Script Participants (Before Entering the Room)

Hello, welcome to Playful Robots. Are you X?

-

Great. I will explain a bit now how the installation will take place. You will be interacting with one robot for a total of 30 minutes. This installation is about movement games, and about the decisions that we take during these games.

-

There's a possibility of also being part of a university research study. This is totally voluntary. The study is about how people make decisions during the movement games, and for that we would like to record the interaction. Only the researchers will have access to the recordings, and they will only analyse the decisions that you make. We will also ask you to fill in two short questionnaires.

-

Do you agree to this?

-

Here is a consent form. In order to participate in the study, you need to select yes on both of these options.

-

In this information brief, you can find more information about the project.

-

Thank you. Are you 18 years old or older?

-

Great. I will write on these forms your participant number, which you will need for the questionnaires. You can keep this copy with you and the other one you can give to the researcher inside.

Script Participants (Inside the Room)

Good morning/afternoon. Thank you for coming. In this installation, you will be playing three games one-on-one with one robot. The games will have clear rules that you and the robot will follow. It has been programmed to respond to you in two different ways. The robot's aim is not to mimic you, although it might choose to do so from time to time. During the whole interaction, the cameras in the room will track whole body movement (but not your face), so even if the robot is not directly looking at you, it can perceive you at all times.

The games will last in total 30 minutes and it will look like this: you will be playing three short games with the robot programmed in the first way, then you will respond to some quick questions about the interaction on that table on the cortner, and you will repeat the same three games with the robot programmed in the second way. At the end, you will go outside and Marit will explain how to respond to the final round of questions. Remember that there are no right or wrong movements, just play along!

During each game you will be alone with the robot, and no one can intervene or respond to questions until the game ends. I will be behind this curtain with a technician watching a livestream of the interaction, and we will only intervene if there is a technical failure.

Do you have any questions?

In order for it to work, you need to start on this mark on the floor and perform the first movement yourself for each of the games.

Game 1
In this first game, you will sit in front of the robot, in this chair, and you will only be allowed to turn your gaze and head, so like this *demonstrates*. They have to be very clear movements. The directions in which you can look are up and down, left and right, the diagonals and directly at the robot face, like this *demonstrates*. This will be a turn-taking interaction, so you will start, hold the pose, then the robot will respond, then it is again your turn, and so on, for 2.5 minutes.

In order to practice, the robot will now imitate your movements. You can try now.

Great. Now we will proceed with the first game. Remember that the robot will respond to you, but will not necessarily copy you. I will not leave the space. You can start whenever I give you the signal.

Game 2
In this second game, you will stand in front of the robot, in this mark, and you will only be allowed to move forward, backwards, turn away from the robot or turn back at him, like this *demonstrates*. You can try now. Great. This will be a turn-taking interaction, so you will start, then the robot will respond, then it is again your turn, and so on, for 2.5 minutes.

In order to practice, the robot will now imitate your movements. You can try now.

Great. Now we will proceed with the second game. Remember that the robot will respond to you, but will not necessarily copy you. I will not leave the space. You can start whenever I give you the signal.

Game 3

In this third game, you will move with the robot in any way that you would like. This is not necessarily a turn-taking interaction, so you may move whenever you want. Now we will proceed with the third game. Remember that the robot will respond to you, but will not necessarily copy you. I will not leave the space. You can start whenever I give you the signal.

Now you can sit on this chair and respond to a few quick questions about your impression of the robot and your experience during these interactions.

Thank you. Now we will repeat the same games with our second robot.

Game 1
Game 2
Game 3

Thank you. Outside you will find Marit, who will show you how to complete the last round of questions. Thank you so much for your participation, and I hope that you enjoyed it.

First Questionnaire Playful Robots

1. Participant ID (ask the examiner)

_____

Questions

2. Did you perceive the robot as more fake or more natural?

Marca solo un óvalo.

	1	2	3	4	5	
Fake	◯	◯	◯	◯	◯	Natural

3. Did you perceive the robot as more machinelike or more humanlike?

Marca solo un óvalo.

	1	2	3	4	5	
Machinelike	◯	◯	◯	◯	◯	Humanlike

4. Did you perceive the robot as more unconscious or more conscious of the interaction?

Marca solo un óvalo.

	1	2	3	4	5	
Unconscious	◯	◯	◯	◯	◯	Conscious

5. Did you perceive the robot as moving more rigidly or more elegantly?

Marca solo un óvalo.

	1	2	3	4	5	
Moving rigidly	◯	◯	◯	◯	◯	Moving elegantly

6. Did you perceive the robot as more dead or more alive?

Marca solo un óvalo.

	1	2	3	4	5	
Dead	◯	◯	◯	◯	◯	Alive

7. Did you perceive the robot as more stagnant (inactive, static) or more lively?

Marca solo un óvalo.

	1	2	3	4	5	
Stagnant	◯	◯	◯	◯	◯	Lively

8. Did you perceive the robot as more mechanical or more organic?

Marca solo un óvalo.

	1	2	3	4	5	
Mechanical	◯	◯	◯	◯	◯	Organic

9. Did you perceive the robot as more artificial or more lifelike?

Marca solo un óvalo.

	1	2	3	4	5	
Artificial	◯	◯	◯	◯	◯	Lifelike

10. Did you perceive the robot as more inert or more interactive?

Marca solo un óvalo.

	1	2	3	4	5	
Inert	◯	◯	◯	◯	◯	Interactive

11. Did you perceive the robot as more apathetic or more responsive?

Marca solo un óvalo.

	1	2	3	4	5	
Apathetic	◯	◯	◯	◯	◯	Responsive

12. Did you perceive the robot as more incompetent or more competent?

Marca solo un óvalo.

	1	2	3	4	5	
Incompetent	◯	◯	◯	◯	◯	Competent

13. Did you perceive the robot as more ignorant or more knowledgeable?

Marca solo un óvalo.

	1	2	3	4	5	
Ignorant	◯	◯	◯	◯	◯	Knowledgeable

14. Did you perceive the robot as more irresponsible or more responsible?

Marca solo un óvalo.

	1	2	3	4	5	
Irresponsible	◯	◯	◯	◯	◯	Responsible

15. Did you perceive the robot as more unintelligent or more intelligent?

Marca solo un óvalo.

	1	2	3	4	5	
Unintelligent	◯	◯	◯	◯	◯	Intelligent

16. Did you perceive the robot as more foolish or more sensible?

Marca solo un óvalo.

	1	2	3	4	5	
Foolish	◯	◯	◯	◯	◯	Sensible

Statements

17. The robot was perceiving what I was doing

Marca solo un óvalo.

	1	2	3	4	5	
None of the time	◯	◯	◯	◯	◯	All of the time

18. The robot was surprising in its choices

Marca solo un óvalo.

	1	2	3	4	5	
None of the time	◯	◯	◯	◯	◯	All of the time

19. The robot was creative in its choices

Marca solo un óvalo.

	1	2	3	4	5	
None of the time	◯	◯	◯	◯	◯	All of the time

20. I felt engaged in the interaction

Marca solo un óvalo.

	1	2	3	4	5	
None of the time	◯	◯	◯	◯	◯	All of the time

21.   I felt like the interaction was flowing

Marca solo un óvalo.

	1	2	3	4	5	
None of the time	◯	◯	◯	◯	◯	All of the time

22.   I would like to interact with the same robot again over a longer period of time

Marca solo un óvalo.

	1	2	3	4	5	
None of the time	◯	◯	◯	◯	◯	All of the time

Open-ended questions

23.   How would you describe the interaction with the robot? (what did you feel, which words would you use to characterized it...)

_____

_____

_____

_____

24.   How did you experience what the robot was doing?

_____

_____

_____

_____

25. Were there moments that you found interesting? If so, why?

_____

_____

_____

_____

_____

26. Were there moments that you found less interesting/confusing/less engaging? If so, why?

_____

_____

_____

_____

_____

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Google Formularios

Second Questionnaire Playful Robots

1.   Participant ID (ask the examiner)

   _____

Questions

2.   Did you perceive the robot as more fake or more natural?

   Marca solo un óvalo.

	1	2	3	4	5	
Fake	◯	◯	◯	◯	◯	Natural

3.   Did you perceive the robot as more machinelike or more humanlike?

   Marca solo un óvalo.

	1	2	3	4	5	
Machinelike	◯	◯	◯	◯	◯	Humanlike

4.   Did you perceive the robot as more unconscious or more conscious of the interaction?

   Marca solo un óvalo.

	1	2	3	4	5	
Unconscious	◯	◯	◯	◯	◯	Conscious

5. Did you perceive the robot as moving more rigidly or more elegantly?

Marca solo un óvalo.

	1	2	3	4	5	
Moving rigidly	◯	◯	◯	◯	◯	Moving elegantly

6. Did you perceive the robot as more dead or more alive?

Marca solo un óvalo.

	1	2	3	4	5	
Dead	◯	◯	◯	◯	◯	Alive

7. Did you perceive the robot as more stagnant (inactive, static) or more lively?

Marca solo un óvalo.

	1	2	3	4	5	
Stagnant	◯	◯	◯	◯	◯	Lively

8. Did you perceive the robot as more mechanical or more organic?

Marca solo un óvalo.

	1	2	3	4	5	
Mechanical	◯	◯	◯	◯	◯	Organic

9. Did you perceive the robot as more artificial or more lifelike?

Marca solo un óvalo.

	1	2	3	4	5	
Artificial	◯	◯	◯	◯	◯	Lifelike

10. Did you perceive the robot as more inert or more interactive?

Marca solo un óvalo.

	1	2	3	4	5	
Inert	◯	◯	◯	◯	◯	Interactive

11. Did you perceive the robot as more apathetic or more responsive?

Marca solo un óvalo.

	1	2	3	4	5	
Apathetic	◯	◯	◯	◯	◯	Responsive

12. Did you perceive the robot as more incompetent or more competent?

Marca solo un óvalo.

	1	2	3	4	5	
Incompetent	◯	◯	◯	◯	◯	Competent

13. Did you perceive the robot as more ignorant or more knowledgeable?

Marca solo un óvalo.

	1	2	3	4	5	
Ignorant	◯	◯	◯	◯	◯	Knowledgeable

14. Did you perceive the robot as more irresponsible or more responsible?

Marca solo un óvalo.

	1	2	3	4	5	
Irresponsible	◯	◯	◯	◯	◯	Responsible

15. Did you perceive the robot as more unintelligent or more intelligent?

Marca solo un óvalo.

	1	2	3	4	5	
Unintelligent	◯	◯	◯	◯	◯	Intelligent

16. Did you perceive the robot as more foolish or more sensible?

Marca solo un óvalo.

	1	2	3	4	5	
Foolish	◯	◯	◯	◯	◯	Sensible

Statements

17.   The robot was perceiving what I was doing

Marca solo un óvalo.

	1	2	3	4	5	
None of the time	◯	◯	◯	◯	◯	All of the time

18.   The robot was surprising in its choices

Marca solo un óvalo.

	1	2	3	4	5	
None of the time	◯	◯	◯	◯	◯	All of the time

19.   The robot was creative in its choices

Marca solo un óvalo.

	1	2	3	4	5	
None of the time	◯	◯	◯	◯	◯	All of the time

20.   I felt engaged in the interaction

Marca solo un óvalo.

	1	2	3	4	5	
None of the time	◯	◯	◯	◯	◯	All of the time

21. I felt like the interaction was flowing

Marca solo un óvalo.

	1	2	3	4	5	
None of the time	◯	◯	◯	◯	◯	All of the time

22. I would like to interact with the same robot again over a longer period of time

Marca solo un óvalo.

	1	2	3	4	5	
None of the time	◯	◯	◯	◯	◯	All of the time

Open-ended questions

23. How would you describe the interaction with the robot? (what did you feel, which words would you use to characterized it...)

_____

_____

_____

_____

24. How did you experience what the robot was doing?

_____

_____

_____

_____

25. Were there moments that you found interesting? If so, why?

_____

_____

_____

_____

_____

26. Were there moments that you found less interesting/confusing/less engaging? If so, why?

_____

_____

_____

_____

_____

Demographic Questions

27. Age

_____

28. Gender

Marca solo un óvalo.

◯ Female

◯ Male

◯ Other

◯ Prefer not to say

29. Nationality

_____

30.   Profession

_____

31.   Previous experience with the performing arts (this could include attending
      performances, acting, dancing, playing music, having taken theatre/dance
      classes, etc.)

_____

_____

_____

_____

_____

32.   Previous experience with robots

Marca solo un óvalo.

( ) I have never seen and/or interacted with a robot before

( ) I have seen but not interacted with a robot before

( ) I have seen and interacted with a robot once or a few times

( ) I have seen and interacted with a robot on several occasions

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Manual
for puppeteers

INTERACTIVE INSTALLATION PLAYFUL ROBOTS

MAY 18TH, 19TH AND 20TH , 2022

Index

Location

The event will take place at [redacted for anonymity purposes].

Once you enter the door, you need to go up the big staircase until you reach the first floor. There, behind the kitchen counter you will see a door with the label "studio 1" on it. This is where the installation will happen.

Here are a few pictures of the space. In the middle of it, we will position a curtain, so that two different spaces will be created within the room.

Left side of the room
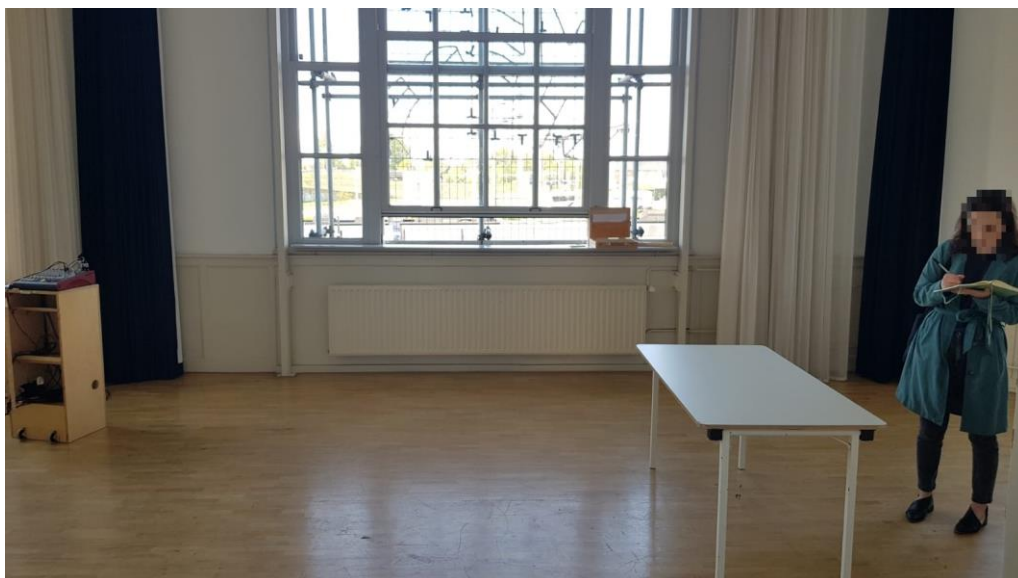
Middle of the room

Right side of the room

During the installation you will be hidden behind a curtain that is set in the middle of the room, thus separating the space in two. There you will have access to the livestream on the screen of a laptop and the tablet. You will remain the whole time behind this partition, so that the participant cannot see you. During the breaks and the lunch, you can of course move freely.

A technician will always be there with you, in case that some technical failure occurs. A researcher will be the host, thus guiding the participants and explaining the rules of the installation. However, during the actual interaction between the participant and the robot, they will join you two behind the partition.

Please, be there half an hour before the first slot starts (09.30) to test the interface and solve any doubts that you might have.

Schedule

10:00 - 11:30 THREE SLOTS
  10:00 - 10:30
  10:30 - 11:00
  11:00 - 11:30

11.30 - 11.45 BREAK

11.45 - 13.15 THREE SLOTS
  11:45 - 12:15
  12:15 - 12:45
  12:45 - 13.15

13:15 - 13:45 LUNCH BREAK

13:45 - 15:15 THREE SLOTS
  13:45 - 14:15
  14:15 - 14:45
  14:45 - 15:15

15:15 - 15:30 BREAK

15:30 - 17:00 THREE SLOTS
  15:30 - 16:00
  16:00 - 16:30
  16:30 - 17:00

19th May, Thursday

10:00 - 11:30 THREE SLOTS
  10:00 - 10:30
  10:30 - 11:00
  11:00 - 11:30

11:30 - 11:45 BREAK

11:45 - 13:15 THREE SLOTS
  11:45 - 12:15
  12:15 - 12:45
  12:45 - 13:15

13:15 - 13:45 LUNCH BREAK

13:45 - 15:15 THREE SLOTS
  13:45 - 14:15
  14:15 - 14:45
  14:45 - 15:15

15:15 - 15:30 BREAK

15:30 - 17:00 THREE SLOTS
  15:30 - 16:00
  16:00 - 16:30
  16:30 - 17:00

20th May, Friday

10:00 - 12:00 FOUR SLOTS
       10:00 - 10:30
       10:30 - 11:00
       11:00 - 11:30
       11:30 - 12:00

12:00 - 12:30 COLLECTIVE INTERACTION MASTERCLASS

12:30 - 13:30 BREAK + LUNCH

13:30 - 15:30 FOUR SLOTS
       13:30 - 14:00
       14:00 - 14:30
       14:30 - 15:00
       15:00 - 15:30
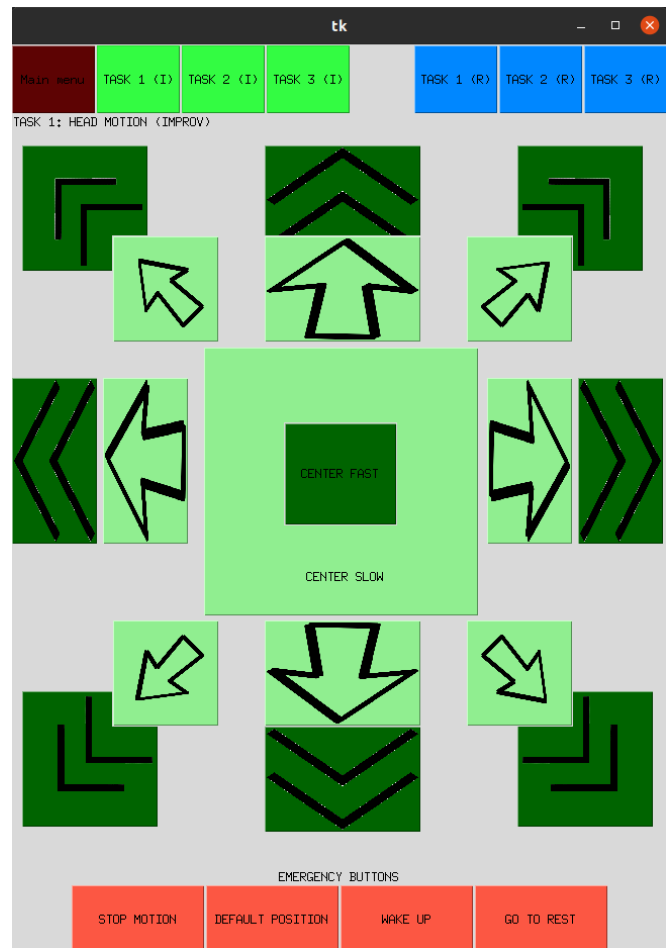
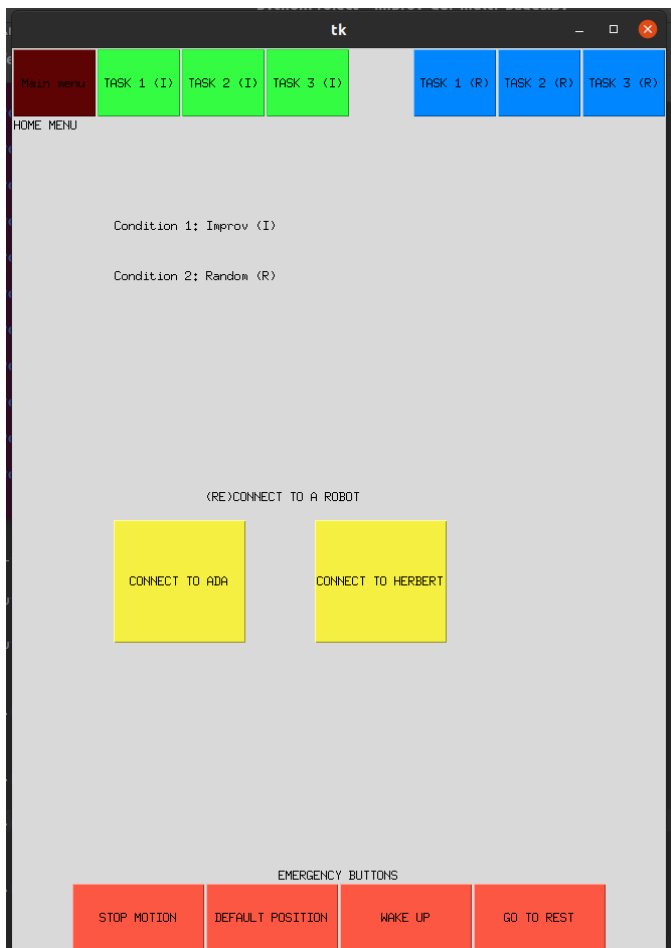15:30 - 15:45 BREAK

15:45 - 17:15 THREE SLOTS
       15:45 - 16:15
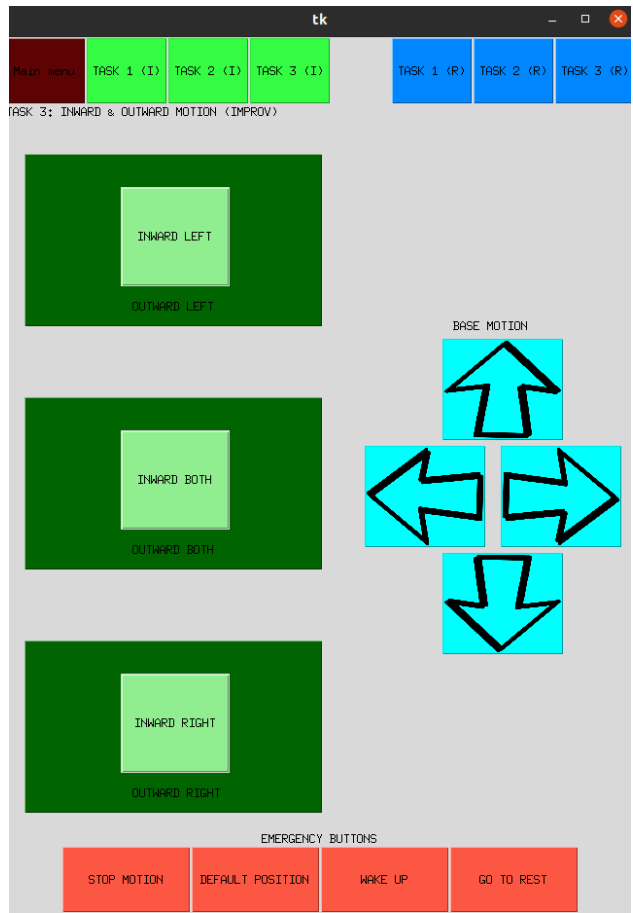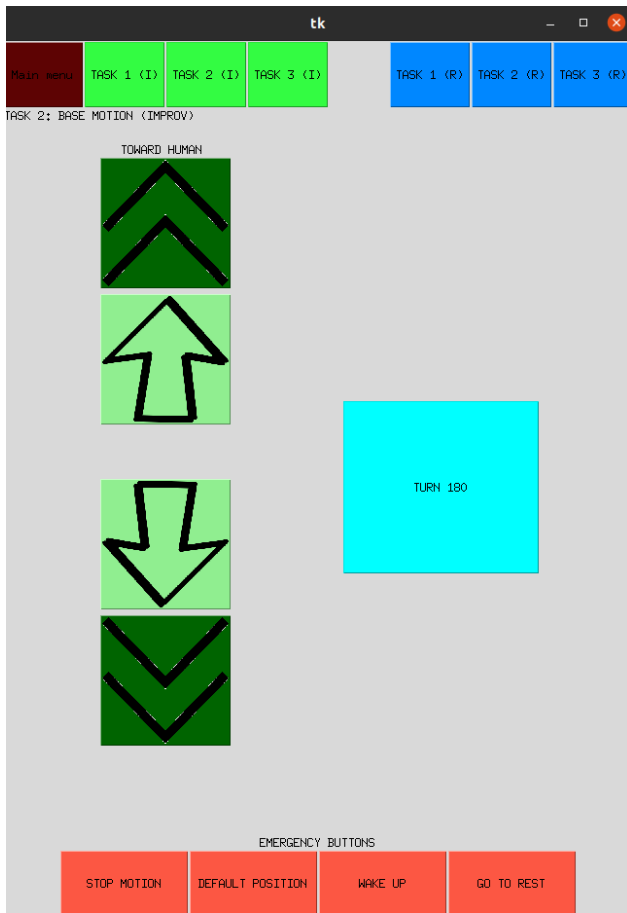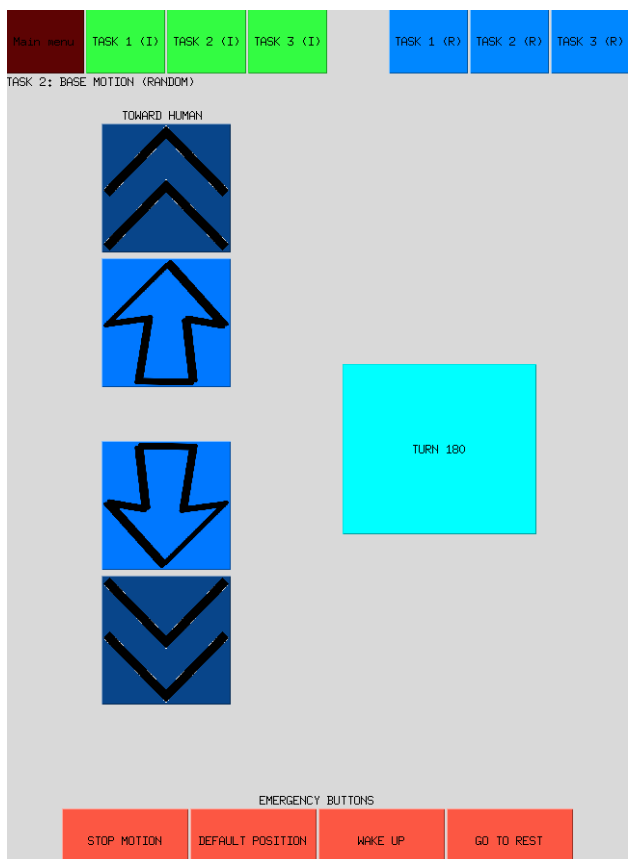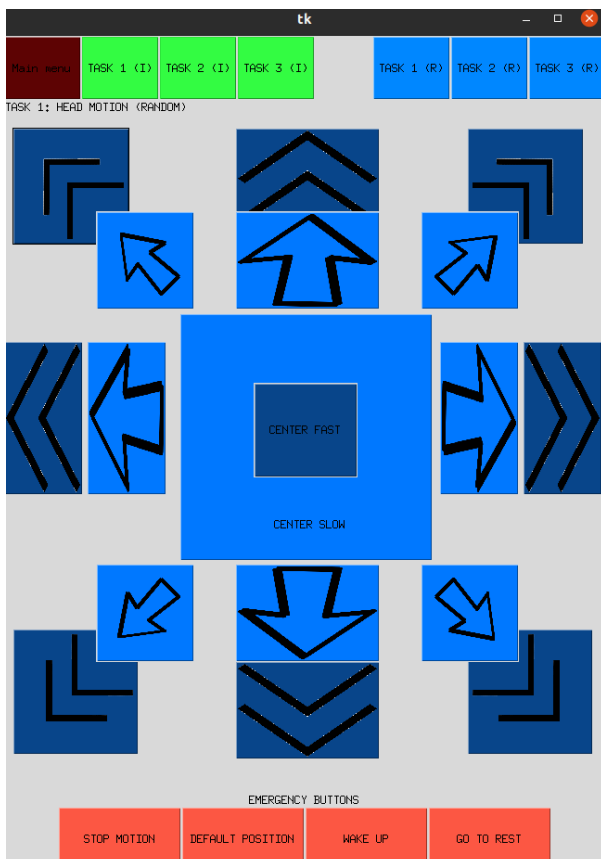   16:15 - 16:45
       16:45 - 17:15

Interface

You will puppeteer the robot through a tablet. Here are some pictures of the interface for the different tasks that you will do
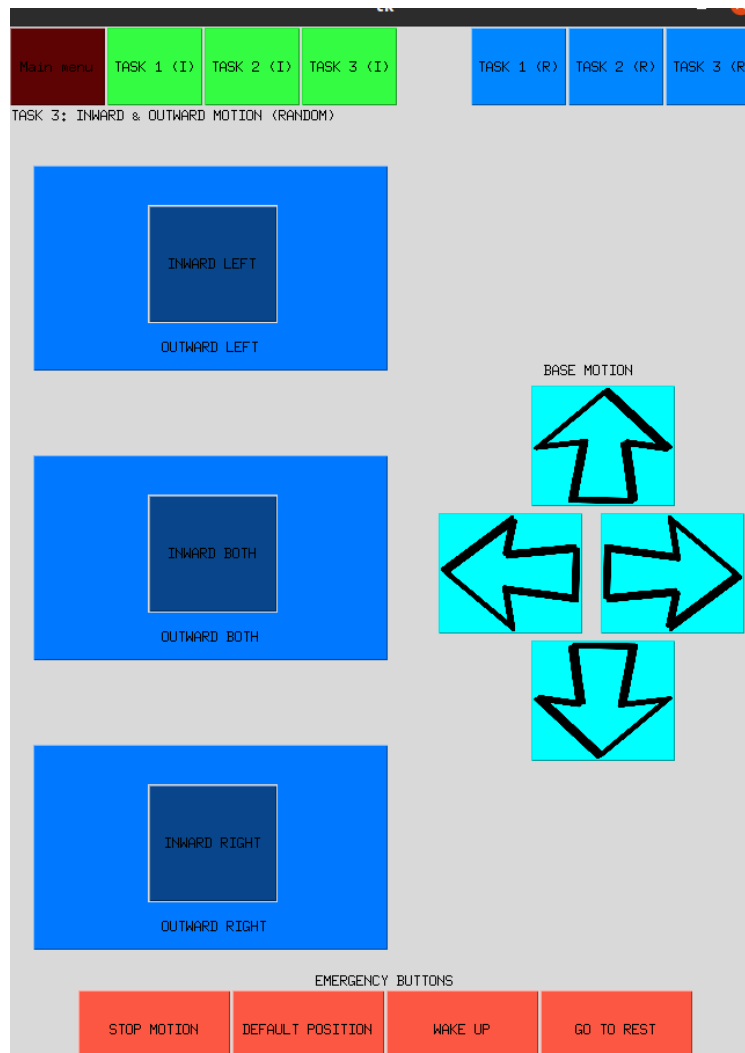
The Improv Condition (in green):

The Random Condition (in blue)

Important things that have changed from the last time that you used the tablet are the following:

1. Now you can click with one finger instead of two
2. In the second task, the arrows correspond to orientations in space, not to the position of the robot; which means that the arrow closest to you will direct the robot towards you and vice versa
3. In the second task, now you will only have a switch button that makes the robot move away or towards the human, so it's not possible anymore for the robot to turn in the wrong direction
4. In the third task, apart from inward left, inward right, outward left, outward right, inward both and outward both movements, you will be allowed to also move the base up and down, left and right
5. In the improv and the random condition, you will have the same interface, with the difference that on the random condition, the robot might or might not reproduce the random associated with the button that you press. Please, try to use the interface during the random condition in the same way as you would do during the improv condition

Tasks

You will control the robot during three games, in two conditions: the improvisational and the random one. One of the conditions will be the improvisational, where you will decide which behaviour the robot performs and when. When a new participant comes in, therefore, you will control the robot during the three games on the improvisational condition, as shown in the tutorial. Once the participant has responded to a questionnaire, you will control the robot during the same three games but on the random condition, where you will only be allowed to select when the robot responds but not what it responds. The interface, however, will be the same, with the only difference that the robot might not perform the behaviour that you select. You should control the robot similarly in both conditions. The order of the conditions will change for the next participant, so you will start with the random one, and this will be followed by the improvisational one.

A researcher will time the games and after three minutes you will stop.

The specific tasks are the following:

Game 1
The participant sits on a chair and in front of the robot. The human always starts with the first movement, and then the robot responds. After a while, turn-taking can be more loosely performed. The only movements allowed are up and down, left and right, diagonals and center, and they can be performed either at normal or fast speed.

Game 2
The participant stands in front of the robot. The human always starts with the first movement, and then the robot responds. After a while, turn-taking can be more loosely performed. The only movements allowed are forward, backward, turning away and facing the person. You can perform these motions at normal or fast speed.

Game 3
The participant stands in front of the robot. The human always starts with the first movement, and then the robot responds. This is not a turn-taking interaction, thus movements can be performed at all times. The only allowed options are inward left, inward right, outward left, outward right, inward both sides and outward both sides. Each label contains two different gestures that will be performed randomly once an option is selected. For example, for "inward left" we have recorded two different movements, and when you select this button, one of the two will be performed. You will not know which of those two movements will be performed, only that it will be an "inward" motion done with the left side of the body.

You will have with you a document with each time slot and two empty boxes (improv and random) where you can note, after each interaction with the participant, your impressions and feedback, should you need to do so.

Instructions

The goal of this installation is to explore human-robot interaction through movement. Your role as a puppeteer is to control the robot in such a way that it keeps the interest and engagement of the participant going. Here are three basic instructions that you should have in mind when puppeteering the robot:

1. Respond intuitively

Try to respond quickly and intuitively to the situation. You do not need to carefully think about your next move, and you shouldn't react from the perspective of performing a character. Try to respond with your bodily awareness and intuition.

2. Be present

Every interaction will call for different reactions, so try to stay present in the moment, aware, and attentive to that particular participant.

3. Make choices that support the interaction

Your choices should be made in favour of keeping the interaction going, and keeping the participant engaged. We are not looking for extravagant and original robotic moves, but we are attending to the interaction dynamics.

Contact

For any questions that you might have, you may contact one of the researchers in charge of the installation at [redacted for anonymity purposes].