

Gesture Instruction

This instruction which describes how to perform in detail.

D1: In this data set, we gather 9,000 pieces of gesture samples from 45 volunteers (200 samples for each). They comprise 21 males and 24 females and the ages range from 19 to 62 years. They use the right index finger to draw a hand-drawn letter S. To collect samples, we verbally explain the gesture “S” to each volunteer and ask them to perform the gesture.

D2: In this data set, we collect 8,400 samples from 12+12 volunteers (all of them are the same as the “potential hosts” in D1 in the classroom environment. 24 volunteers perform for 6 different interruption periods. 4 volunteers for each period: one day (‘V11’, ‘V12’, ‘V13’, ‘V14’, ‘V15’, ‘V16’), two days (‘V1’, ‘V2’, ‘V3’, ‘V4’, ‘V5’, ‘V6’), half a week (‘LWZ-TEST1’, ‘CXY-TEST1’, ‘HKY-TEST1’, ‘YJT-TEST1’, ‘DKL-TEST1’, ‘GHY-TEST1’), and a whole week (‘QQY-TEST1’, ‘LHP-TEST2’, ‘CKN-TEST1’, ‘XYF-TEST1’, ‘PPL-TEST1’, ‘WKP-TEST1’). The gestures gathered in this dataset is the same as the one in D1, i.e., the capital letter “S”.

D3: We divide these 14 kinds of different data into three classes by movement extent:

Slight Movement Categories (1-3), *Larger Movement Categories* (4-10), and *Large Movement Categories* (11-14). Each category contains 60 samples of data. For all movements (including gestures), there is no requirement for the distance, height, speed, and direction of the volunteer’s gestures from the volunteer and the antenna. The volunteer can complete the specified gestures according to his wishes.

Movement Extent	Categor y
Slight	1. Pinching with right hand
	2. Pinching with both hands
	3. Snapping fingers
Larger	4. Hovering with right arm
	5. Slapping with right hand;
	6. Grabbbing with right hand
	7. Hovering with both arms
	8. Slapping with both hands
	9. Grabbing with both hands
	10. Writing letters (without S) with right hand index finger
Large	11. Sliding left and right with right arm
	12. Sliding left and right with both arms
	13. Nodding
	14. Small body movement.

Slight Movement

For Category 1, the volunteer places the right hand above the antenna and gather all fingers together.

For Category 2, the volunteer places the both hands above the antenna and gather all fingers together.

For Category 3, the volunteer places the right hand above the antenna and snap fingers.

Larger Movement

For Category 4, the volunteer hovers the right arm above the antenna to keep a tremor.

For Category 5, the volunteer places the right hand above the antenna and shakes it up and down.

For Category 6, the volunteer places the right hand above the antenna, then opens and closes the palm.

For Category 7, the volunteer hovers the both arms above the antenna to keep a tremor.

For Category 8, the volunteer places the both hands above the antenna and shakes them up and down.

For Category 9, the volunteer places the both hands above the antenna, then opens and closes the palms.

For Category 10, the volunteer uses the right index finger to draw a hand-drawn letter except for the letter S, randomly selects from the remaining 25 letters, and draws them.

Large Movement

For Category 11, the volunteer slides the right forearm above the antenna. For Category 12, the volunteer slides the both forearms above the antenna.

For Category 13, the volunteer's body is close above to the antenna, and then nods.

For category 14, the volunteer's body will move forward and backward from the antenna.