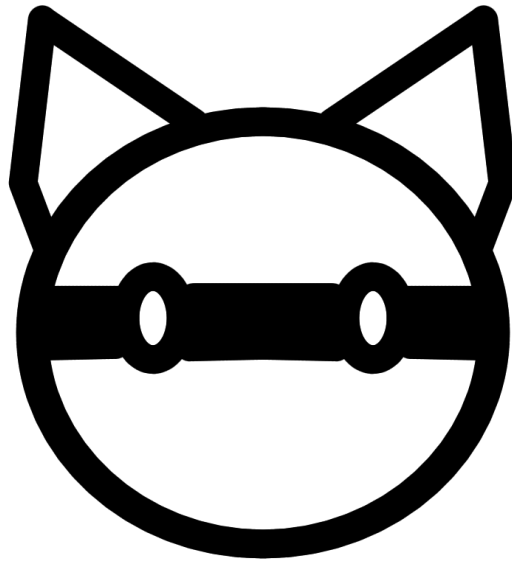


Playtesting

DupliCat



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Brush n' Rush

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Overview & Organization

Playtesting for Virtually Reality Games in general differs a lot from playtesting of “Flatscreen Games” and can be quite a lot more difficult to organise.

The first hurdle is the general unavailability of the required hardware to play. While steadily rising in availability and spread, VR HMDs are still a rare occurrence in the average household, especially so for non-gamers.

Even in our development team, we only have a handful of devices split between different locations and individuals.

As an added factor, the chosen SteamVR middleware locks us into operation using Desktop VR and Steam to test our game, which excludes the currently most popular VR headsets, the Quest/Quest 2 series, from our testing pool.

All in all this required us to set up static testing locations in the real world and physically invite participants to our testing sessions. Overall this resulted in a very low turnout, as both developers with access to the headsets do not live in the city centre.

The testers that we recruited were primarily roommates or close friends that had time to come over. We hope that with more time we might be able to passively recruit more playtesters and gather additional experience.

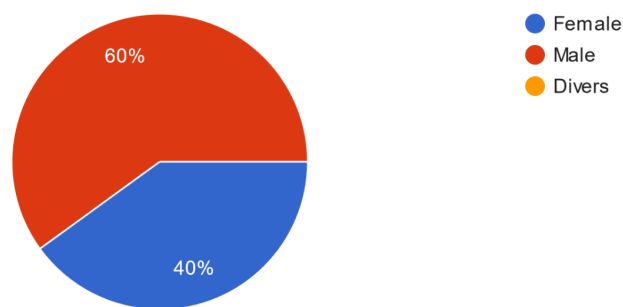
Questionnaire

The questionnaire consists of three different sections. The first section is a pre-game survey that mostly addresses organisational, general and personal questions regarding the testers. The second section features the observations made by us during the playtesting sessions. The third and final section includes the testers' opinions, perceptions and suggestions after testing the game.

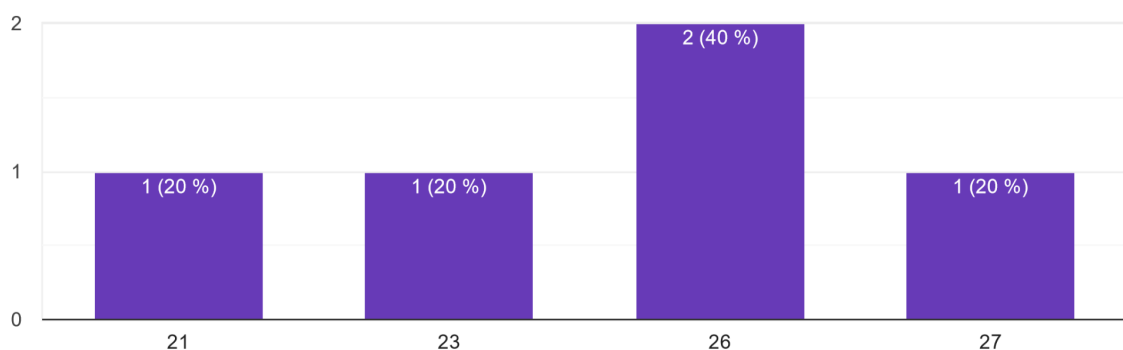
Pre-Game Survey

We gathered testers from our family and friends circle. We intended to gather some demographic information as well as information regarding their habits and experience with video games and virtual reality. Our testers' age range ended up being between 21 and 27 years old with a close but not equal split between male and female testers.

Gender
5 Antworten



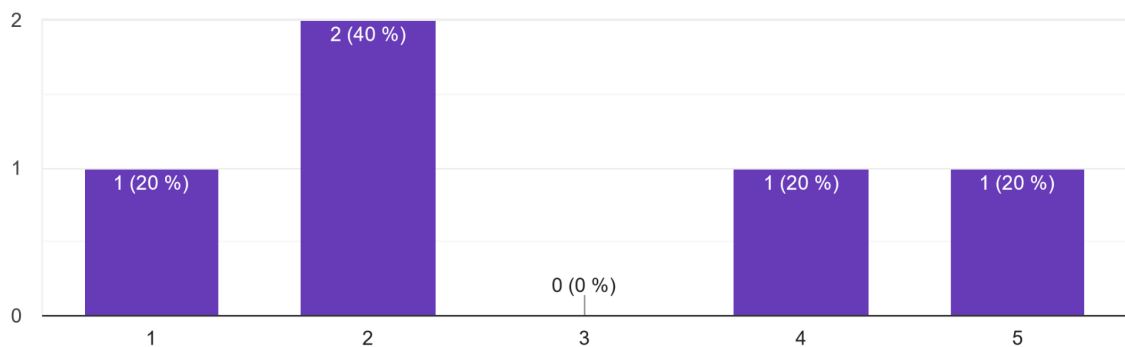
Age
5 Antworten



Our test group included some people that frequently played games as well as some that played games more infrequently. Three of our testers had no direct experience with virtual reality before, while our other two testers already had a VR headset on. Most of our testers were somewhat familiar with VR technology in general. This was especially helpful for gathering data, as we were able to get both experienced and inexperienced impressions for our game.

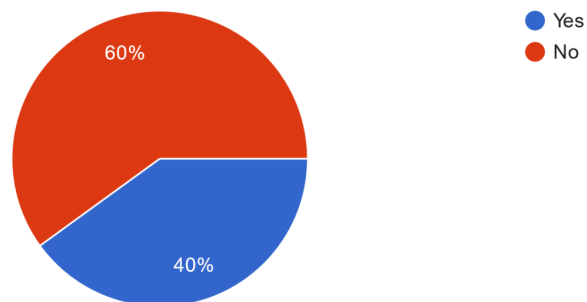
How often do you play videogames?

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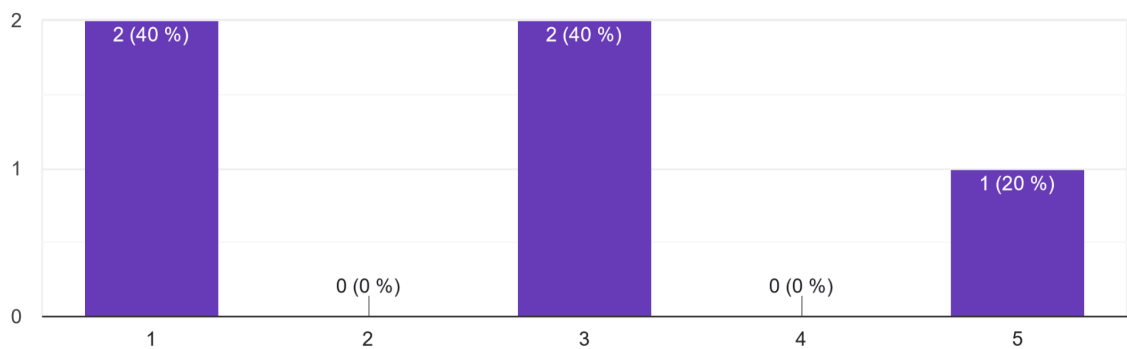
Have you played a Virtual Reality game before?

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How familiar are you with virtual reality technology?

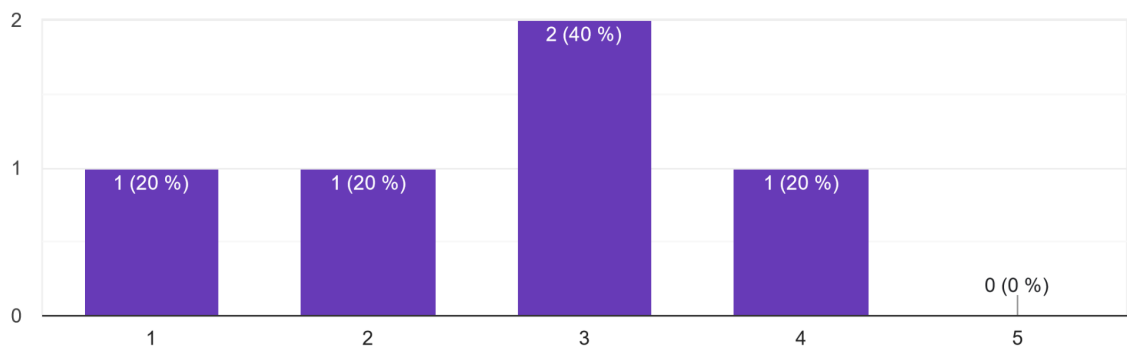
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These findings also correspond to their self assessment. There, only two thought they could easily use the motion-track controllers. More than half of our testers were already familiar with painting, and our testers were at least vaguely confident that they could copy an image in VR. They were also surprisingly eager to break into an art museum.

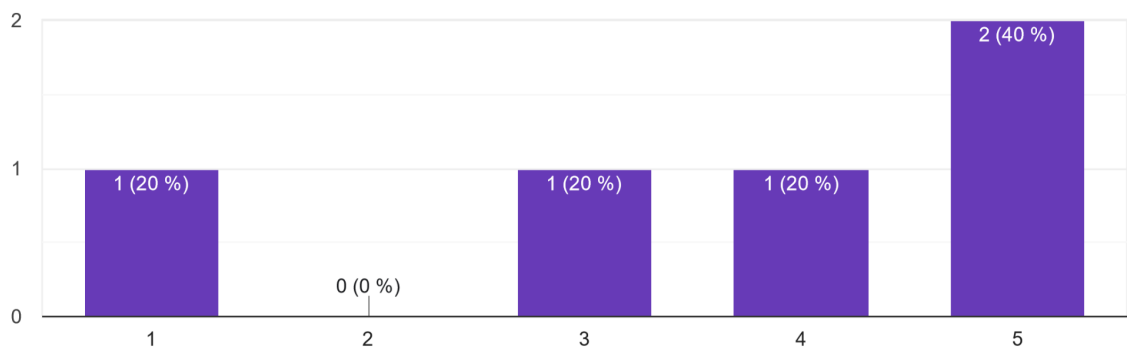
How familiar are you with painting?

5 Antworten



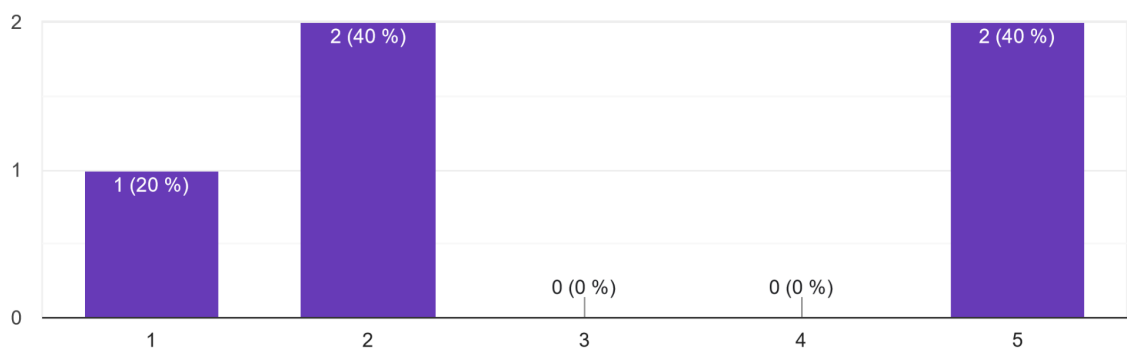
How comfortable are you with the idea of breaking into an art museum?

5 Antworten



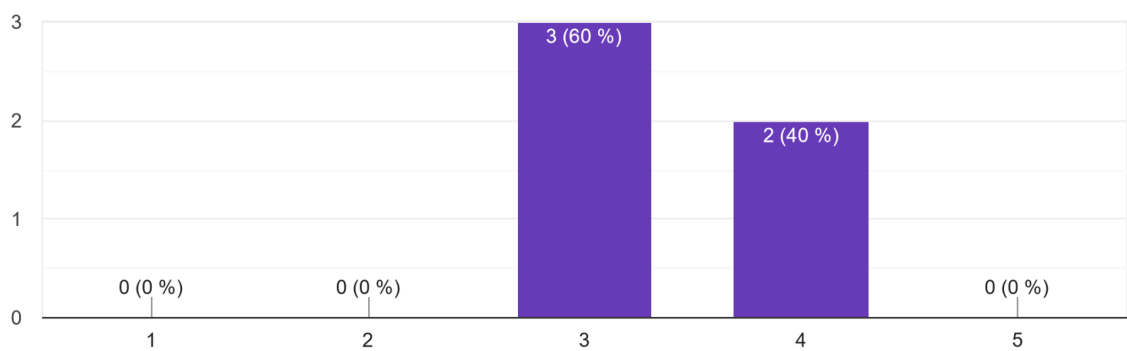
How comfortable are you with using motion-tracked controllers?

5 Antworten



How confident do you feel in your ability to copy a painting in a virtual environment?

5 Antworten

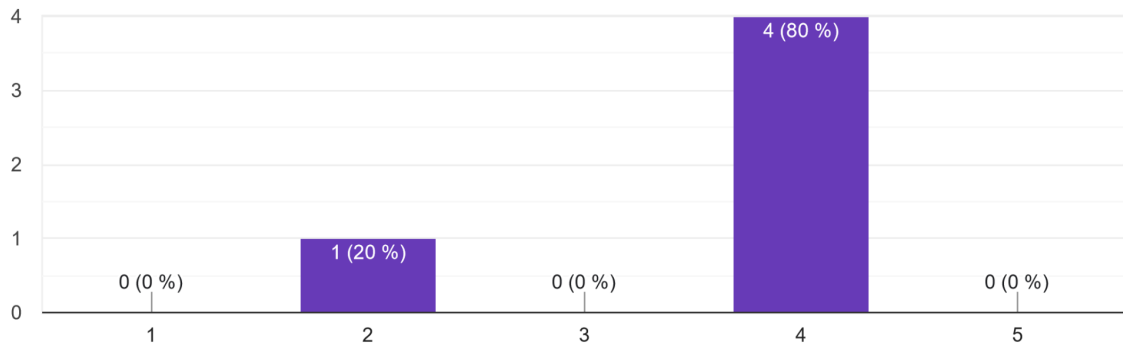


During-Game Observations

During the game, a large part of our testers often had to look at the original image. This is exactly what we want to achieve, because we want to offer the player a challenge and also the possibility to improve. However, one tester hardly ever looked at the other picture, they were confident enough to draw from their memory.

How often did the tester look at the original painting while copying?

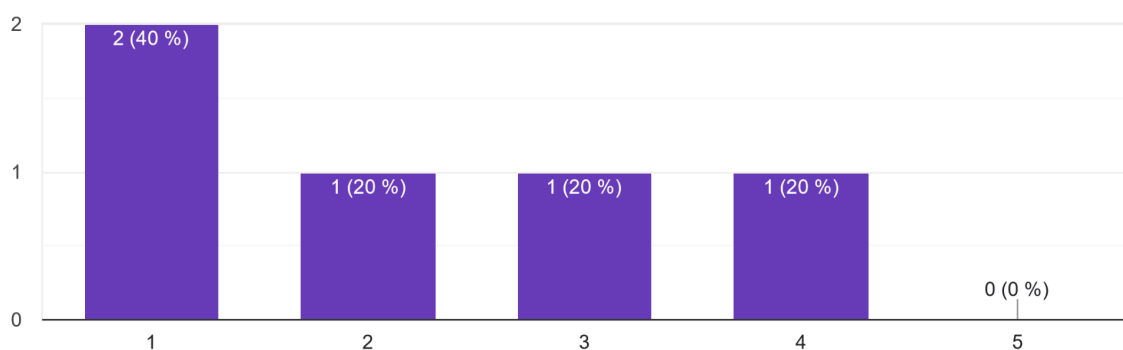
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Some of our testers had to readjust their position a few times to continue painting on the canvas. This is not a big problem for us, but it is something we can work on. This is also partially influenced by personal preference based on the type of movement used to navigate the virtual environment given the different levels of precision provided by either type.

How often did the tester adjust his avatars position in the virtual space.

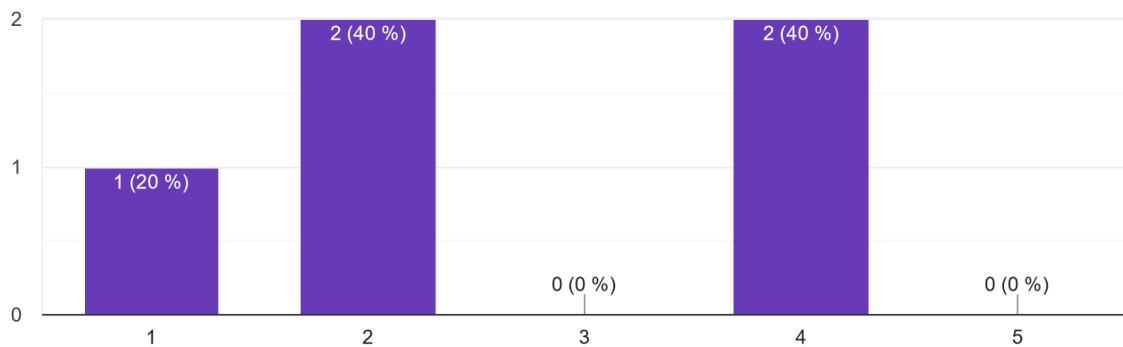
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Our testers perceived the guard quite differently. For some it interrupted a little too often while others barely had a problem with the guard. That's a problem at the moment as we would have liked to see a large proportion in the middle here. However, it is already good that our results are not dominated by one side of the spectrum. So it might be worthwhile to think about a difficulty level or ways to further integrate the guards into the gameplay loop.

How often was the tester distracted by the guards and other gameplay modifiers?

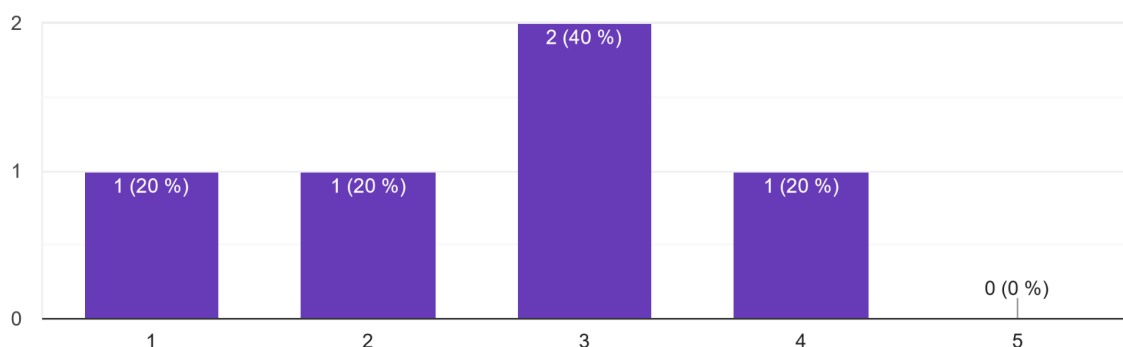
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Three of our testers had problems with the controls. Since we already had the same numbers during the adjustment in the virtual room, it would be worth considering limiting the walkable room and giving the players an option where they can no longer move around in the room. This would solve the problem of adjustment and make the control simpler.

Did the tester seem to have any problems with the motion-tracked controllers or virtual pen?

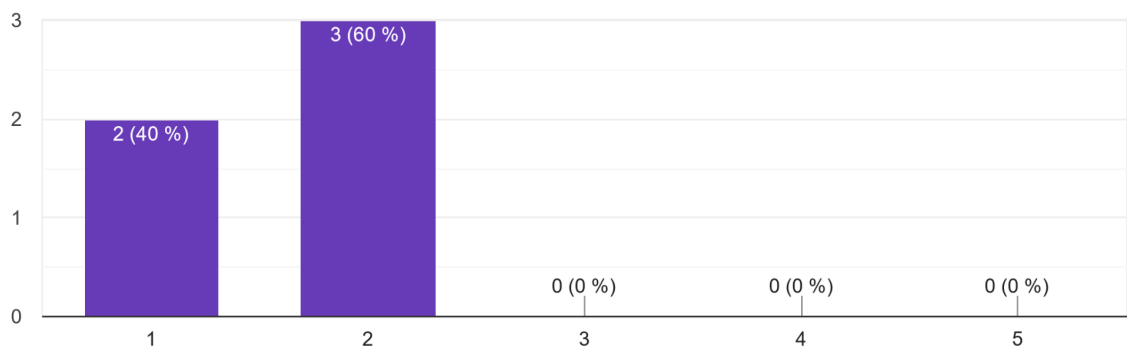
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The drawing mechanic was hardly a problem for our testers. So we are on the right track regarding this mechanic, we did receive some suggestions regarding the markers further down the line. The canvas itself also caused barely any issues to our testers.

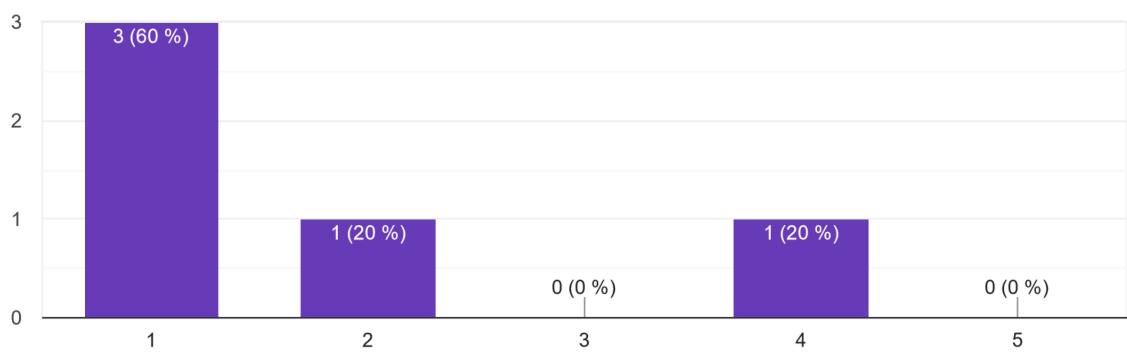
Did the tester seem to have any issues with the virtual canvas?

5 Antworten



Did the tester seem to have any issues with the general non-direct-gameplay UI.

5 Antworten



Our testers spent between 5 to 20 minutes in the virtual environment. Two testers spent about 10 minutes and one 7 minutes playing. Outliers being 5 minutes and 20 minutes.

How much time did the tester spend in the virtual environment?

5 Antworten

7

10

5

10 min

20 minutes

The main problem in our game was motion sickness and VR controls. We would also benefit here from the possibility of giving the player a static position in front of the canvas.

Apart from that, it was suggested to us that we should make the colours of the pencils more recognizable.

Did the tester seem to struggle with any specific aspect of the game?

5 Antworten

General VR Interaction

Motion Sickness, Dropping Pens

No

getting used to VR

Identifying the markers corresponding to the color, scoring was unclear

In addition, we had one case where a pen flew away due to faulty game physics. This is already partially addressed by the markers returning to their original position after being dropped.

Did the tester seem to have any technical difficulties?

5 Antworten

No

Physics bugged out once and launched one pen away.

no

Test moved around a lot so the tracking occasionally caused issues.

Because some people found the game was too dark or not dark enough we thought that we could give the flashlight a wider or narrower light cone matching the difficulty level.

Did the tester make any suggestions for improving the game during the playtesting session?

5 Antworten

No

More light.

<no

undo function for drawing

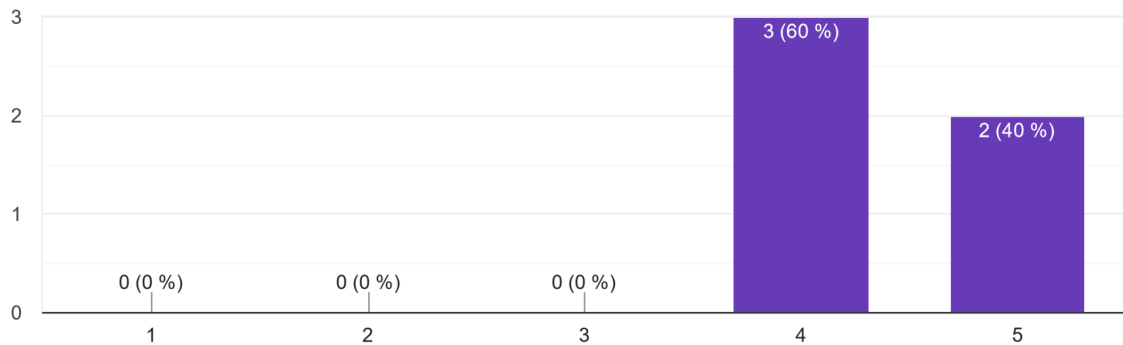
Suggested to make the flashlight more relevant as there was no fear of the guard spotting them.

Post-Game Survey

Our game was received generally positive with all participants rating the game at least 4 on a scale of 5 concerning how enjoyable it was.

How enjoyable did you find the game?

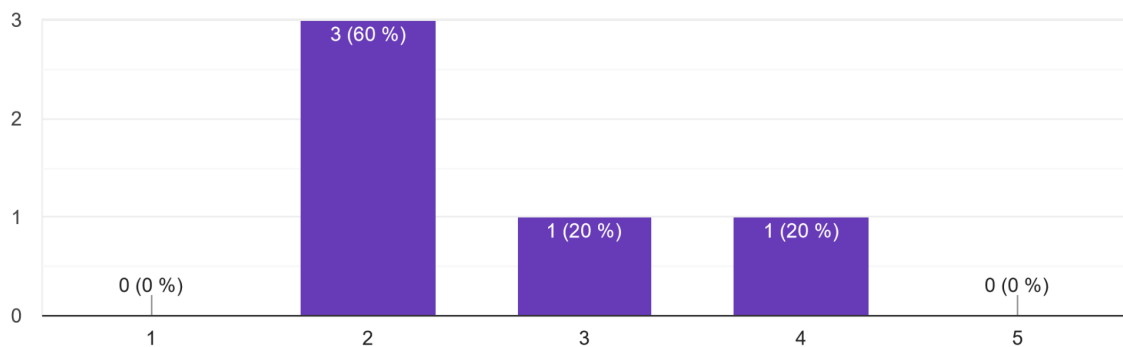
5 Antworten



The subjective rating of the similarity between the tester's painting and the original tended to settle around the middle, leaning towards the lower end. This is roughly where we want it to be concerning difficulty but it should favourably pivot more towards the middle or higher end of the range to keep players engaged.

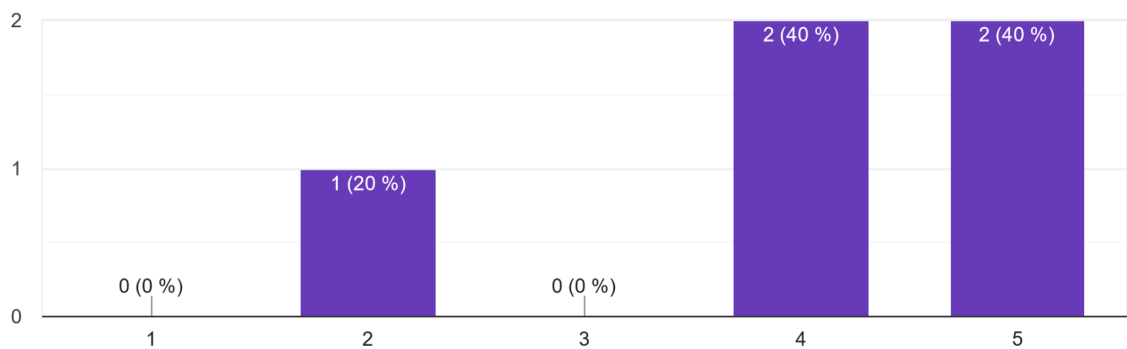
How similar did you feel your final painting was to the original, entirely subjectively.

5 Antworten



How fair did you feel the scoring system was?

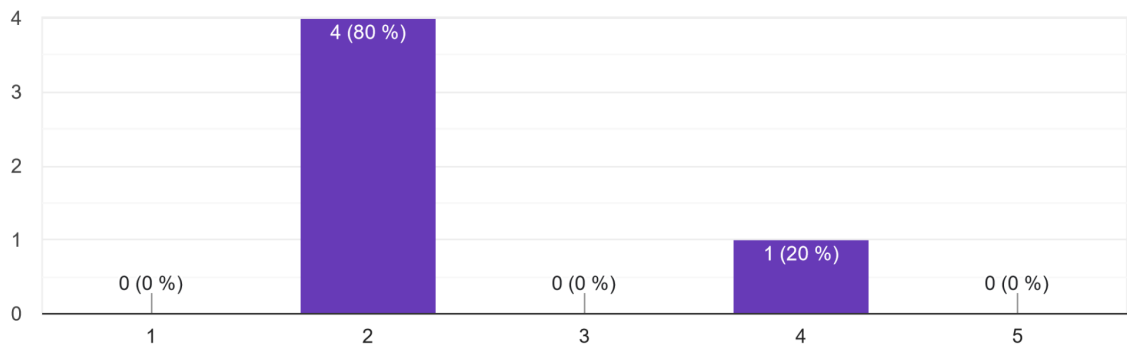
5 Antworten



Our scoring was received mostly positively but there was some uncertainty about what the number actually represented. Besides that the majority of our testers did not find the copying process to be all too challenging.

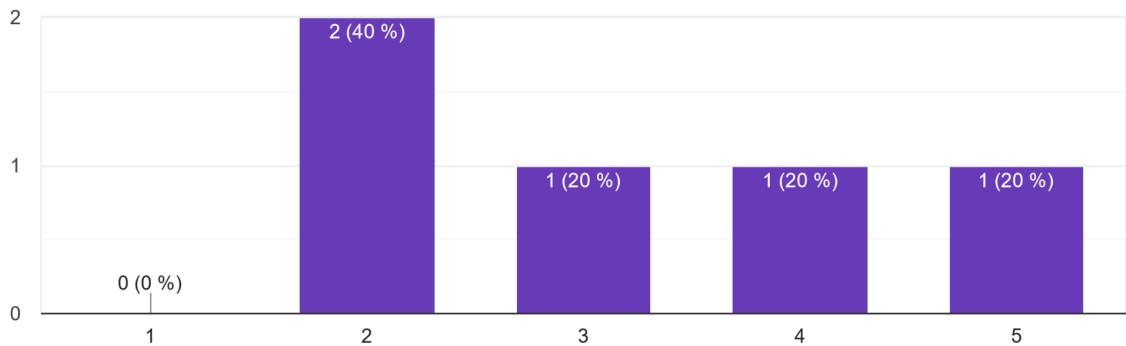
How challenging did you find the task of copying the painting?

5 Antworten



How realistic did you feel the virtual environment was?

5 Antworten

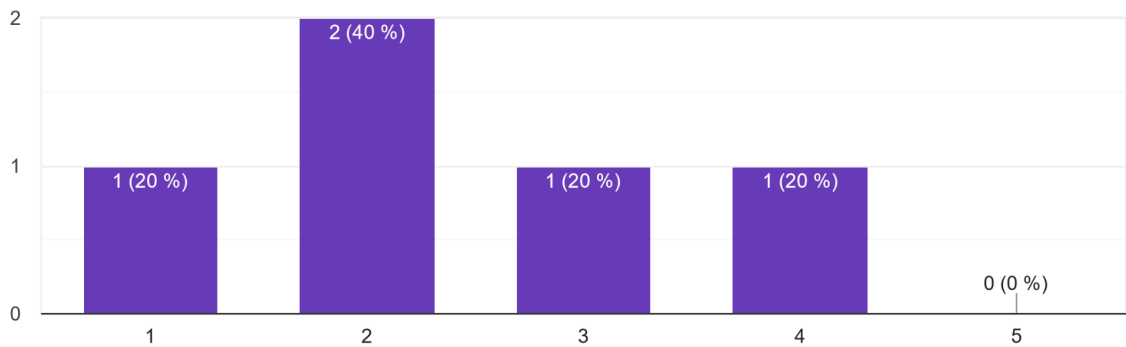


The impression our virtual environment left on our testers concerning how realistic it felt to them is mostly all across the board.

This could partially be caused by the majority of players not feeling like the guards were too difficult to deal with. The guards and other gameplay modifiers might have not had a big enough of an impact on the testers.

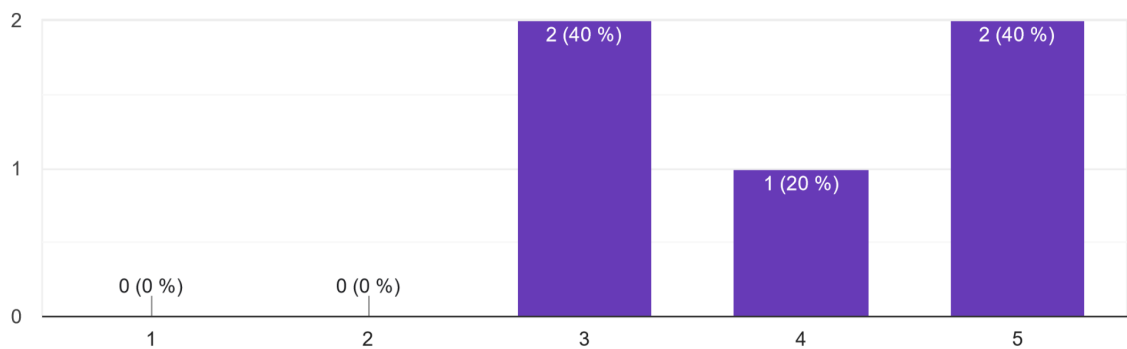
How difficult did you find the guards and other gameplay modifiers?

5 Antworten



How well did the motion-tracked controllers work for you?

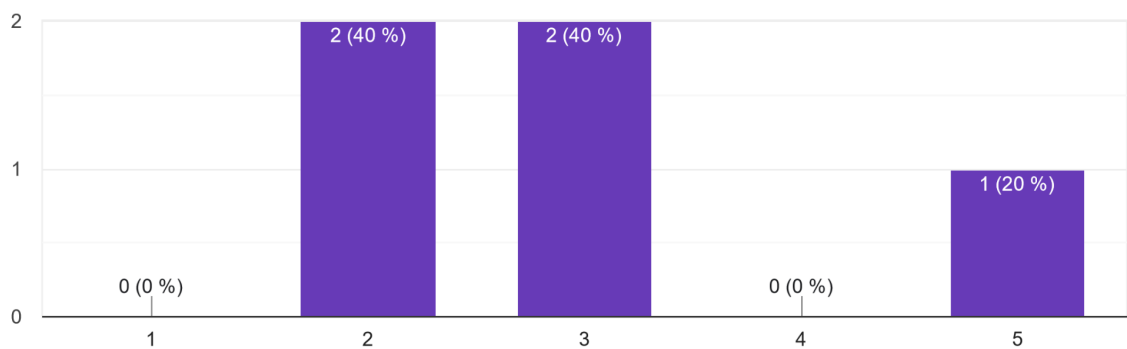
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Testers stated that the motion-tracked controllers worked mostly fine for them but the virtual pens caused some issues. The canvas itself was once again fine though. This mostly overlaps with our observations during the session.

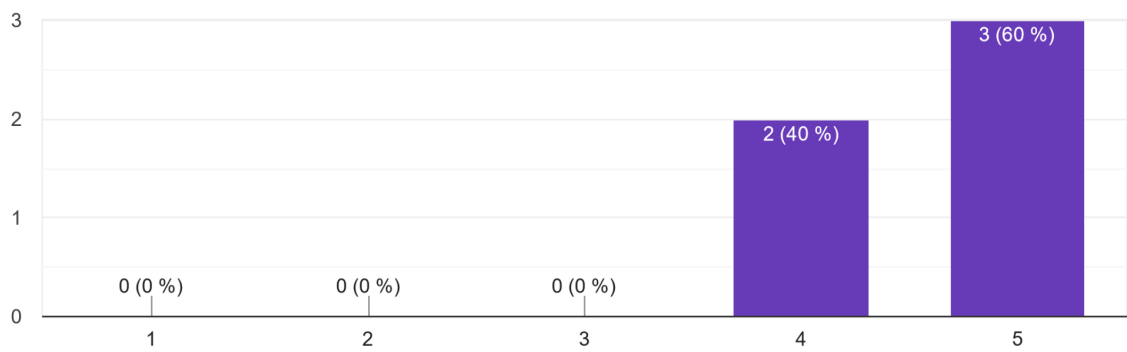
How well did the virtual pen work for you?

5 Antworten



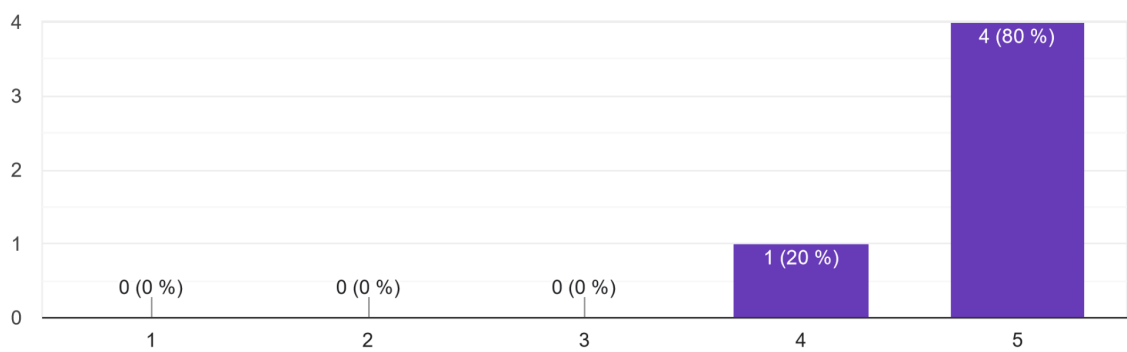
How well did the virtual canvas work for you?

5 Antworten



How likely are you to recommend this game to a friend?

5 Antworten



Our game was overall positively received by our testers and they were inclined to recommend it to their friends. They left us with additional suggestions concerning the flashlight, colours, atmosphere and an undo mechanic.

Are there any specific suggestions you have for improving the game?

5 Antworten

No

Mehr farben für die Stifte wären schön.

more meow

Please add an undo button!

Give a proper reason to actually use the flashlight.

Design Revisions & Planned Changes

The results of the playtesting sessions revealed a couple of things that we are in the process of addressing before the final release.

- The current lighting in our level might still be too bright for the flashlight to matter, at the same time there were requests for more lights.
- The markers all look the same, it was impossible to know what colour you were about to use. There was also a request to add more colours in general.
- The guard was generally not seen as too difficult to deal with, we are taking this into account regarding any adjustments to the flashlight.
- We have also received the suggestion to add a way to undo what you have drawn or a way to redo the painting. The current system is a bit punishing especially combined with the markers having no indicator for their colours.
- The score was seen as fair but it was also unclear what the score represented as there was no direct reference.
- The tutorial was a helpful addition but the comparison of the painting wasn't sufficiently addressed or explained.
- Some of our testers also had issues with motion sickness.

Some of these issues are already being taken care of as part of our original development process but were not entirely finished at this point in development. The guard interactions should be dealt with through the addition of audio cues and adjustments to the lighting in the level. The game's audio is already being actively worked on as part of our development schedule. The lighting in general needs to be worked on both regarding the flashlight as well as the general environmental lighting. The latter will most likely be addressed through post-processing options.

The issues concerning the painting comparison, scoring and tutorial can be solved in combination with one another by adding a couple more instructions and explanations on top of the current ones.

One way to manage the motion sickness mentioned by our players could be to properly explain and show the two different movement options in the case of one being easier to handle for inexperienced testers.

The major design revision resulting from the playtesting is definitely a redo/undo method to make the drawing itself less punishing. This combined with adding visible colours to the markers itself should create a smoother painting process.

The playtesting phase has also opened a couple of suggestions or possible ways on how to proceed with the game past its final intended state for this project, even going further than the extras we had originally set during the game idea proposal. These additions are most likely outside the project's scope for us before the final release during the next milestone phase. Adding more ways to interact with the guards is one of the primary options to add to the game, this could either include more triggers for the guard to investigate the player or the possibility of the player being able to distract the guard. Additional game modes could also improve the replayability of the game which is currently only provided through different paintings.