

Test Report Magic Leap prototype 2

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Introduction

In total, the test was conducted on 5 users. These users were different than the ones who tested the prototype 1.

First, all answers and notes will be written down, after that a conclusion will be made with recommendations.

Outcome tests

Questionnaire 1

All users were first time Magic Leap users. They have, however, worn a VR device before.

User test – Recreate the scene

Test person 1:

- Selecting the “room” button was pretty straightforward.
- Assumed to use the controller to select “new room” instead of using hands
- Popped the bubbles with his finger
- Hard to understand how to move objects in depth
- When told to grab, user instantly used hand instead of controller
- Anchoring objects before manipulation is hard
- The urge to grab objects with hands is always present
- After learning the controls, user gets exponentially faster at object manipulation
- Rotating y-axis is hard

Test person 2:

- Liked arm mounted menu, really cool
- Finger box is distracting
- Tried to select “new room” with controller
- Tried to grab objects with hand
- After controls are explained, user manipulates objects pretty fast
- User feels that it works pretty well
- Anchoring objects is hard, when rotation is needed
- Not entirely clear how objects are spawned
- Worked around the object anchoring by knowing the object was left of him
- Selecting overlapping objects is hard

Test person 3:

- Liked arm mounted menu
- Difficult to know when to use hand or controller
- Anchor things is hard to learn
- After learning the controls things got faster and more intuitive
- Not enough feedback for the user to know what is happening
- Sometimes used the controller with 2 hands

Test person 4:

- Good reaction on using left hand to press the menu
- Easily got through the menus
- The urge to touch objects with left hand was present
- Not clear when to use controller and when to use hands
- Double pressed the arm menu buttons
- Learned the controls pretty easy
- Gets tired of using arm mounted menu for little things

Test person 5:

- Not clear when to use controller or hands
- Not clear when things spawn
- After figuring out the controls, things go smoothly
- Not enough feedback on objects selected and deselected
- Sometimes used the controller with 2 hands
- Not clear how to move objects in depth with the controller, usually moved the arm to do that
- Person managed to do the task while talking about other things (multitasking)

Questionnaire 2 – General thoughts

What were you feeling when you first started up?

- Small field of view compared to VR
- Confusion with laser or hands
- Getting used to how it works, it became easier after.
- Getting used quite easily
- Felt like normal

Was it clear how to get through the menus to create a new scene?

- Reasonably
- Did not know when to use what
- It is easy when you get the hang of it
- Quite intuitive after you get the hang of it
- Would be easier to just skip the pedestal

What is your vision on the arm mounted menu?

- Too many times to switch between objects, use it as a menu
- Very cool
- Nice, could be a bit more subtle
- Really nice, selection is sometimes a bit awkward
- Good idea

Was it easy to recreate the scene?

- Yes, after learning the controls
- Selection was hard for small objects next to big objects.
- When you get the hang of it
- Yes
- Yes, within five minutes controls were easy.

Conclusion

The arm mounted menu was generally positively received. For some users it had to be used a bit too many times, but it was not annoying. The users had the feeling they were augmented when seeing the menu pop up when turning their arm.

To get to the creation scene was hard because there was no indication on when to use what kind of interaction (controller or hands). The user also had to go through too many menus to get where they wanted to be. Also the menu on the table was in the way of the object placement.

The object manipulation was a great improvement when looking at the prototype before. After people were learned the controls, it became quite easy to recreate a scene.

Recommendations

Put most functions into one, easy to reach, menu instead of multiple menus.

Disable the hitbox visualizer, it distracts the user

There must be a clear definition on when to use what means of controls. Do not use them next to each other

The user needs more visual feedback when interacting (let laser become green when objects is grabbed etc.)