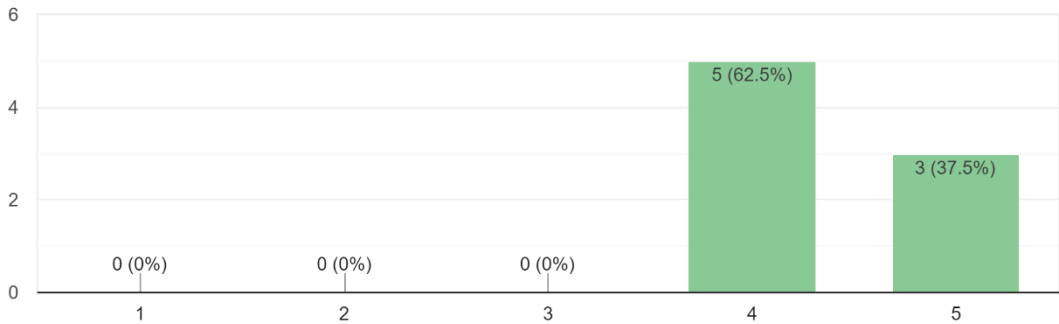
8 responses



Graphic 16

Did the physical set-up match what you were seeing?

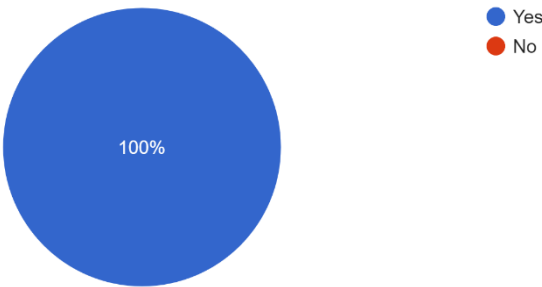
8 responses



Graphic 17

Did this set-up help you feel more immersed in the virtual environment?

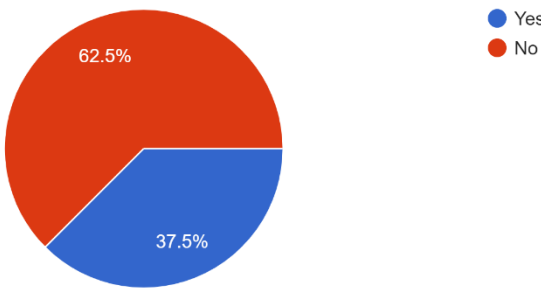
8 responses



Graphic 18

Did you find disturbing that you couldn't see your feet or, in general, your body in the virtual environment?

8 responses



Graphic 19

If you answered "Yes" in the previous question, explain briefly why and how this affected your immersive experience.

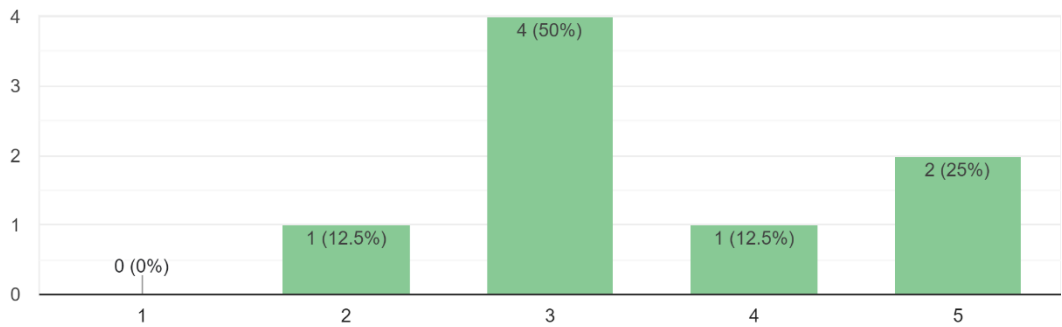
3 responses

- It made me dizzy and you couldn't see where you were going.
- there were times that i felt that the feet did not match perfectly with the rocks but most of the experiment was very realistic
- If I had seen my feet it would be easier.

Graphic 20

To which extent did you feel the wind?

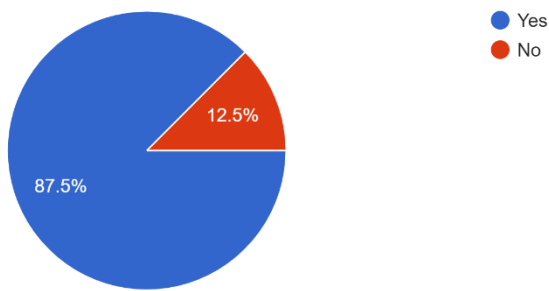
8 responses



Graphic 21

Did the wind help you feel more immersed in the virtual environment?

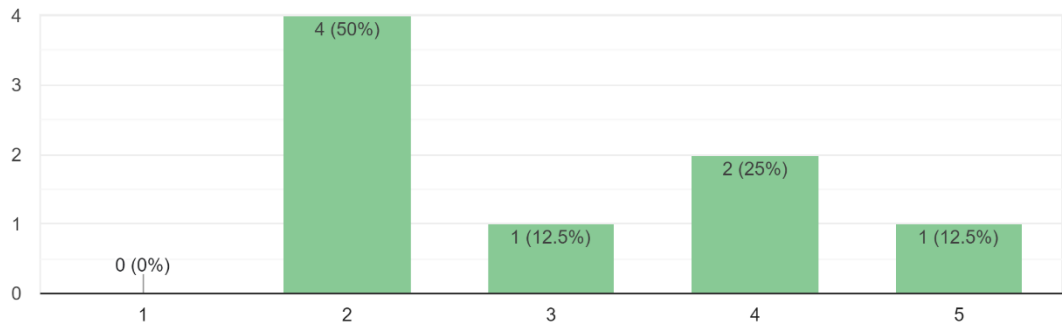
8 responses



Graphic 22

To what extent did you forget that you were in a laboratory?

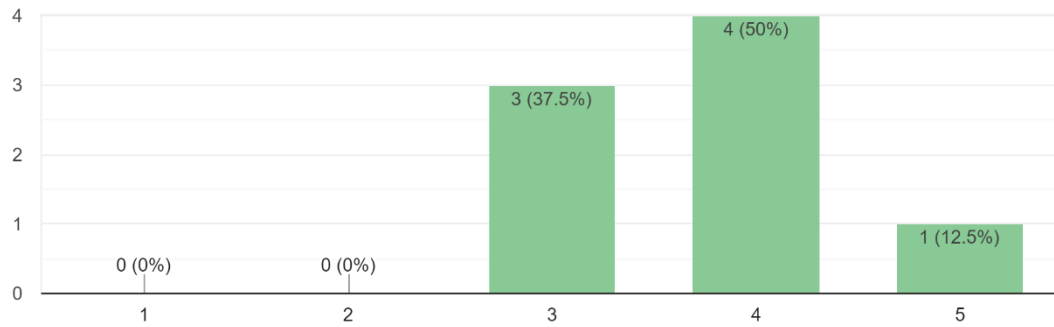
8 responses



Graphic 23

To what extent did you feel you were actually in a forest?

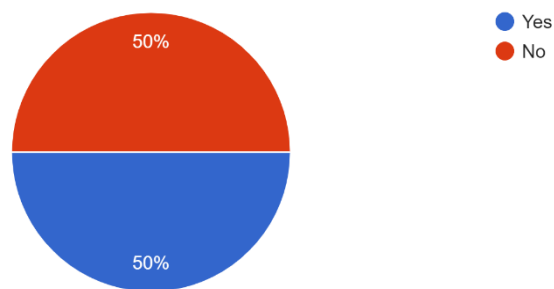
8 responses



Graphic 24

Did you ever feel like you could fall into the lake?

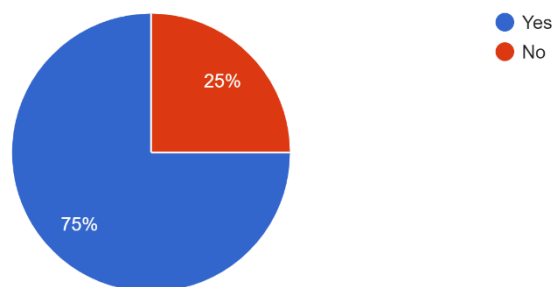
8 responses



Graphic 25

Did you ever think of stepping into the lake?

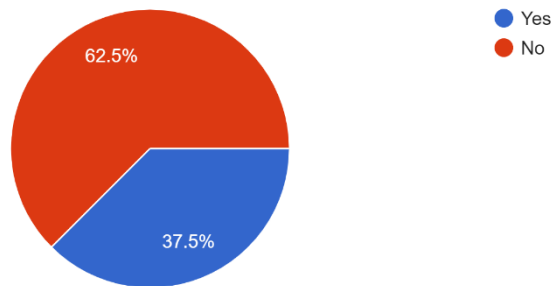
8 responses



Graphic 26

Did you ever feel like taking the headset off to see what was happening in the real world?

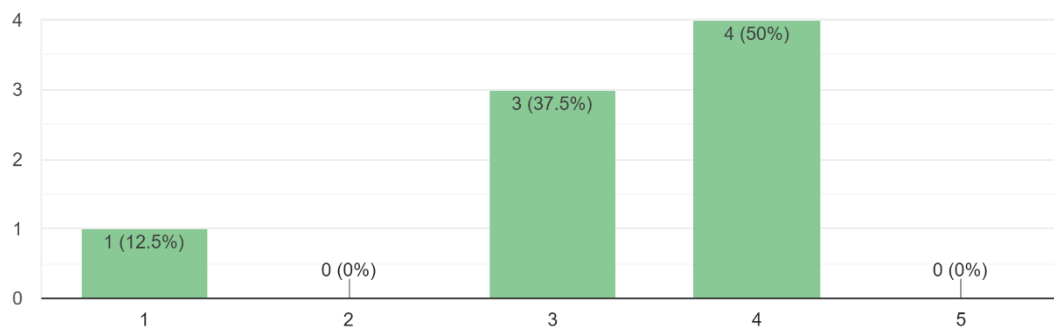
8 responses



Graphic 27

To what extent was your sense of being in the environment stronger than your sense of being in the real world?

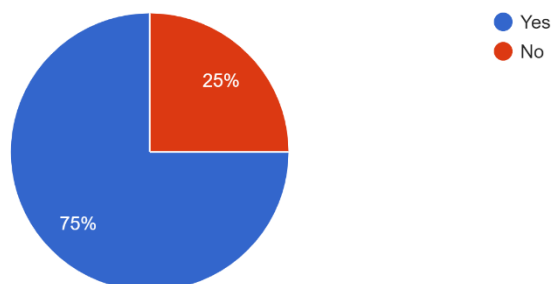
8 responses



Graphic 28

When interrupted, were you disappointed that the experience was over?

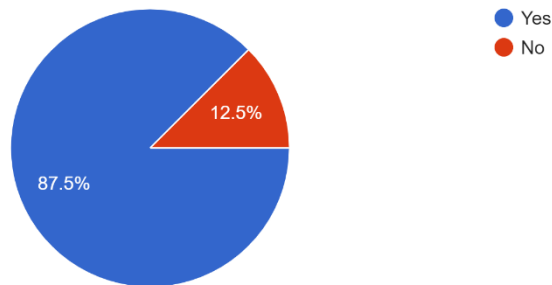
8 responses



Graphic 29

Would you like to have the experience again?

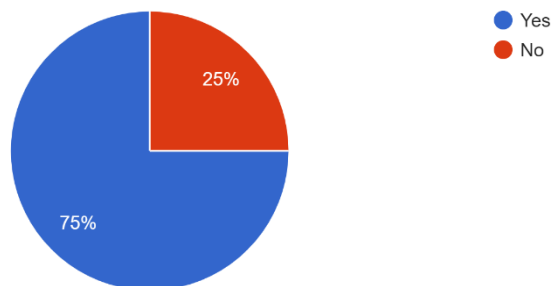
8 responses



Graphic 30

Would you change the set-up in any way (amount of rocks/sand, size of rocks/tiles...) or add anything to make it feel more like in the virtual environment?

8 responses



Graphic 31

Leave us your suggestions, please :)

7 responses

was nice expirience and my student colleagues create something very well.....hand up

It would have been fun to spray some water! (just a bit) also add some scents of leaves

maybe add some drizzle (but of course it can cause problems the the headset)

For me the different floors were really nice, and made the experience much nicer :)

I would like to be able to touch some water and I would like a little bit of explanation at the beggining. I didn't i had to follow the insects.

I would remove the umbrella from the set and add a walking stick instead, in general it was amazing experience

i would change the umbrella with something more useful and the rocks we need to step is not in the correct placement sometimes but it was still really nice

Graphic 32

Feedback

In the third and last section of the questionnaire, the users gave feedback on the performance of the project-team.

According to the results, the team had a good performance (see Graphic 33). All agreed that the place of the experiment was appropriate, and that the set-up was quite safe (see Graphic 34 and 35).

Regarding the questions, most of the volunteers stated that they were easy to understand. Three people said that there were very few questions, other three felt neutral about it and two would have preferred less questions (see Graphic 36 and 37).

All of the volunteers evaluated the overall experience as positive (see Graphic 38).

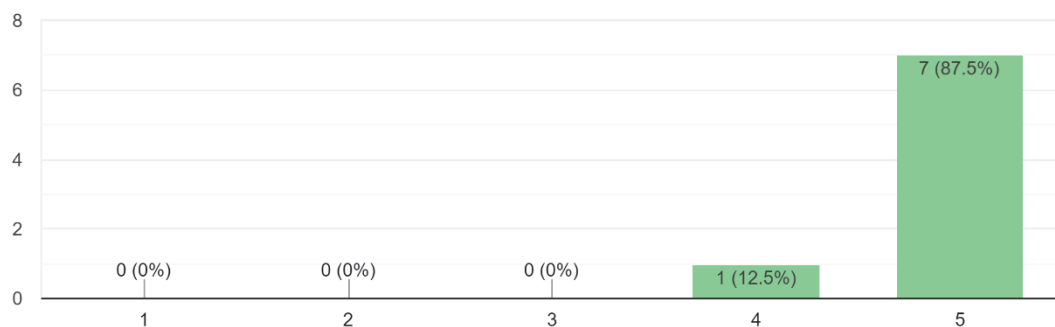
Some users wrote the following comments at the end of the questionnaire (see Graphic 39):

- “nice”
- “there were time that I couldn’t listen to the questions. But thanks for the experience, the formulaire is brief and I see that you have been working hard, good job”

These are the graphics with the answers of the participants.

Rate the performance of the team-members

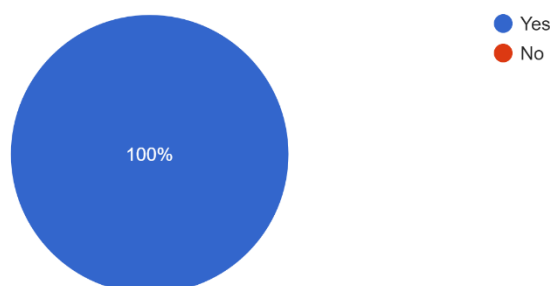
8 responses



Graphic 33

Was the place of the experiment appropriate?

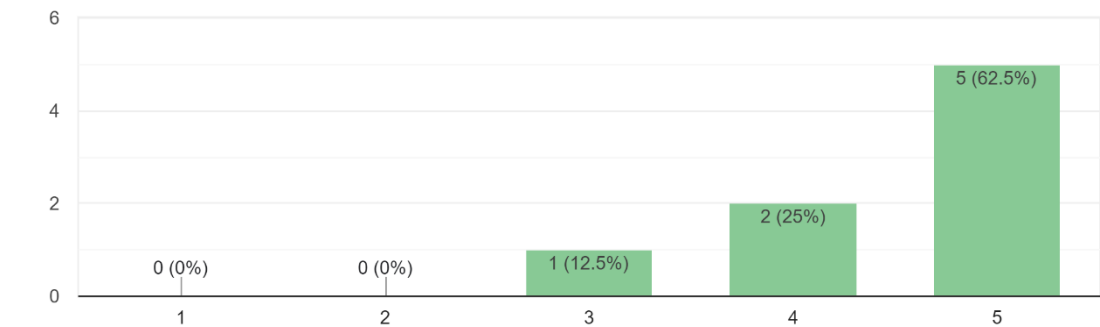
8 responses



Graphic 34

Did you feel the set-up was safe?

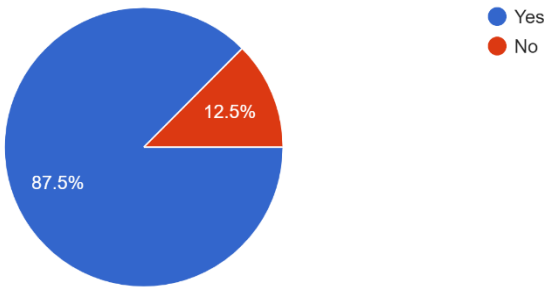
8 responses



Graphic 35

Were the questions easy to understand?

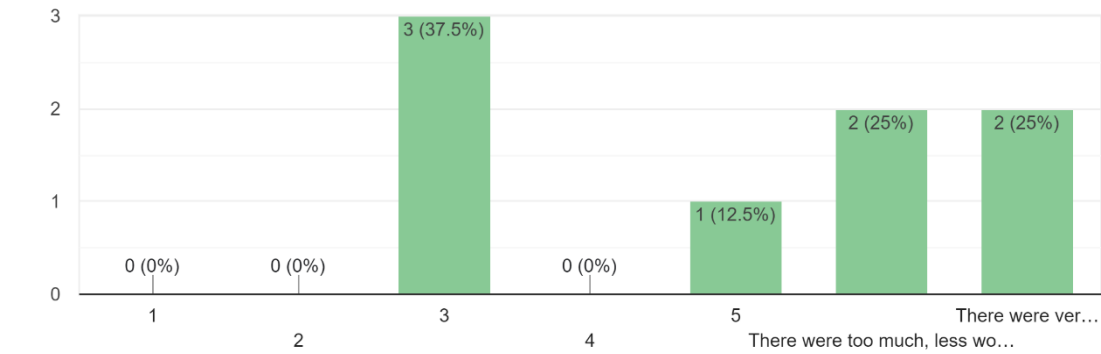
8 responses



Graphic 36

Regarding the amount of questions

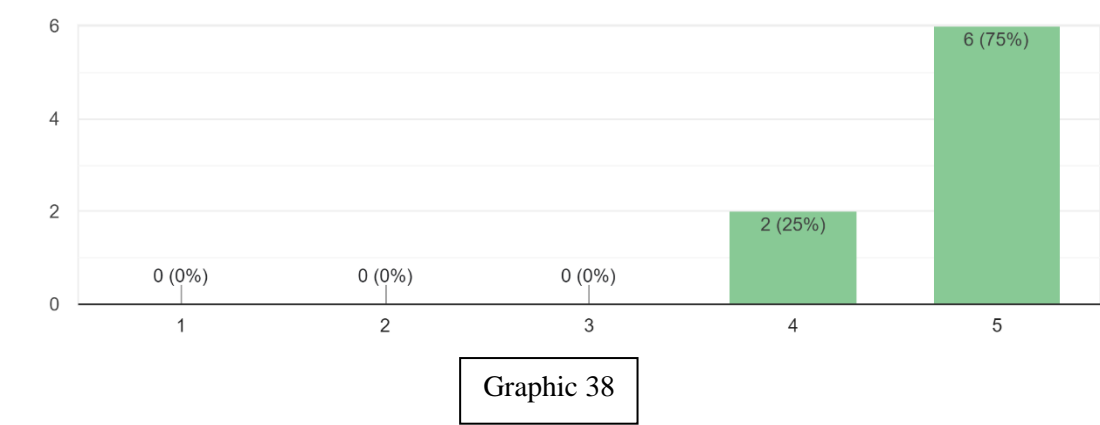
8 responses



Graphic 37

Rate the overall experience

8 responses



Feel free to leave us any feedback, suggestions or comments you may have :)

2 responses

- nice
 - there were times that i couldn't listen to the questions
 - but thanks for the experience, the formulaire is brief and i see that you have been working hard, good job
- Graphic 39