

## Introduction

1. The system simulates a murder mystery game and the clues for the murder mystery are displayed on virtual post-it notes. You can move and organize the post-it notes however you want using the interactions provided.

## Tutorial

1. We will begin with a tutorial to get you accustomed to the interactions in our system
2. You should see 4 post-it notes and a large whiteboard.
3. You should also see a smaller post-it note with only a heading
  - a. This mimics a folded post-it note.
  - b. If you see a folded post-it note and think it might contain an important clue, you can unfold it by “poking” it with your index finger. Try it
  - c. The post-it note will revert back to a folded state for the purposes of this tutorial.
4. As a first step, let’s try moving around the post-it notes. You can move objects by either reaching out and grabbing them or by pointing at them and using a “pinch” gesture (**\*Demonstrate this\***). You can then move the objects to the desired locations.
  - a. Let’s move two post-it notes to any wall close to you using the grab method and the remaining two with the pinch method.
  - b. Also move the last “folded” note to the same wall using any method you want.
5. Next , let’s move the whiteboard to the same wall next to the post-it notes with any method.
6. You can also “stick” post-it notes to the whiteboard by moving them to the surface of the whiteboard.
  - a. Move all the post-it notes to the white board now
7. Once a note is stuck to a whiteboard, you can move the whiteboard along with all notes attached to it. To do this you have to grab or point at an area of the whiteboard that does not have any notes attached to it and move it as you have done previously
  - a. Move the whiteboard (along with all attached notes) to a different wall.
8. You can also detach post-it notes by grabbing or pointing at them and moving them away from the whiteboard.
  - a. This requires a little precision and it is easier using the point and pinch method.
9. You can create extra whiteboards by using speech commands:

- a. Please face a wall and stand a little further away from it when creating boards
  - b. Also, please make sure that you are facing the wall while looking straight (and not up or down - **\*demonstrate this\***).
  - c. Create Board - will create a new whiteboard with yellow edges
    - i. The blue and yellow whiteboards are used to organize notes that you think will help solve the mystery. The only difference between the two is that you can Destroy the yellow board but you cannot destroy the blue board
    - ii. Say "Destroy" while looking at a board to destroy it. This will not destroy any post-it notes attached to it
  - d. Garbage Board - will create a new whiteboard with red edges
    - i. Use the garbage board to organize all post-it notes that you think will not help in solving the mystery.
    - ii. This board can also be destroyed.
10. You are now free to interact with the objects as much as you want. Please get comfortable with all the interactions before we begin the experiment.

## **MAIN SCENE**

- 1. You should see three boards in front of you to get you started
  - a. Please move them further back or to the wall behind them
  - b. Do not push them behind the wall.
- 2. IF RL\_CLUSTER CONDITION
  - a. Our system will try to assist you by suggesting notes it thinks are related to what you have been doing.
  - b. It uses what you have been **looking at** and **what you have been placing on different boards** to assist you.
  - c. It will try to help you in two ways
    - i. **First:** it will outline notes with a green border if it thinks the note is relevant based on what you have attached to the blue and yellow boards and also what you have been looking at.
      - 1. SHOW RL VIDEO
    - ii. **Second:** It will colour the post-it notes based on their relation to notes attached to different boards (including the Red Board)

## 1. SHOW CLUSTER VIDEO

- a. *(Only mention these examples if required)*
- b. For example: let's say you have three boards and attach 2 notes about cats on the 1st board, 1 note about dogs on the 2nd board and 3 notes about elephants on the third board. The system will change the colour of the Notes (not the boards) in each board to a different colour.
- c. For example, notes in board 1 will be, say purple, notes in board 2 will be say blue and notes in board 3 will be, say pink.
- d. The system will then find all notes that are not attached and colour them based on how related they are to topics in each board. So, all notes related to cats will be related to board 1 and hence will be coloured purple.

## 2. THIS IS TO HELP YOU FIND RELATED NOTES QUICKLY.

- iii. In the experiment, the system will do both of these simultaneously.
- iv. It will try it's best but may not always be correct.

## 3. TASK

- a. Your task is to solve the questions of the mystery given on the physical whiteboard (**Point at the board**). When you find ALL the answers please press the red button here to call me in the control room and give me all the answers. The questions are:
  - i. Who was the murderer?
  - ii. The weapon?
  - iii. The time of murder?
  - iv. The place of murder?
  - v. The motive?
- b. You want to solve these mysteries as fast as you can.
- c. You will get an extra AU\$ 5 is you get all the answers correct.
- d. Please do not remove the HoloLens until I confirm that your data has been saved.

#### 4. EXPERIMENT

- a. Once we start the experiment, a number of post-it notes will appear in front of you. You have to organize and make sense of this notes
- b. You can also write down your thoughts if you wish on this whiteboard (point at whiteboard and provide marker).
- c. Please use as many whiteboards and possible
  - i. Remember: blue and yellow are for useful notes
  - ii. And red is for useless notes.
- d. The more notes you organize on the whiteboards, the more our system will be able to help
- e. If everything makes sense, we can start the experiment. Please look at this wall and stand a little further back.
  - i. Say "Start" to start the experience. We start timing you as soon as you say start.
  - ii. Please solve the mystery and have fun.

### **Notes from PILOT**

1. Put X on the floor to show where participants should stand.
2. Write commands and questions on a physical whiteboard.
3. Explain how the system helps
4. Create Boards only when facing an empty section of a wall
5. Reduce distance to wall when instantiating post-its in the GazeHandler
6. Remove ID from post it header as participants try to order them
7. Read or watch crime documentaries
8. Maybe let people write their own thoughts on the physical whiteboard
9. Tell participants to keep head perpendicular to wall when creating boards
10. Fix lingering boards created during the tutorial
11. Record all states sent from the HoloLens