

NESLEearable Data Collection User Form:

Subject ID: _____ (1 to 20)

Height of ears from top of table (to be measured by data collector): _____ inches

Look around the room, can you see the blue and the green sticky notes with the numbers on them and arrows going from one note to the other? (YES/NO)

Part 1: In this session, you will be asked to move your head towards a particular target (blue) with your eyes initially fixed towards the origin. The origin is the green colored sticky note. You will move your head from the origin to a particular target at any speed you like.

- Wear the cap. Inform the collector to start data collection.
- Nod your head horizontally in “No” motion three times and vertically in “Yes” motion three times (this is to sync the OptiTrack motion capture system with the e-sense earable system). Collector will show how to do it efficiently. Say the word “Starting one” when you start nodding your head.
- Start with your eyes fixed at the origin for 2 seconds. (step 1)
- Move your head towards a target. (step 2)
- Keep your head fixed at the target for 2 seconds. (step 3)
- Move your head back to origin. (step 4)
- Repeat the above steps (steps 1 to 4) for the following transitions (origin – target – origin). If you can’t see a number, make sure your point it out to the data collector before starting the experiment.

Targets (use arrows to guide yourself from one point to the next):

4
1
14
25
23
22
9
21
5
6
27
16
21

Once you’re done (make sure your head is fixed towards origin, inform the data collector without moving your head). Don’t remove cap or earables. Collector will stop data collection.

Part 2: In this session, you will be asked to move your head towards multiple particular targets (blue) with your eyes initially fixed towards the origin. The origin is the green colored sticky note. You will move your head from the origin to a particular target at any speed you like. Say the word “Starting two” when you start nodding your head.

- Nod your head horizontally in “No” motion three times and vertically in “Yes” motion three times (this is to sync the OptiTrack system with the e-sense system).
- Start with your eyes fixed at the origin for 2 seconds. (step 1)
- Move your head towards a target X. (step 2)
- Keep your head fixed at the target for 2 seconds. (step 3)
- Move your head towards another target Y. (step 4)
- Keep your eyes fixed at the target for 2 seconds. (step 5)
- Move your head back to origin directly. (step 6)
- Repeat the above steps (steps 1 to 6) for the following transitions (origin – target – target - origin). If you can’t see a number, make sure your point it out to the data collector before starting the experiment.

Target X and Y:

7	3
1	6
2	5
3	4
9	8
10	18
18	13
14	11
22	17
19	12
21	25
15	27
27	10
27	19
10	19
16	17
20	21
6	4
14	22
25	27
11	18

Once you’re done (make sure your head is fixed towards origin, inform data collector without moving your head). Don’t remove cap or earables. Collector will stop data collection.

Part 3: In this part, we are going to collect some human activity data. We will use the motion capture system to collect ground truth. The activities shall be:

- Walking
- Jogging
- Jumping
- Sitting
- Laying Down
- Standing
- Turning Left
- Turning Right

Make sure the earables are inside your ears and you are wearing the cap.

Walking:

Walk randomly in the corridor at roughly uniform pace for 30 seconds. You are allowed to turn if path ends but don't stop. Collector will time the readings. When you're done, wait for 5 seconds before moving to next activity.

Jogging:

Run/Jog in the in the corridor at roughly uniform pace for 30 seconds. You are allowed to turn if path ends but don't stop. Collector will time the readings. When you're done, wait for 5 seconds before moving to next activity.

Jumping:

Stay at one spot and jump until the collector says 30 seconds are up. Try to jump in various ways. When you're done, wait for 5 seconds before moving to next activity.

Standing:

Remain standing in some spot for 30 seconds. Don't move a lot. When you're done, wait for 5 seconds before moving to next activity.

Turning left:

Stand in a certain position and then turn left. Wait for 1 second. Turn left again. The motion will correspond to something similar to rotation. Do this for 30 seconds total (collector will time). When you're done, wait for 5 seconds before moving to next activity.

Turning right:

Similar to turning left, just turn in opposite direction. When you're done, inform instructor, he will stop data collection.

Sitting:

Sit in the chair presented for 30 seconds. You may move your hands slowly in natural way when you sit. Collector will time the readings. When you're done, wait for 5 seconds before moving to next activity.

Laying Down:

Lay down in sleeping motion on the sofa for 30 seconds. You may lay down flat or on your sides but not both. Don't move after laying down.

Lay flat? (YES/NO)

Lay on side? (YES/NO).... If YES, on which side? (LEFT/RIGHT).

When you're done, wait for 5 seconds before moving to next activity.