VOLT :::::Desktop:volt.jpg experimenter instructions

When the participant arrives …

1. Have the participant sign the sign-in sheet.
2. Participant should fill out the consent and demographic forms.
3. Participant should fill out the video game questionnaire.

After filling out forms …

Experiment setup and training practice

1. Read over page 1 of the instructions with the participant.
2. Major points
   1. They will be completing a memory experiment in which they will be learning the locations of objects within virtual environments on the computer screen.
   2. First, they will be free roaming in one environment (the volcano world) to get comfortable with the controls and how their movement is visualized within the environment.
   3. They will then be doing a practice of the learning and testing portions of the navigation task.
3. In MATLAB, type the following commands and press enter after each.
   1. Navigate to the experiment directory

>> cd ~/Experiments/volt

* 1. Create the subject header (input subject #, initials, and gender)

>> volt\_header

Experiment

Part 1 - Free roam

1. In a terminal, navigate to the free\_roam directory within the volt folder.

>> cd ~/Experiments/volt/free\_roam

1. Complete free roam
   1. In a terminal, run the free roam bash script.

>> . free\_roam.bash

* 1. A GUI will pop up for the experimental build. You will be using this from now on to run all portions of the navigation task. For all portions of the navigation task, 1 is left, 2 is straight, and 3 is right. Participants can hold two keys at once for smoother movement. Usually the best method is to hold 2 (straight) and tap 1 and 3 (left and right) as you move – you should mention this to the participant.
     1. Make sure the screen resolution is set to 1024x768 and the graphics quality is set to “Good”.
     2. Hit “Play!” (The experiment will automatically run after a Unity intro.)

IMPORTANT: They need to be comfortable with moving through the environment. It needs to be second nature to them. They shouldn’t be focusing on their movement or the controls; they need to be learning the object locations. It’s guaranteed they will try to cut this portion short (“OK, got it!). You should test them by having them move to the four corners of the environment (“how about you move to the corner to the left of the ship.”). Let them experience the boundaries within the environment, so they know they can’t just go anywhere. For some people this may seem like overkill, but this will save you time as we progress. It’s for your benefit as well as to improve their performance.

* + 1. To exit free roam, hit Command+Q.
    2. In the terminal, press <ENTER>.

Part 2 – Practice study

1. Read over page 2 of the instructions with the participant.
2. In the terminal, move up to the volt folder.

>> cd ..

1. In MATLAB (the volt folder), make the configuration file for the practice study. This will make a prac\_study.txt file in your folder, which can then be read by the navigation GUI.

>> volt\_config(header, 1)

1. In the terminal, load the volt bash script.

>> . volt.bash

1. Hit “Play!” to run the practice study phase.
2. After completion (all parts of the navigation task from here on out end on their own), hit <ENTER> in the terminal.

Part 3 – Practice test

1. In MATLAB, make the configuration file for the practice test.

>> volt\_config(header, 2)

1. In the terminal, load the volt bash script.

>> . volt.bash

1. Hit “Play!” to run the practice study test.
2. After completion, hit <ENTER> in the terminal.

Part 4 – Practice detection task

1. Read over page 3 of the instructions with the participant.
2. In MATLAB, load the practice detection task.

>> volt\_practice\_disp(header)

- Once the intro loads, hit “5” to begin.

Part 5 – Detection task part 1

1. In MATLAB, load the first detection task. They will be completing four runs of this task. Below, the “1” represents run #; you’ll have to input 1-4 as they move through the runs.

>> volt\_disp1(header, 1)

- Once the intro loads, hit “7” to move to the fixation cross then hit “5” to begin.

- Hit up and replace (header,1) with (header,2), etc.

Part 6 – Learning

1. Read over page 4 of the instructions with the participant.
2. In MATLAB, make the configuration file for the learning phase.

>> volt\_config(header, 3)

1. In the terminal, load the volt bash script.

>> . volt.bash

1. Hit “Play!” to run the learning phase.

NOTE: The participant can pause and restart the learning phase by hitting the “Esc” key.

1. After completion, hit <ENTER> in the terminal.

Part 7 – Learning test

1. In MATLAB, make the configuration file for the learning phase.

>> volt\_config(header, 4)

1. In the terminal, load the volt bash script.

>> . volt.bash

1. Hit “Play!” to run the learning phase.
2. After completion, hit <ENTER> in the terminal.

Part 8 – Test

1. Read over page 5 of the instructions with the participant.
2. In MATLAB, make the configuration file for the learning phase.

>> volt\_config(header, 5)

1. In the terminal, load the volt bash script.

>> . volt.bash

1. Hit “Play!” to run the learning phase.
2. After completion, hit <ENTER> in the terminal.

Part 9 – Detection task part 2

You can let them know this is the last part of the study.

1. Read over page 6 of the instructions with the participant.
2. In MATLAB, load the second detection task. They will be completing four runs of this task. Below, the “1” represents run #; you’ll have to input 1-4 as they move through the runs.

>> volt\_disp2(header, 1)

- Once the intro loads, hit “7” to begin.

- Hit up and replace (header,1) with (header,2), etc.

Part 10 – Post experiment

1. Have them fill out a questionnaire?
2. The participant should fill out the Payment Form (payment binder)
   1. Name and signature
   2. Experiment name – Volt
   3. How much they were paid
3. Pay $20 (15 min = $2.5)
4. Thank them for their participation!