

Questionnaire Description

Robotic Multi-user Legibility

This questionnaire intends to assess the expressiveness of a robot, through movement, in an interaction with multiple people.

In order to evaluate, you will observe videos of four different movements of a robot moving to grab one object. The objects the robot may grab are on a table and are: a soda can, a rubber duck and a telephone. After each video, you will have to predict which object the robot is going to grab.

In this questionnaire we will not ask or record any information such as your name or address. We will attribute a number to your answers so as to anonymize your questionnaire. We will also ask you some demographic questions.

Before starting, in the name of the research team, I would like to thank you for the time spent answering to this questionnaire and help in our study.

Do you allow the use of your answers for academic purposes?

Yes

No

Demographic Questions

Demographic Information

This section serves to collect some background information regarding the participants that take this survey. This information is important for the research team to be able to frame the population that take this questionnaire and understand if the results are representative of the population in general.

The information collected in this section may also be used by the research team to draw patterns between different backgrounds and interaction with robots.

What is your age?

What is your country of residence?

What is your work occupation?

Student

Student-Worker

Independant Worker

Employee of another

Other

What is your educational degree?

High School

Bachelors

Masters

Doctorate

Other

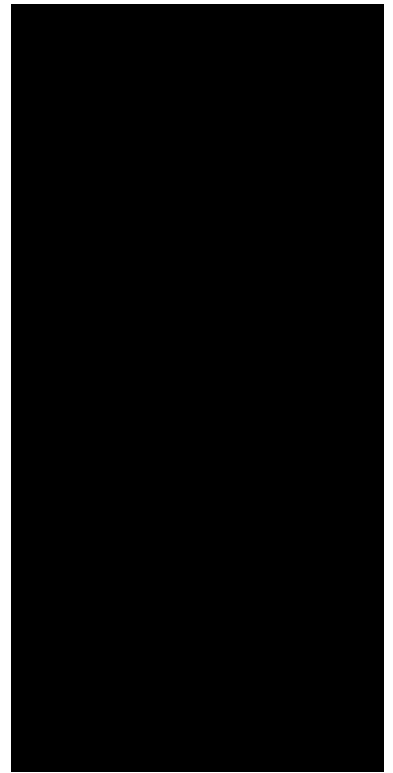
Robot Movement Description

Robot Movement

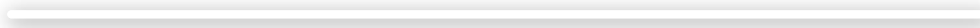
You will now watch three groups of three small videos. Each of these groups shows the same movement for a robot, moving to grab one of the three objects in the image - soda can, rubber duck and telephone. At the end of each group, you can see the complete movement to know to which object the robot was moving to.

Each video will be of different lengths and at the end of each you will have to predict which of the objects the robot is going to grab.

The following video shows an example movement like the ones shown in the questionnaire videos.



0:00



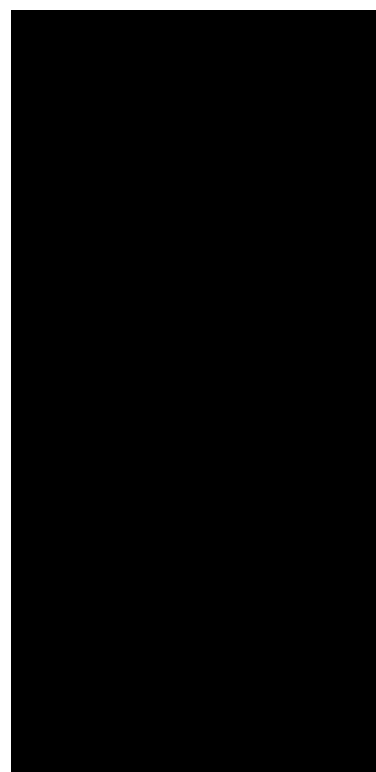
The aim of this study is to evaluate how well a robot can communicate through movement, so feel free to change you prediction from video to video.

Remember that there are no right or wrong answers, we are evaluating your perception of the movement to develop the communication skills of a robot.

The movement depicted in each group of videos is independant of the other groups, so the robot may move towards the same object or to another one.

Configuration 1 - A - All Users - User 1

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

7

8

9

10

First twelve sconds of movement



0:00

What object is the robot reaching for?

- Soda Can
- Rubber Duck
- Telephone

Rate how confident you are on your choice



First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

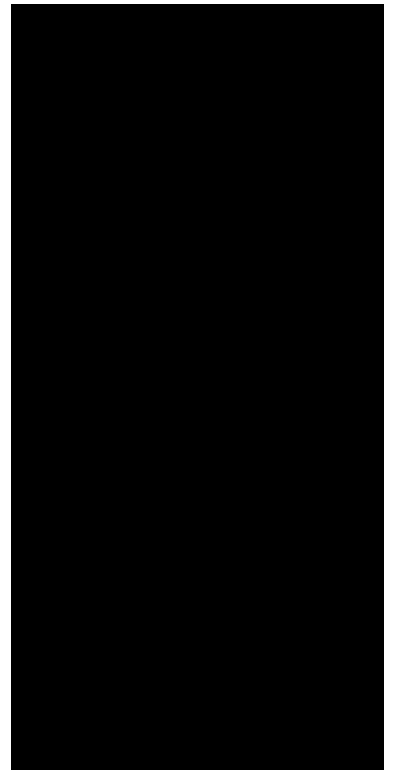
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

Entire movement to reach for Soda Can



0:00



Did the video change your prediction?

Yes

No

If so why?

If not, why not?

Configuration 1 - B - All Users - User 1

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

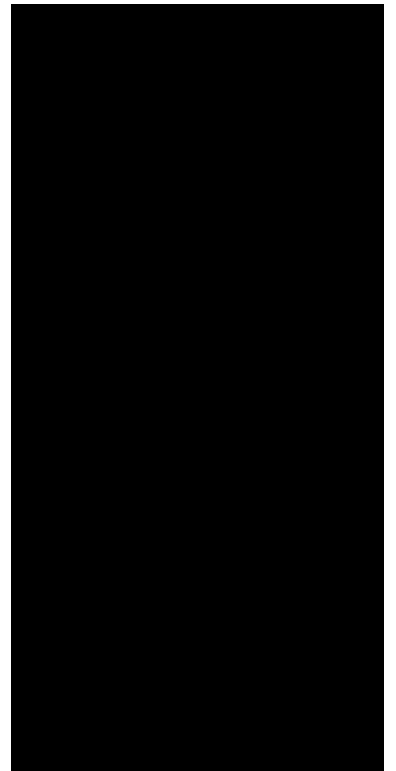
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

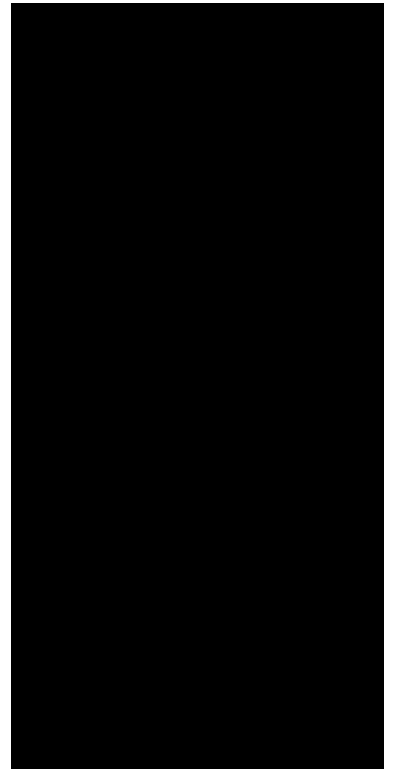
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

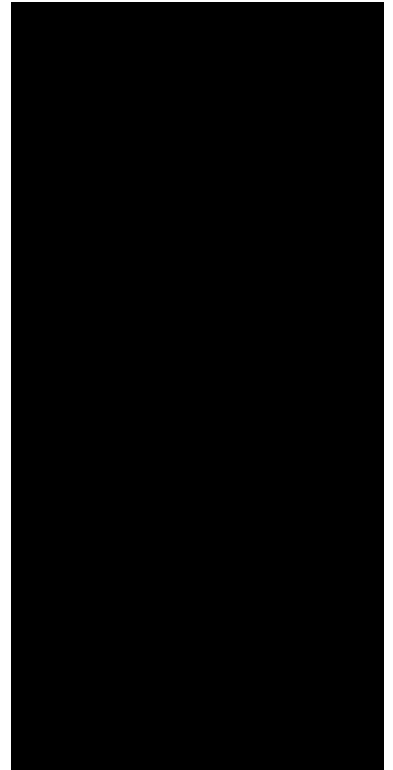
Rate how confident you are on your choice

Serious Doubts

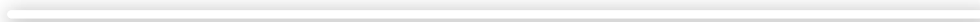
No Doubts

0 1 2 3 4 5 6 7 8 9 10

Entire movement to reach for Rubber Duck



0:00



Did the video change your prediction?

Yes

No

If so why?

If not, why not?

Configuration 1 - C - All Users - User 1

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

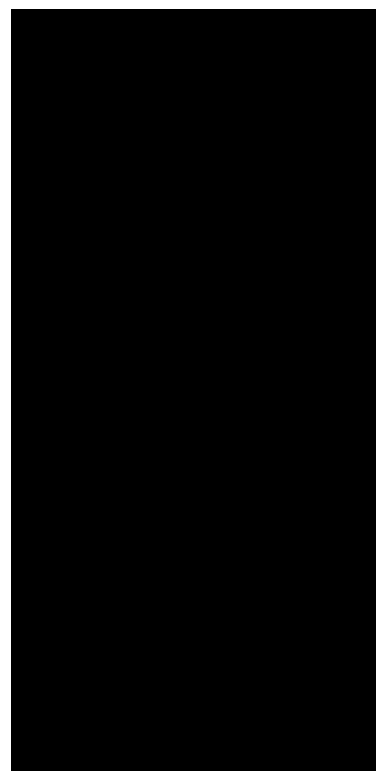
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

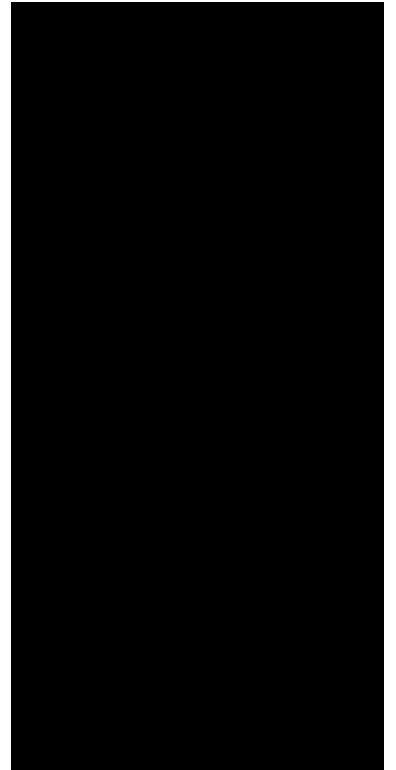
Rubber Duck

Telephone

Rate how confident you are on your choice



Entire movement to reach for Telephone



0:00



Did the video change your prediction?

Yes

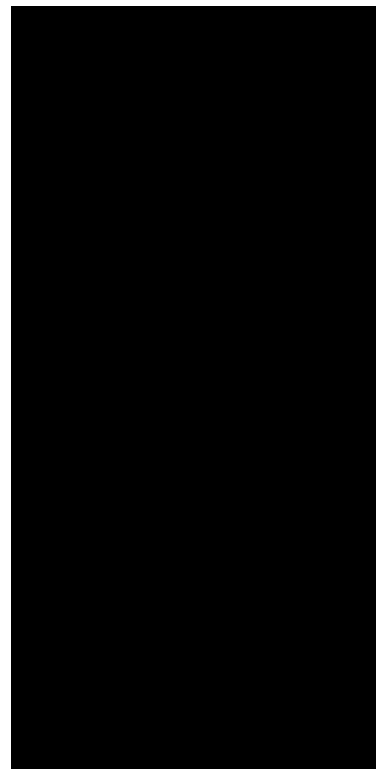
No

If so why?

If not, why not?

Configuration 1 - A - All Users - User 2

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck
Telephone

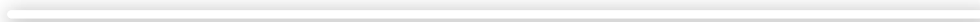
Rate how confident you are on your choice



Entire movement to reach for Soda Can



0:00



Did the video change your prediction?

Yes

No

If so why?

If not, why not?

Configuration 1 - B - All Users - User 2

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

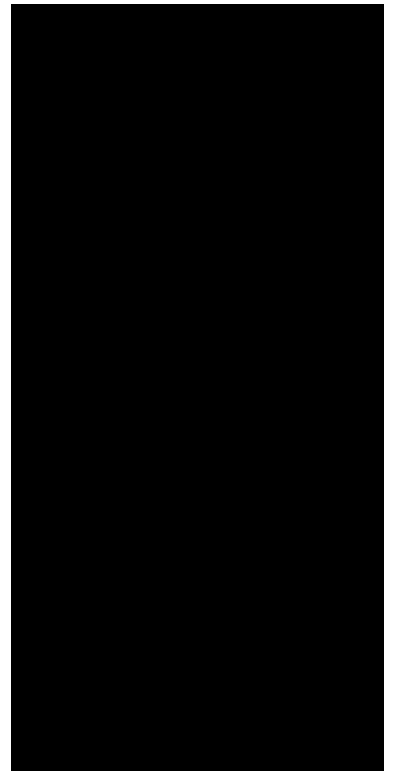
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

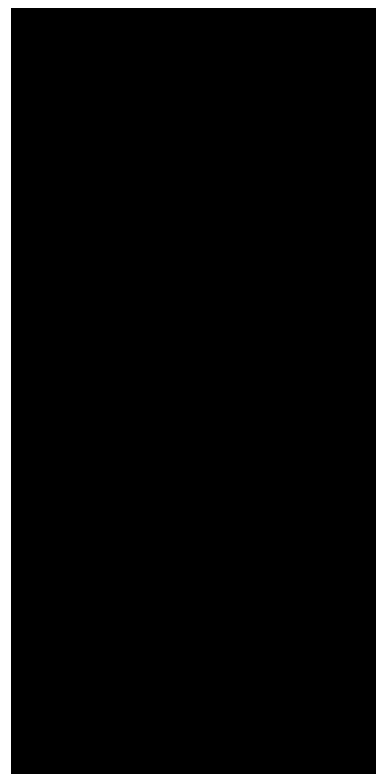
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

7

8

9

10

Entire movement to reach for Rubber Duck



0:00



Did the video change your prediction?

Yes

No

If so why?

If not, why not?

Configuration 1 - C - All Users - User 2

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

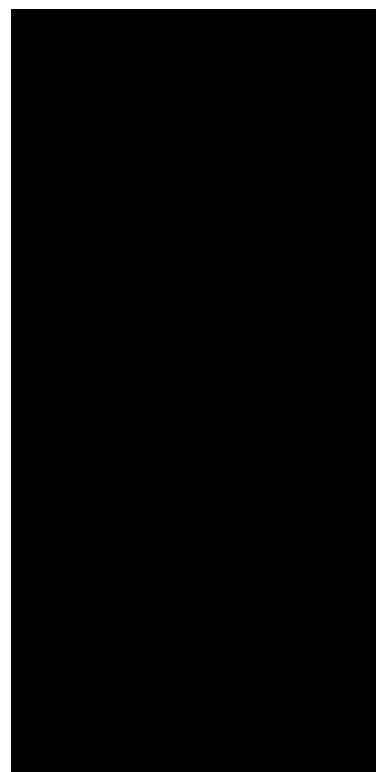
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

7

8

9

10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

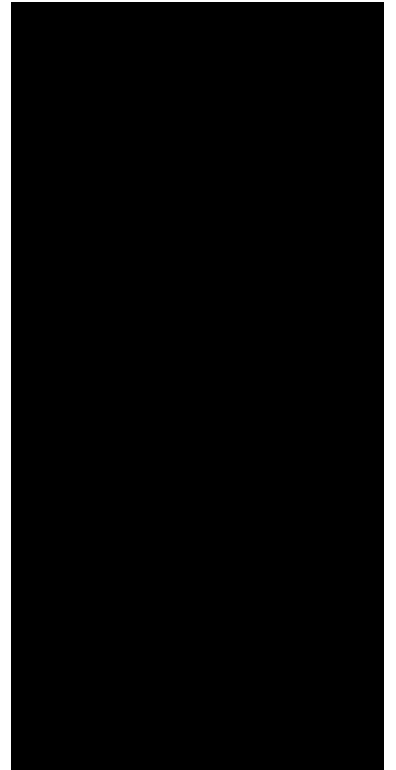
Soda Can

Rubber Duck
Telephone

Rate how confident you are on your choice



Entire movement to reach for Telephone



0:00



Did the video change your prediction?

Yes

No

If so why?

If not, why not?

Configuration 1 - A - All Users - User 3

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

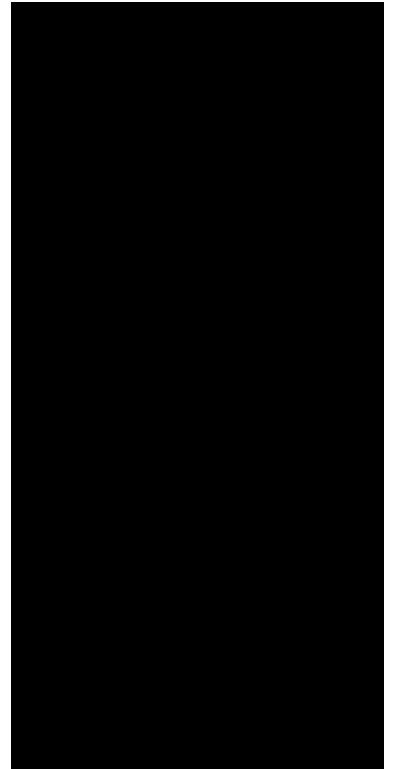
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

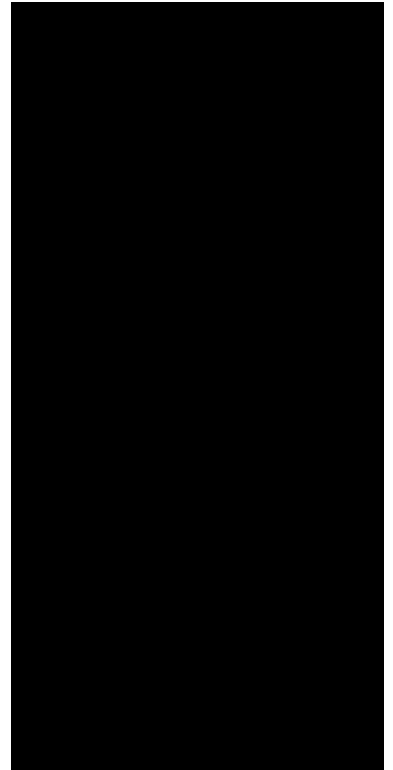
Soda Can

Rubber Duck
Telephone

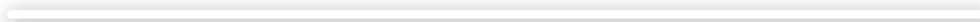
Rate how confident you are on your choice



Entire movement to reach for Soda Can



0:00



Did the video change your prediction?

Yes

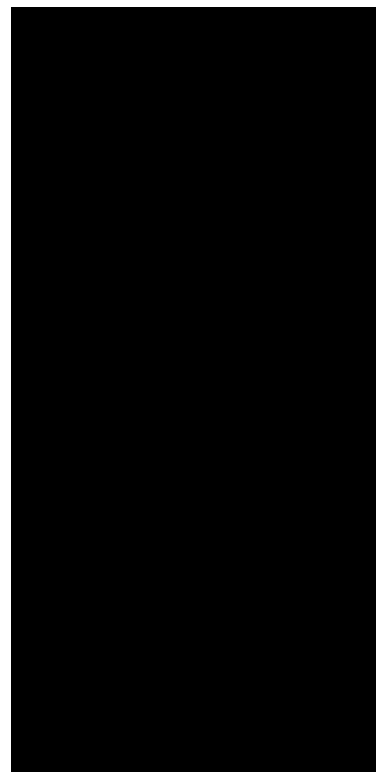
No

If so why?

If not, why not?

Configuration 1 - B - All Users - User 3

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

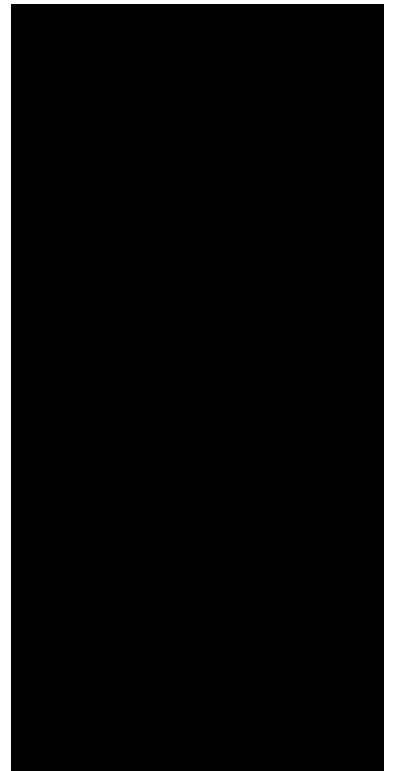
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

7

8

9

10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck
Telephone

Rate how confident you are on your choice



Entire movement to reach for Rubber Duck



0:00



Did the video change your prediction?

Yes

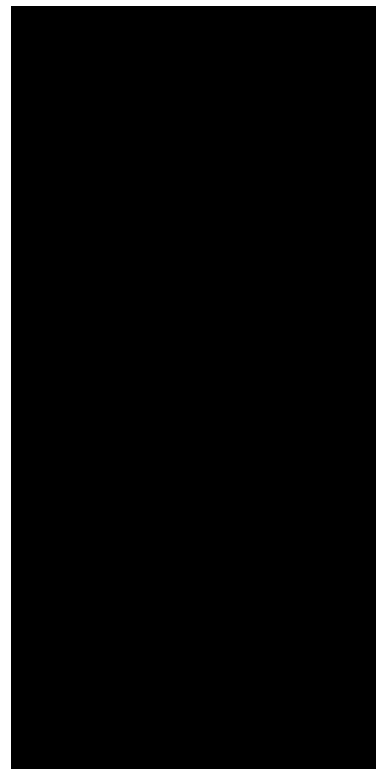
No

If so why?

If not, why not?

Configuration 1 - C - All Users - User 3

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

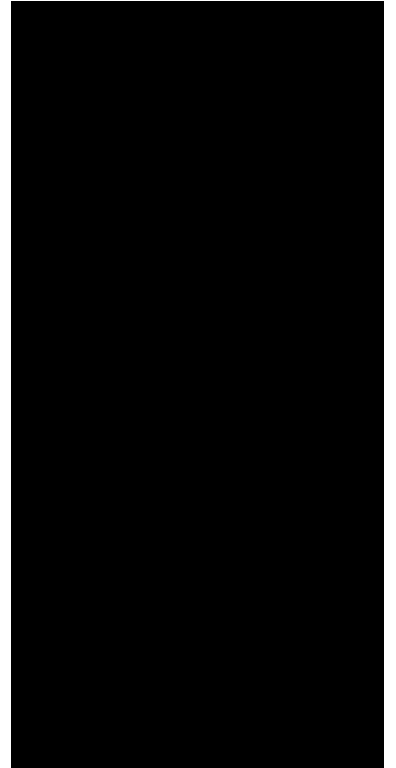
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

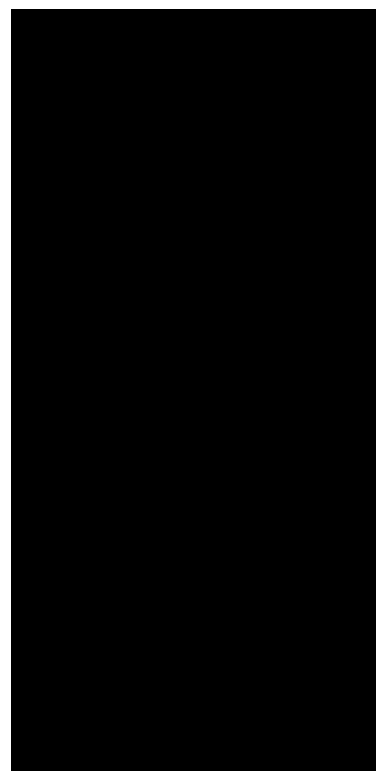
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

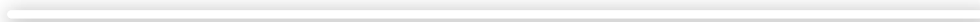
Rate how confident you are on your choice



Entire movement to reach for Telephone



0:00



Did the video change your prediction?

Yes

No

If so why?

If not, why not?

All Users Overall Evaluation

How clear were the robot's intentions in the movements?

Extremely Confusing

Extremely Clear

0 1 2 3 4 5 6 7 8 9 10

Configuration 1 - A - User 1 - User 1

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

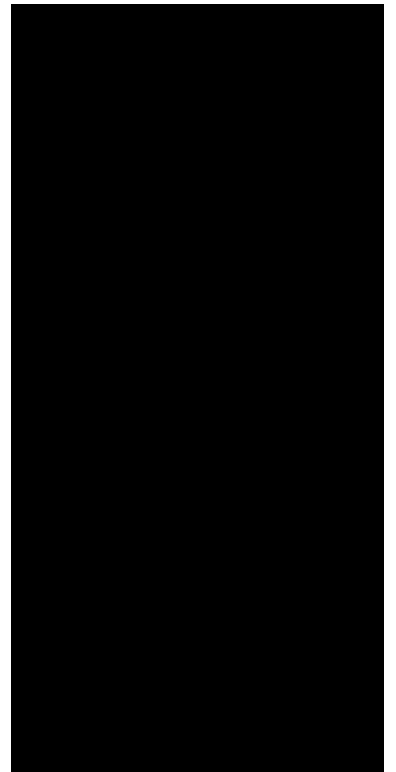
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

- Soda Can
- Rubber Duck
- Telephone

Rate how confident you are on your choice



Entire movement to reach for Soda Can



0:00



Did the video change your prediction?

Yes

No

If not, why not?

If so why?

Configuration 1 - B - User 1 - User 1

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

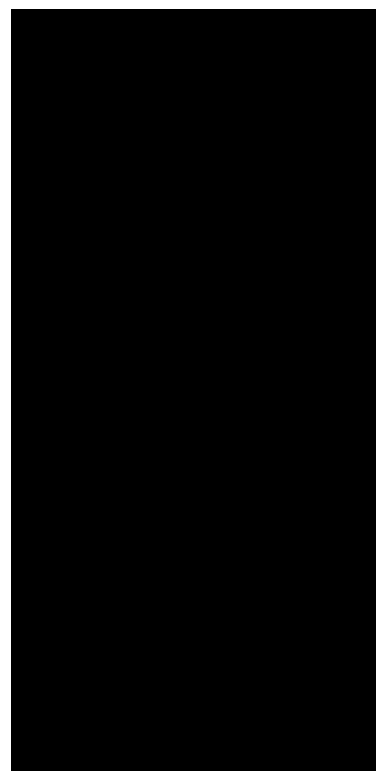
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

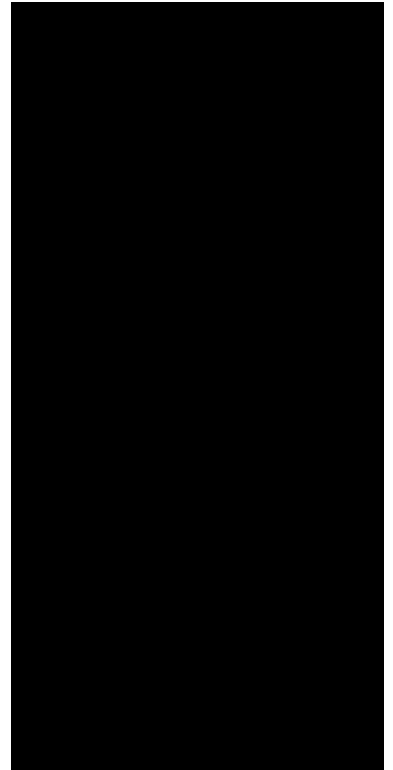
Rubber Duck

Telephone

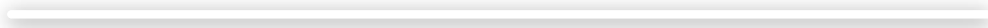
Rate how confident you are on your choice



Entire movement to reach for Rubber Duck



0:00



Did the video change your prediction?

Yes

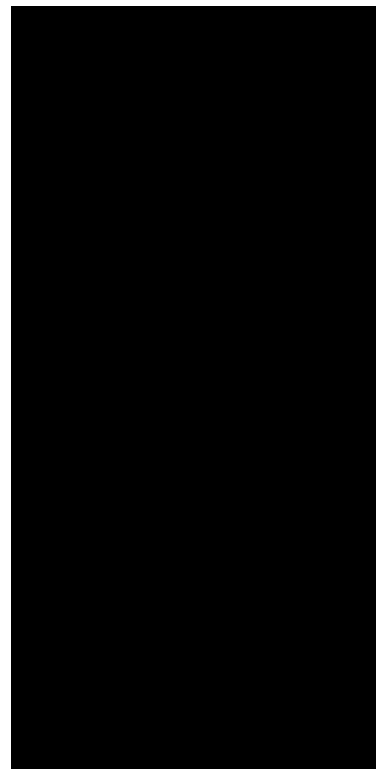
No

If not, why not?

If so why?

Configuration 1 - C - User 1 - User 1

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

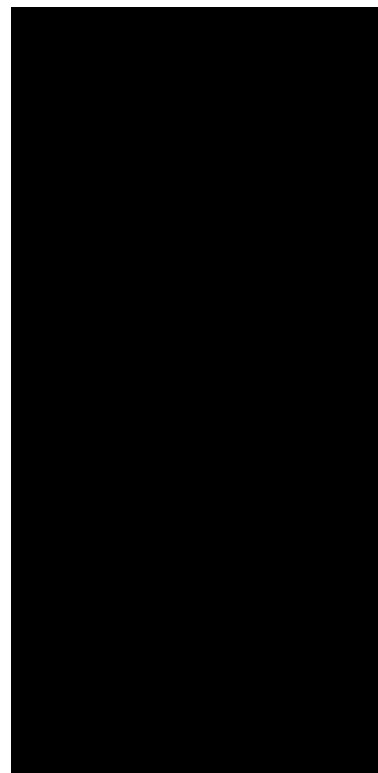
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

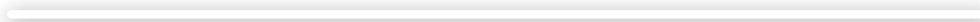
Rate how confident you are on your choice



Entire movement to reach for Telephone



0:00



Did the video change your prediction?

Yes

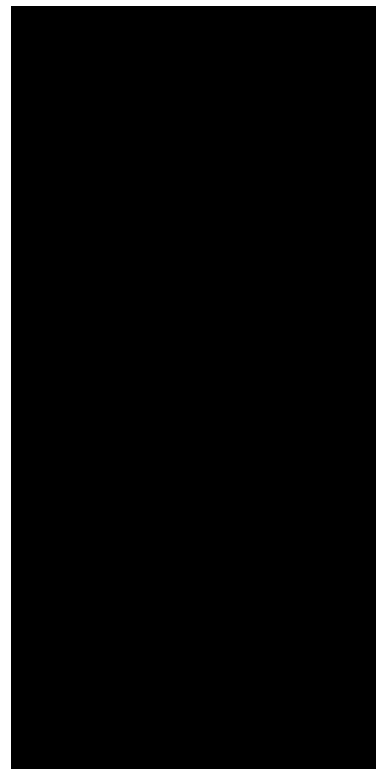
No

If not, why not?

If so why?

Configuration 1 - A - User 1 - User 2

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck
Telephone

Rate how confident you are on your choice



Entire movement to reach for Soda Can



0:00



Did the video change your prediction?

Yes

No

If not, why not?

If so why?

Configuration 1 - B - User 1 - User 2

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

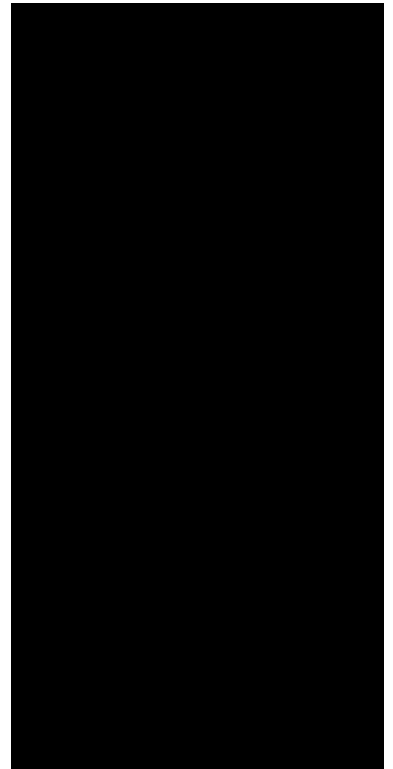
7

8

9

10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck
Telephone

Rate how confident you are on your choice



Entire movement to reach for Rubber Duck



0:00



Did the video change your prediction?

Yes

No

If not, why not?

If so why?

Configuration 1 - C - User 1 - User 2

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

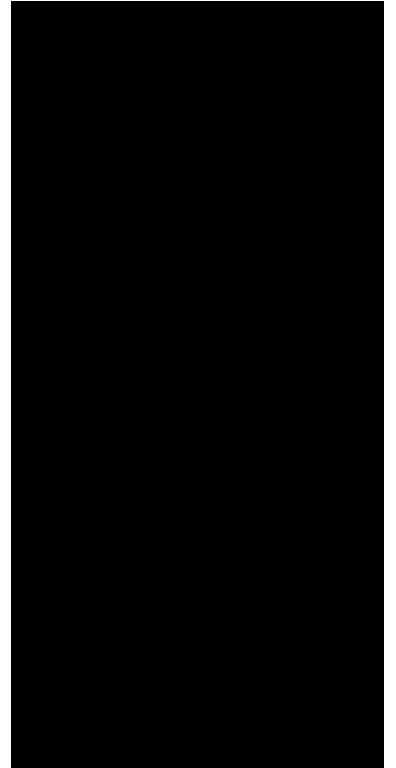
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

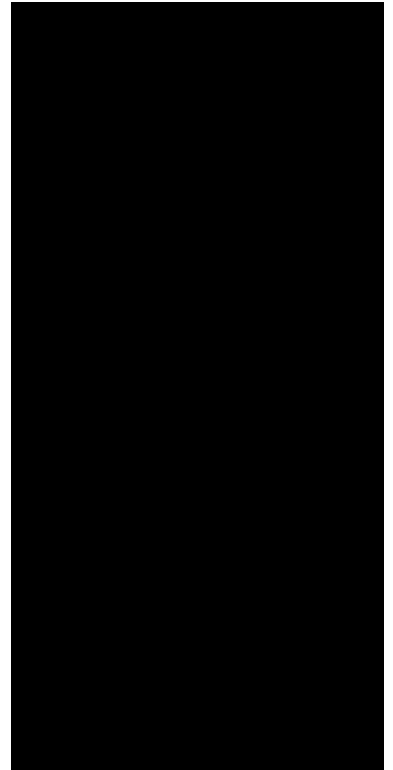
Rubber Duck

Telephone

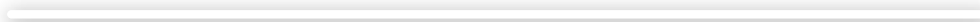
Rate how confident you are on your choice



Entire movement to reach for Telephone



0:00



Did the video change your prediction?

Yes

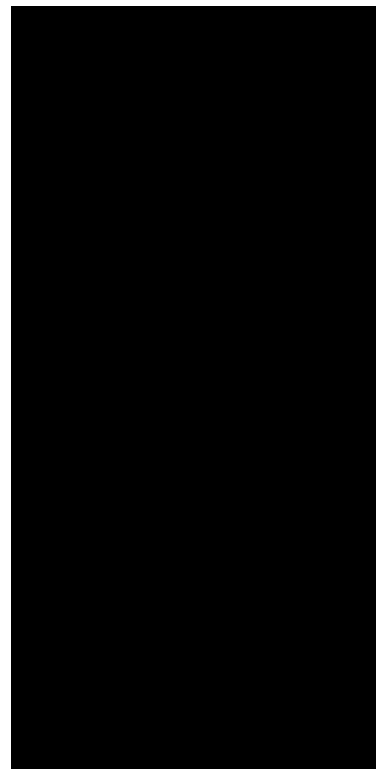
No

If not, why not?

If so why?

Configuration 1 - A - User 1 - User 3

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

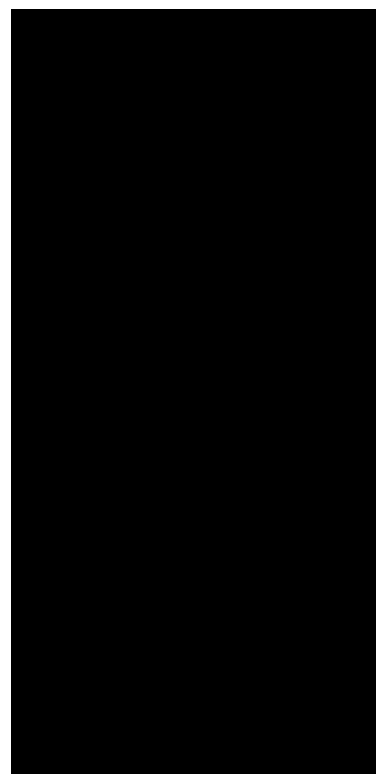
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

7

8

9

10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck
Telephone

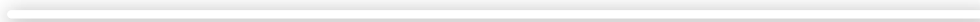
Rate how confident you are on your choice



Entire movement to reach for Soda Can



0:00



Did the video change your prediction?

Yes

No

If not, why not?

If so why?

Configuration 1 - B - User 1 - User 3

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

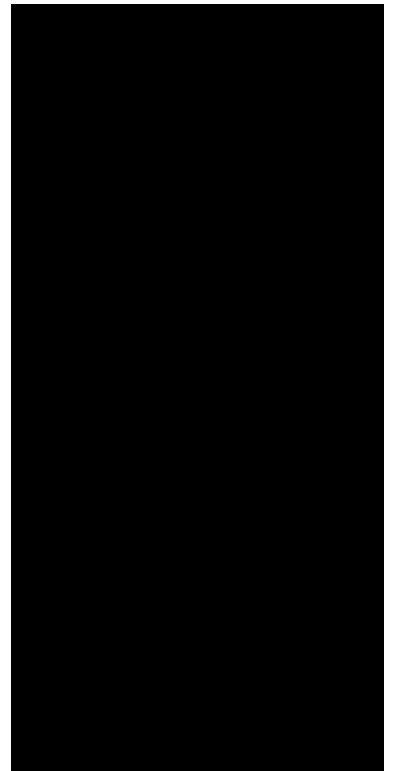
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

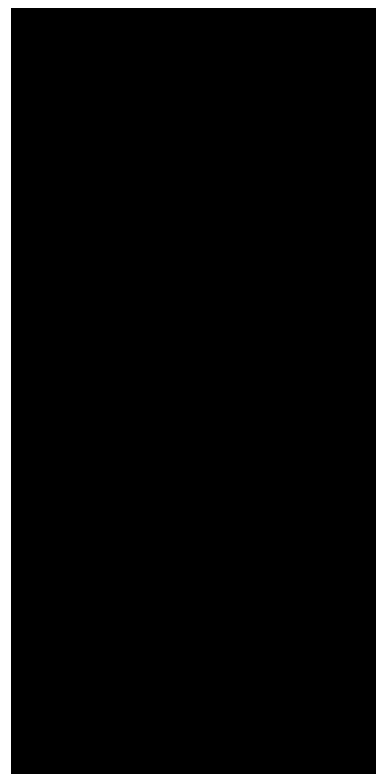
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck
Telephone

Rate how confident you are on your choice



Entire movement to reach for Rubber Duck



0:00



Did the video change your prediction?

Yes

No

If not, why not?

If so why?

Configuration 1 - C - User 1 - User 3

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

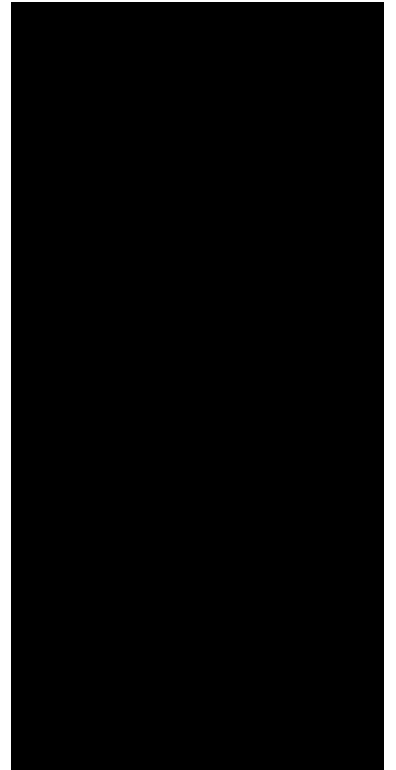
Rubber Duck

Telephone

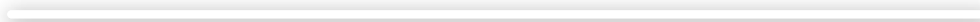
Rate how confident you are on your choice



Entire movement to reach for Telephone



0:00



Did the video change your prediction?

Yes

No

If not, why not?

If so why?

User 1 Overall Evaluation

How clear were the robot's intentions in the movements?

Extremely Confusing

Extremely Clear

0 1 2 3 4 5 6 7 8 9 10

Configuration 1 - A - User 2 - User 1

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

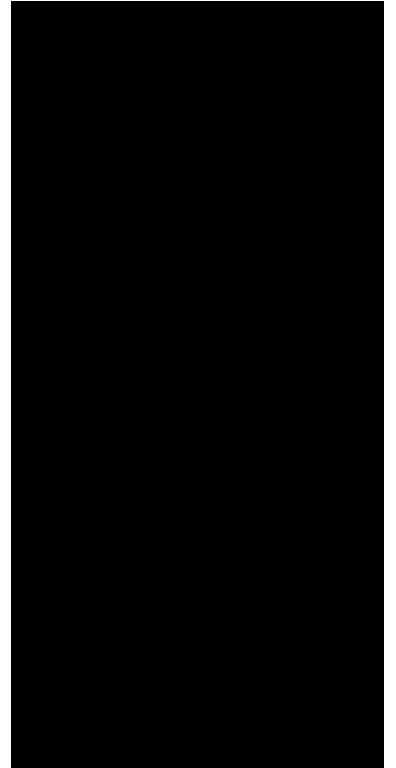
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice



Entire movement to reach for Soda Can



0:00



Did the video change your prediction?

Yes

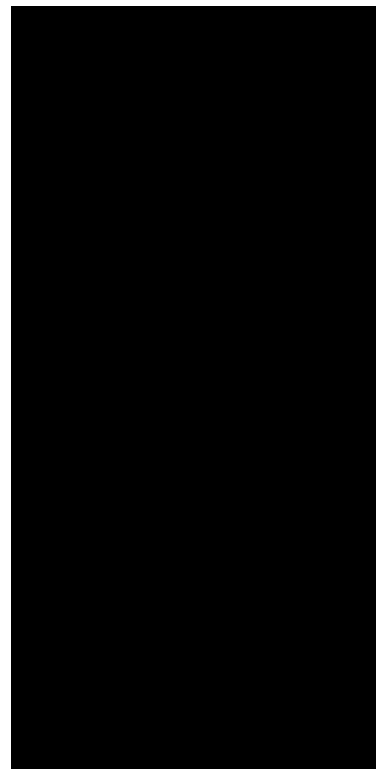
No

If not, why not?

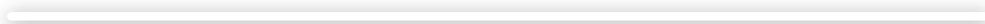
If so why?

Configuration 1 - B - User 2 - User 1

First six seconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

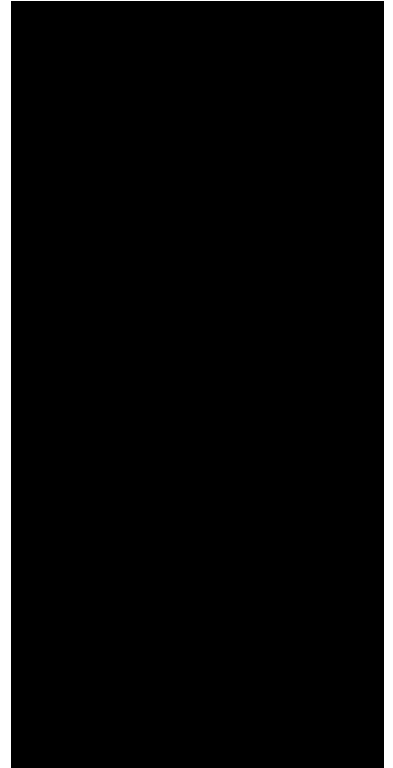
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

7

8

9

10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

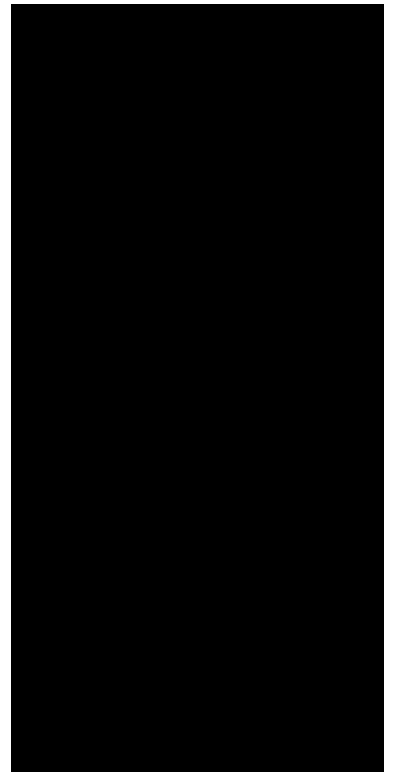
Rubber Duck

Telephone

Rate how confident you are on your choice



Entire movement to reach for Rubber Duck



0:00



Did the video change your prediction?

Yes

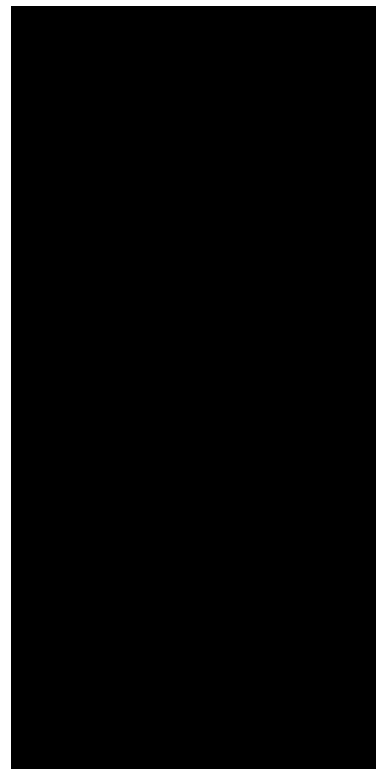
No

If not, why not?

If so why?

Configuration 1 - C - User 2 - User 1

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

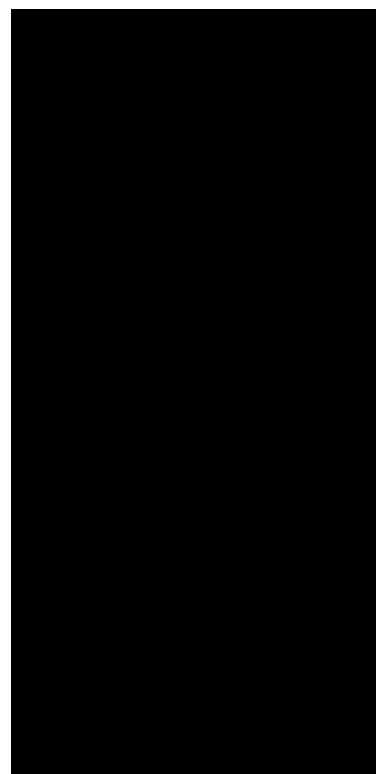
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

7

8

9

10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

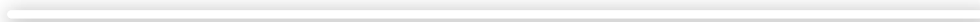
Rate how confident you are on your choice



Entire movement to reach for Telephone



0:00



Did the video change your prediction?

Yes

No

If not, why not?

If so why?

Configuration 1 - A - User 2 - User 2

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

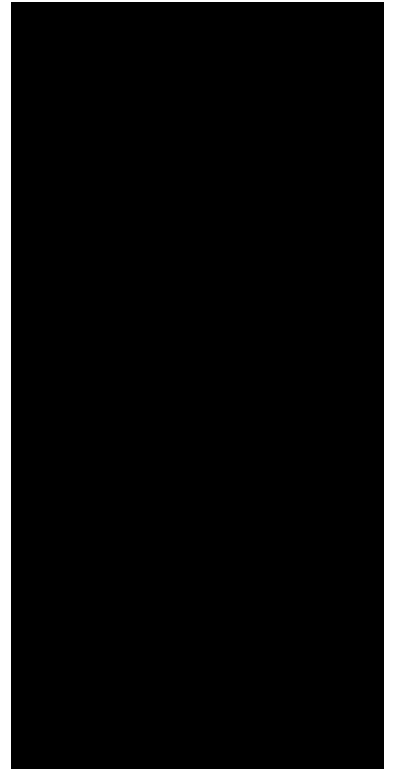
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

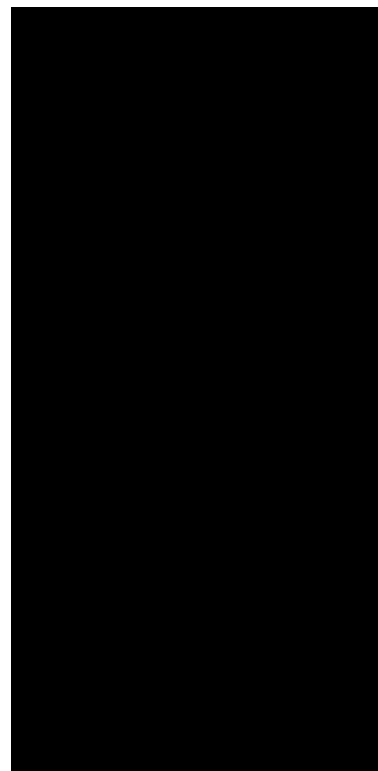
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck
Telephone

Rate how confident you are on your choice



Entire movement to reach for Soda Can



0:00



Did the video change your prediction?

Yes

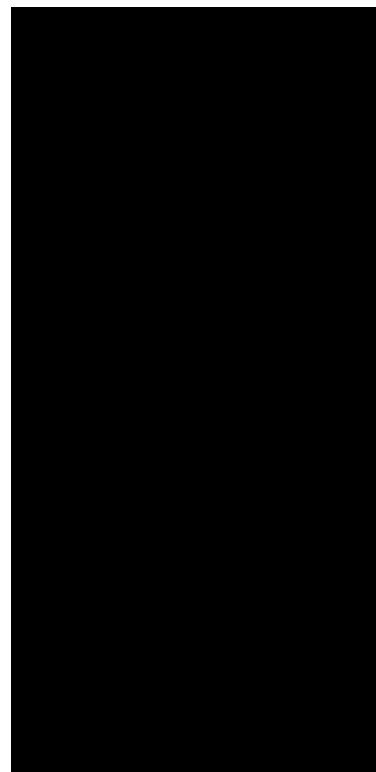
No

If not, why not?

If so why?

Configuration 1 - B - User 2 - User 2

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

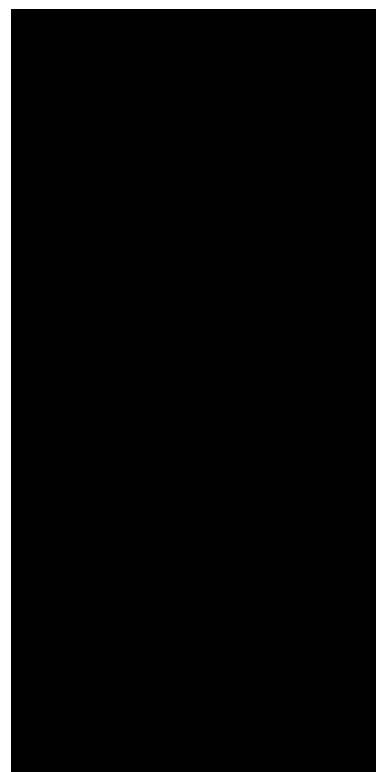
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

7

8

9

10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

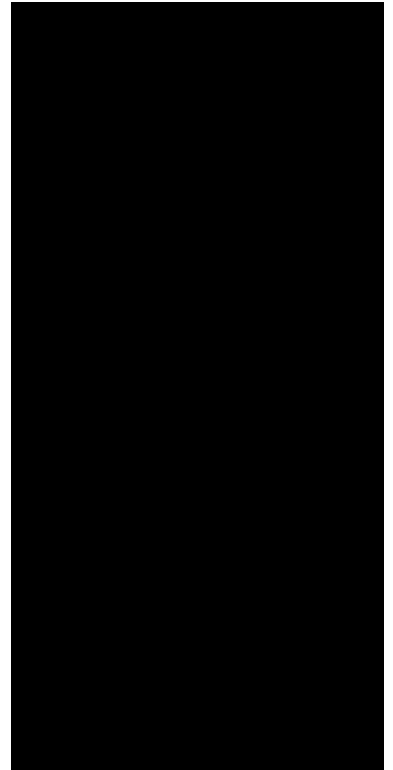
Soda Can

Rubber Duck
Telephone

Rate how confident you are on your choice



Entire movement to reach for Rubber Duck



0:00



Did the video change your prediction?

Yes

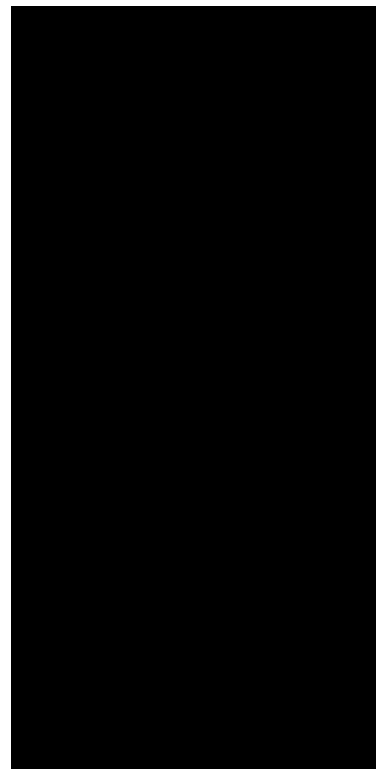
No

If not, why not?

If so why?

Configuration 1 - C - User 2 - User 2

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

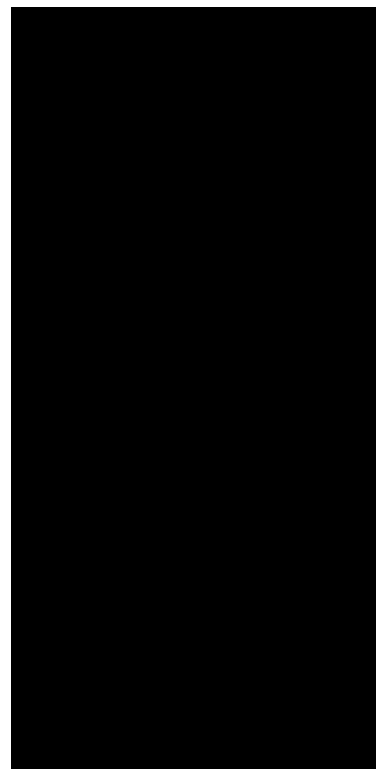
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

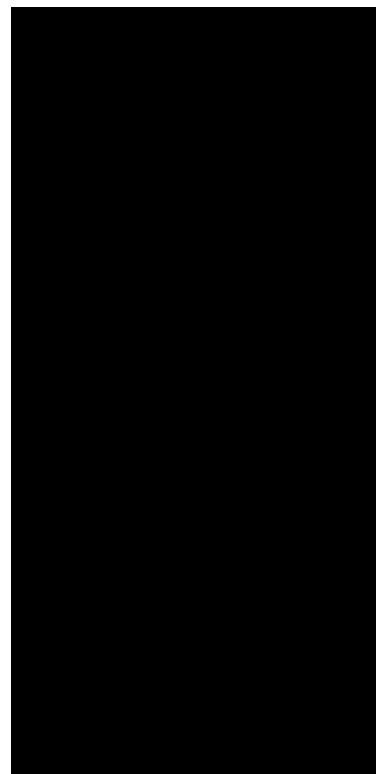
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

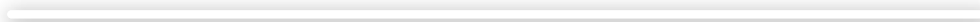
Rate how confident you are on your choice



Entire movement to reach for Telephone



0:00



Did the video change your prediction?

Yes

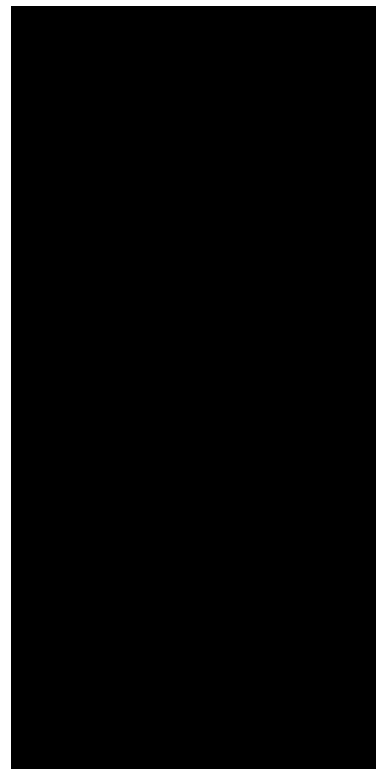
No

If not, why not?

If so why?

Configuration 1 - A - User 2 - User 3

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

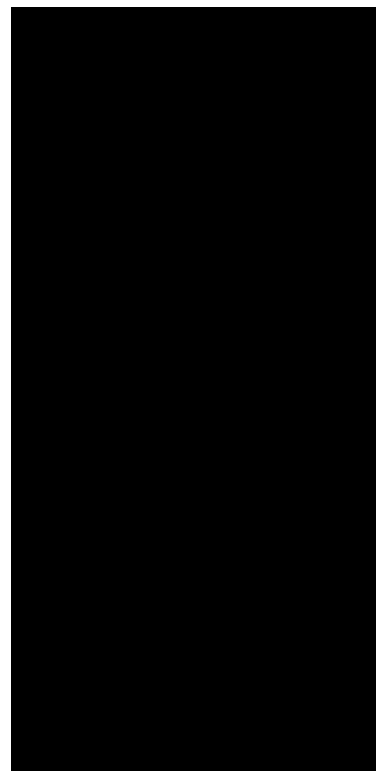
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck
Telephone

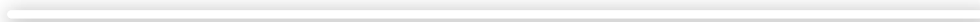
Rate how confident you are on your choice



Entire movement to reach for Soda Can



0:00



Did the video change your prediction?

Yes

No

If not, why not?

If so why?

Configuration 1 - B - User 2 - User 3

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

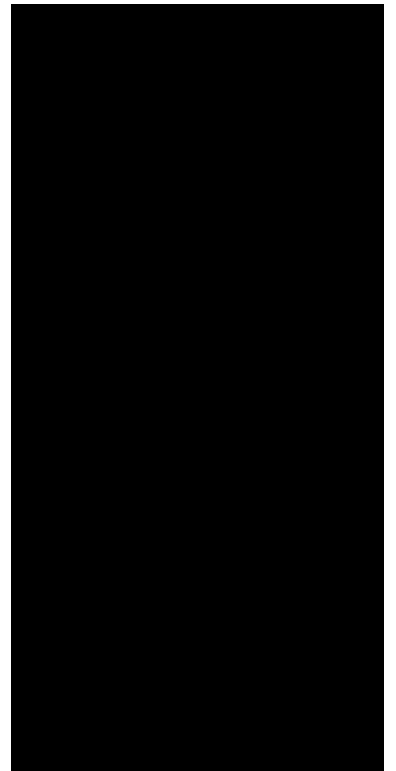
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

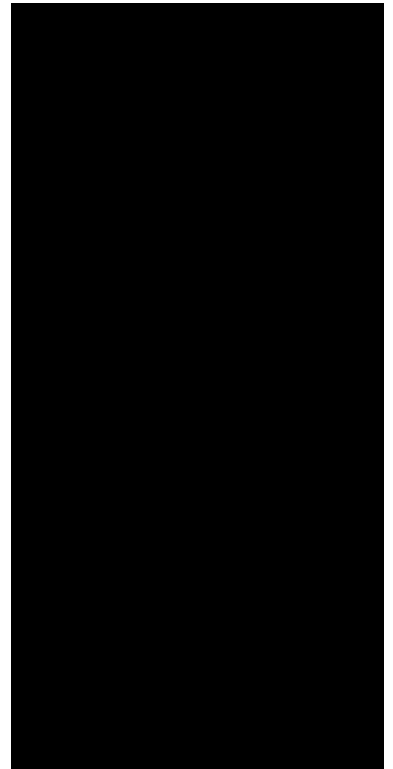
7

8

9

10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck
Telephone

Rate how confident you are on your choice



Entire movement to reach for Rubber Duck



0:00



Did the video change your prediction?

Yes

No

If not, why not?

If so why?

Configuration 1 - C - User 2 - User 3

First six seconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

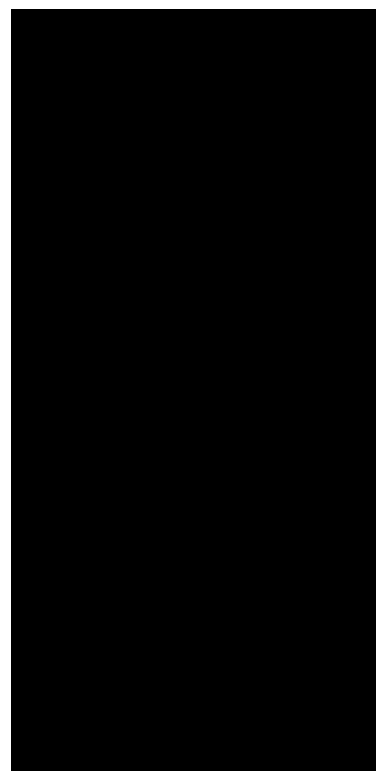
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

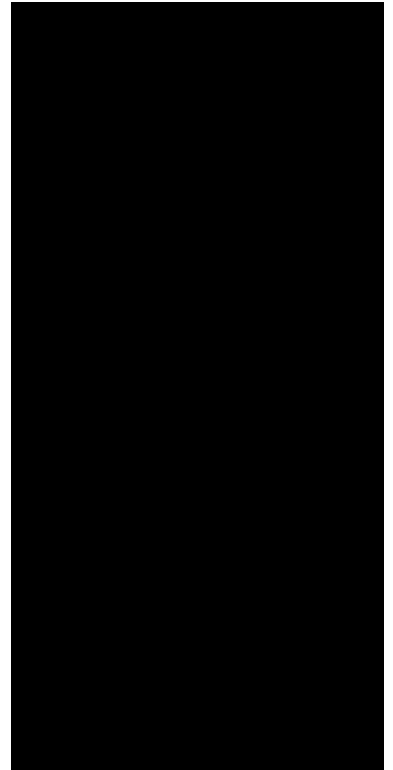
Rubber Duck

Telephone

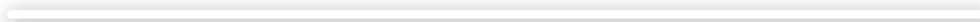
Rate how confident you are on your choice



Entire movement to reach for Telephone



0:00



Did the video change your prediction?

Yes

No

If not, why not?

If so why?

User 2 Overall Evaluation

How clear were the robot's intentions in the movements?

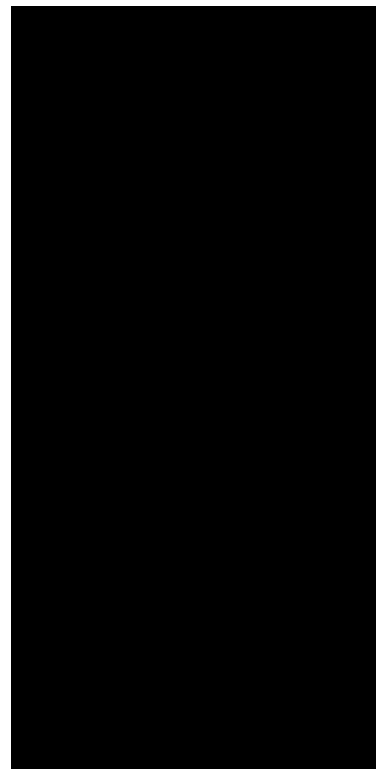
Extremely Confusing

Extremely Clear

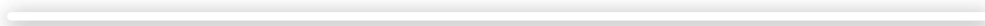
0 1 2 3 4 5 6 7 8 9 10

Configuration 1 - A - User 3 - User 1

First six seconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

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6

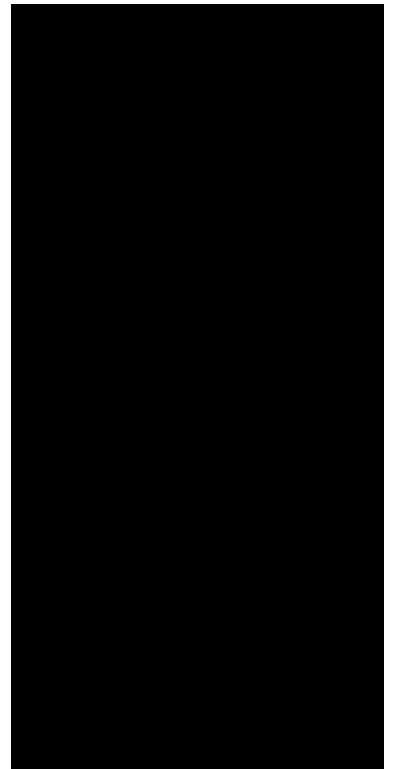
7

8

9

10

First twelve seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

7

8

9

10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

- Soda Can
- Rubber Duck
- Telephone

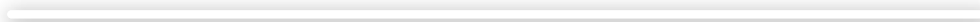
Rate how confident you are on your choice



Entire movement to reach for Soda Can



0:00



Did the video change your prediction?

Yes

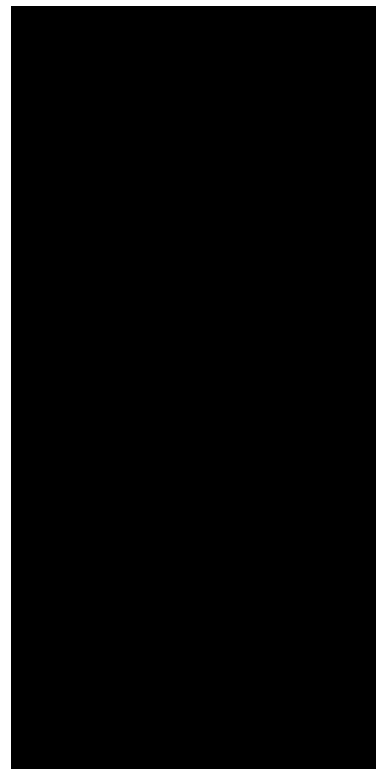
No

If not, why not?

If so why?

Configuration 1 - B - User 3 - User 1

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

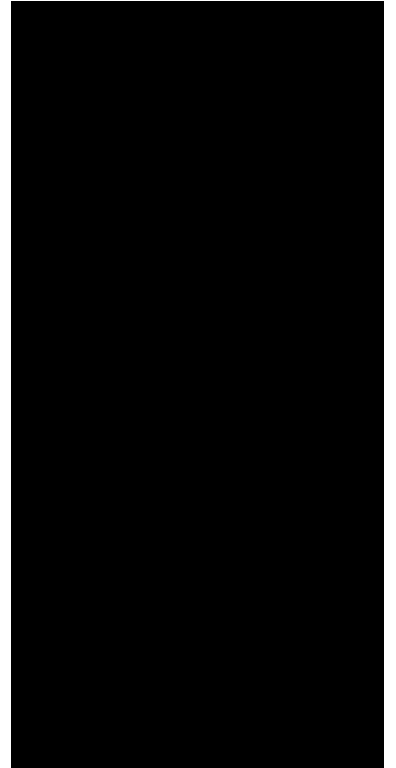
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

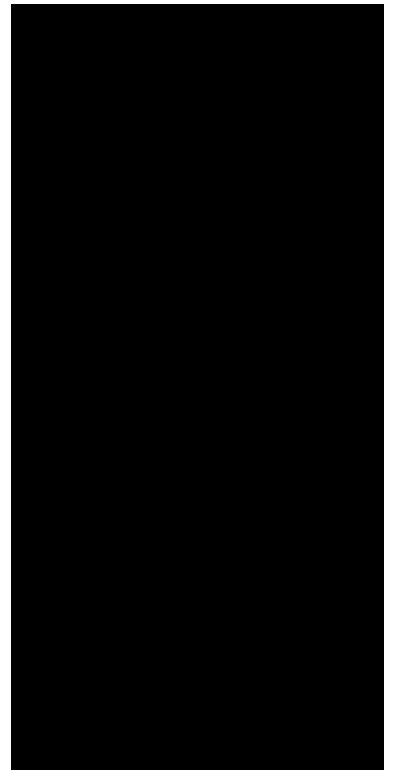
7

8

9

10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck
Telephone

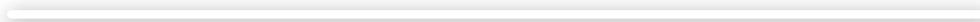
Rate how confident you are on your choice



Entire movement to reach for Rubber Duck



0:00



Did the video change your prediction?

Yes

No

If not, why not?

If so why?

Configuration 1 - C - User 3 - User 1

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

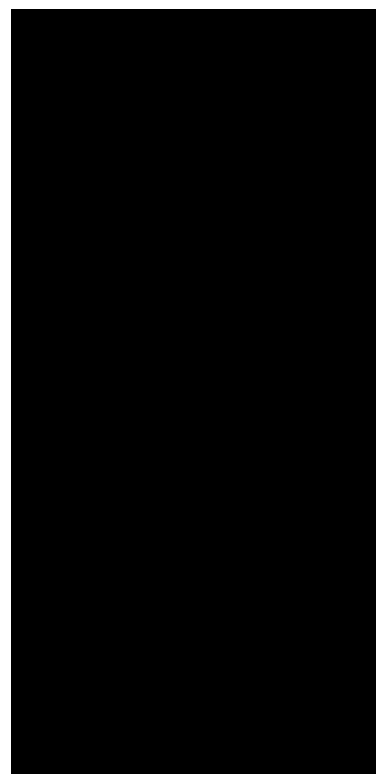
Rate how confident you are on your choice

Serious Doubts

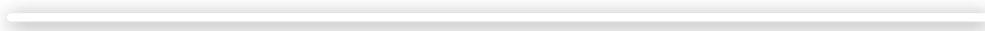
No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

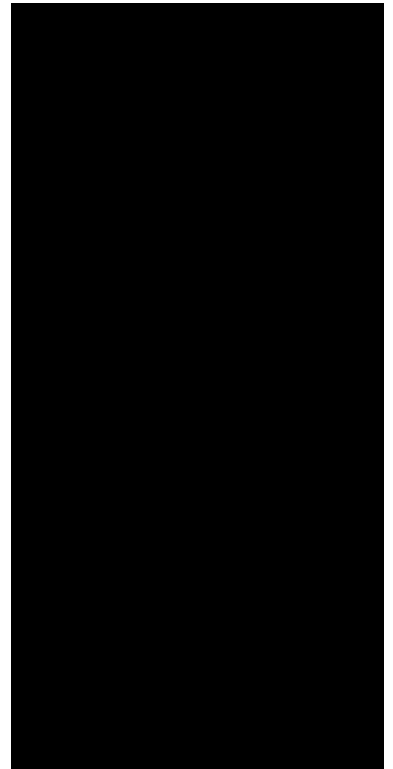
7

8

9

10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

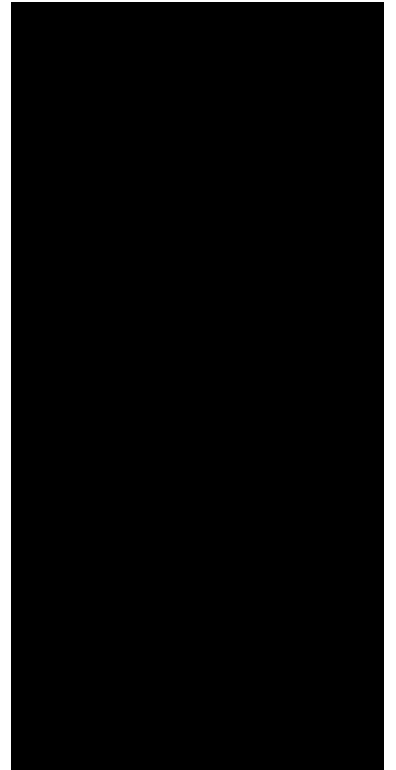
Soda Can

Rubber Duck
Telephone

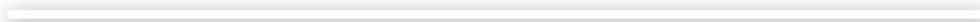
Rate how confident you are on your choice



Entire movement to reach for Soda Can



0:00



Did the video change your prediction?

Yes

No

If not, why not?

If so why?

Configuration 1 - A - User 3 - User 2

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

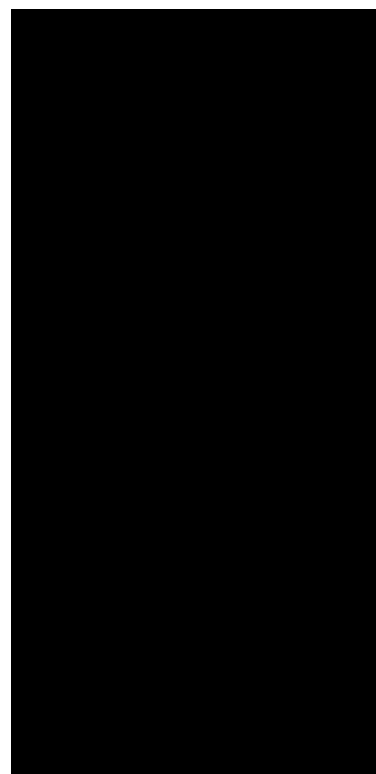
Rate how confident you are on your choice

Serious Doubts

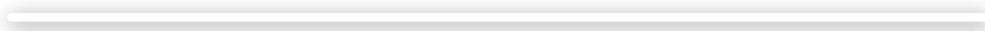
No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

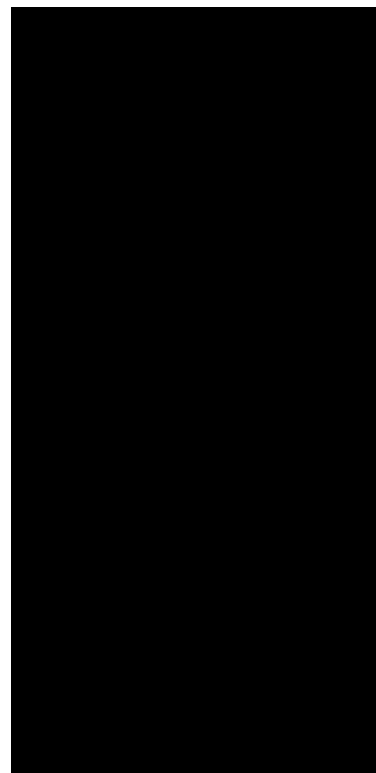
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

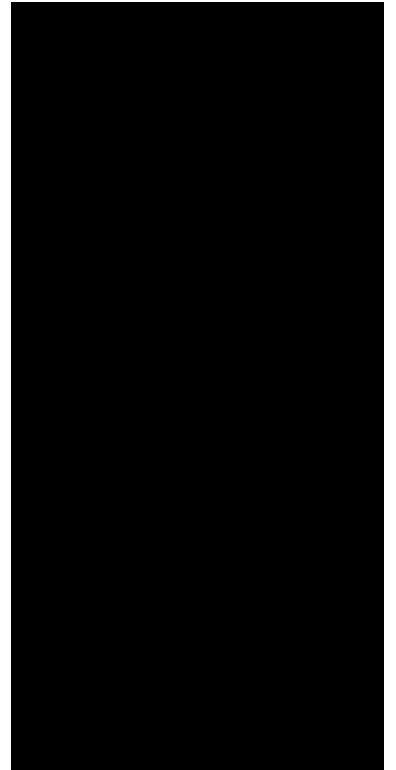
Soda Can

Rubber Duck
Telephone

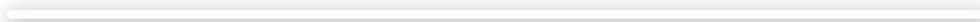
Rate how confident you are on your choice



Entire movement to reach for Soda Can



0:00



Did the video change your prediction?

Yes

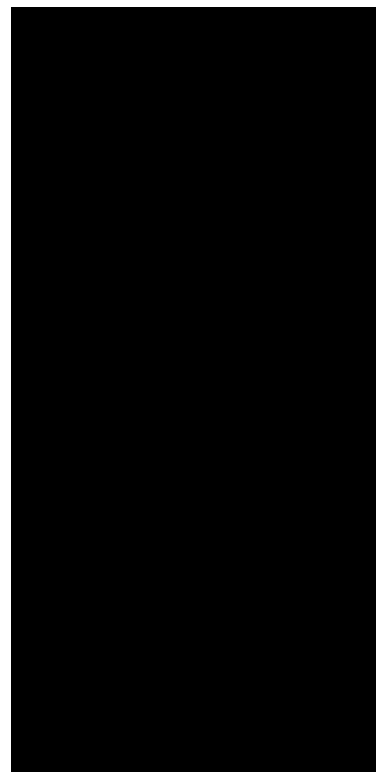
No

If not, why not?

If so why?

Configuration 1 - B - User 3 - User 2

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

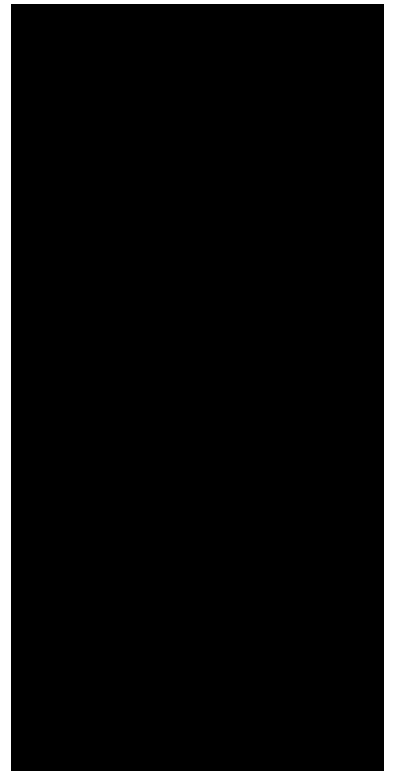
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

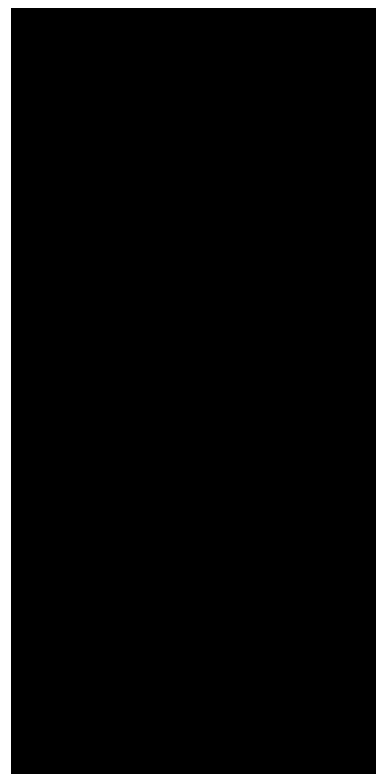
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

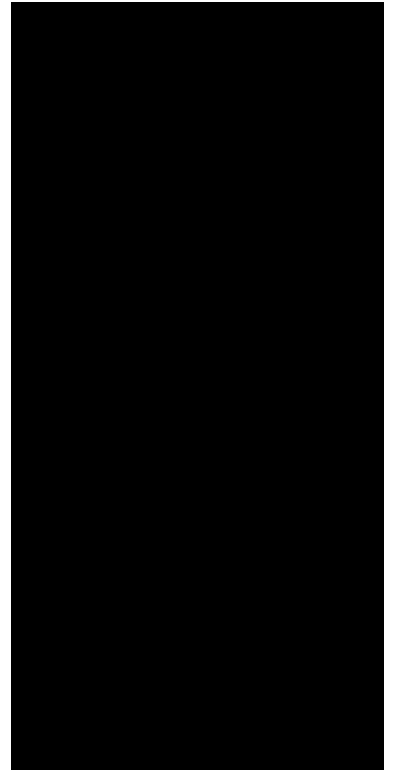
Soda Can

Rubber Duck
Telephone

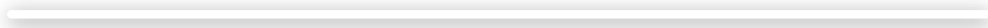
Rate how confident you are on your choice



Entire movement to reach for Rubber Duck



0:00



Did the video change your prediction?

Yes

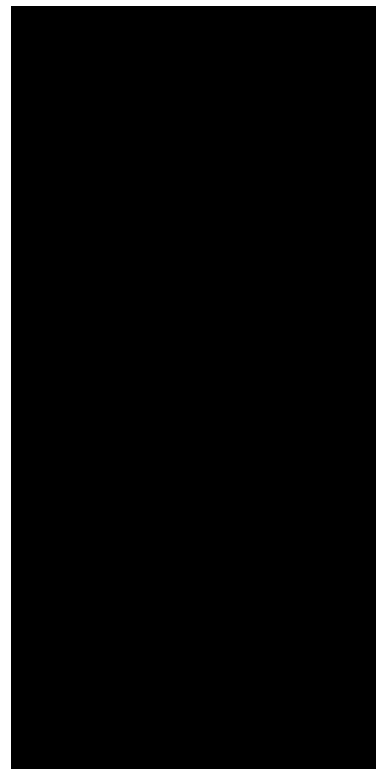
No

If not, why not?

If so why?

Configuration 1 - C - User 3 - User 2

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

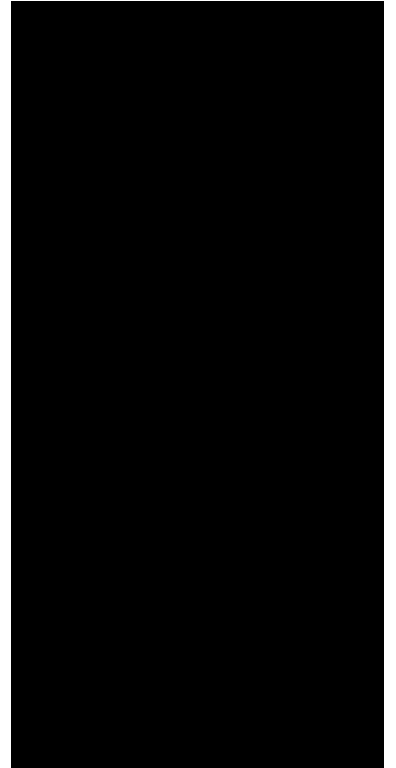
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

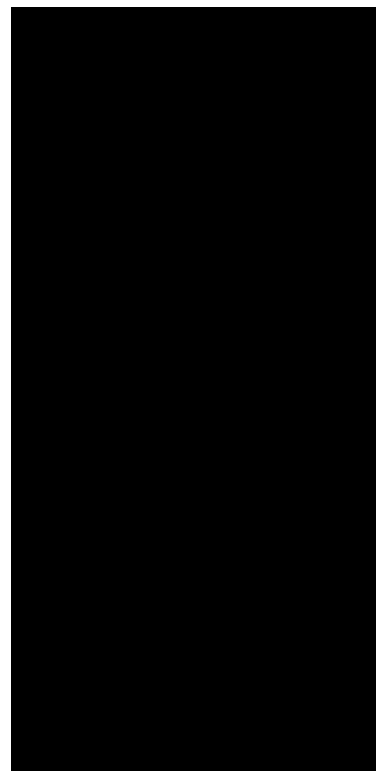
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

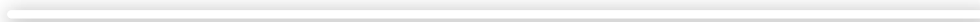
Rate how confident you are on your choice



Entire movement to reach for Telephone



0:00



Did the video change your prediction?

Yes

No

If not, why not?

If so why?

Configuration 1 - A - User 3 - User 3

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

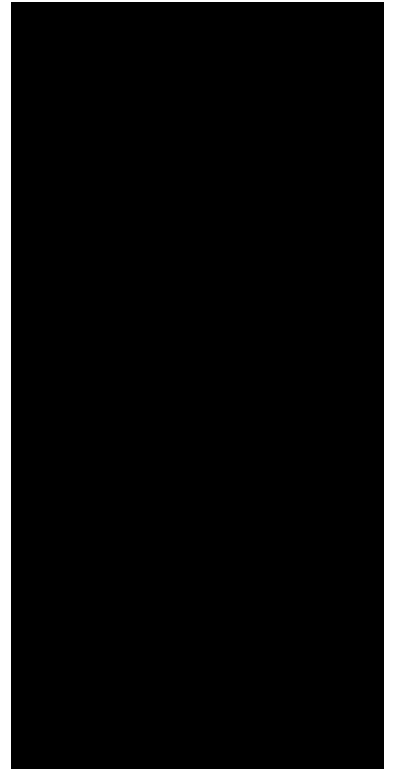
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

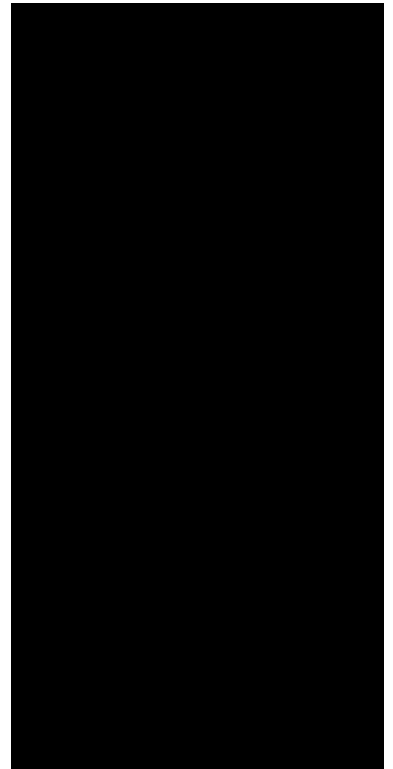
7

8

9

10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

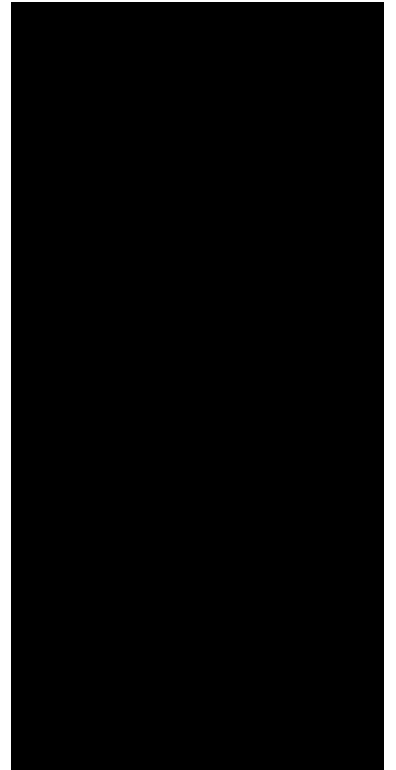
Soda Can

Rubber Duck
Telephone

Rate how confident you are on your choice



Entire movement to reach for Soda Can



0:00



Did the video change your prediction?

Yes

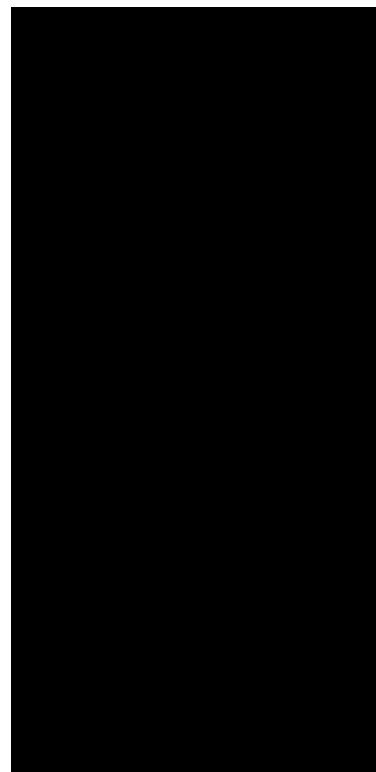
No

If not, why not?

If so why?

Configuration 1 - B - User 3 - User 3

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

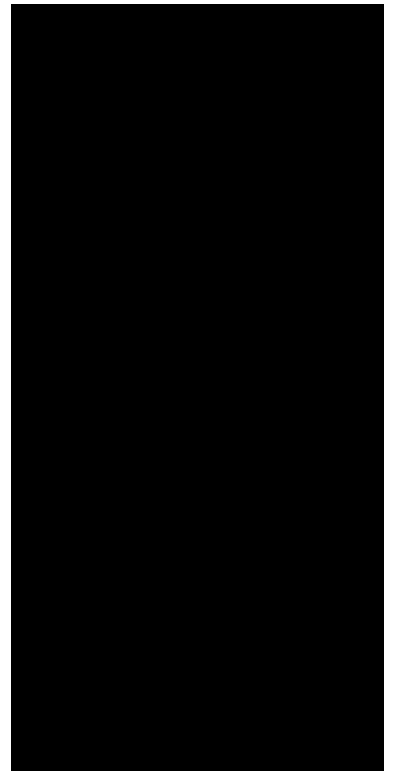
Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00



What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0

1

2

3

4

5

6

7

8

9

10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

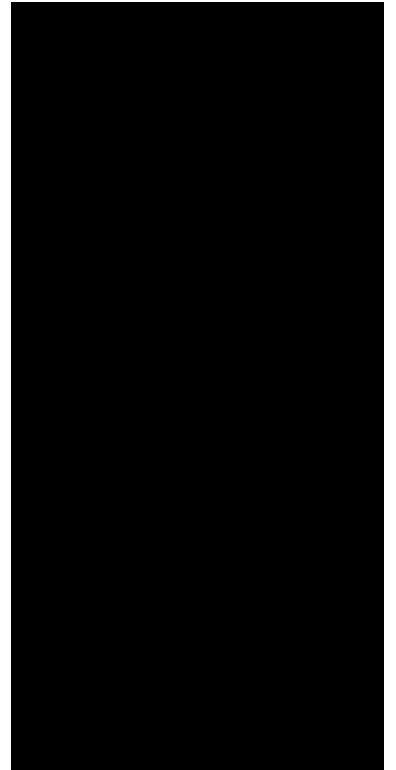
Soda Can

Rubber Duck
Telephone

Rate how confident you are on your choice



Entire movement to reach for Rubber Duck



0:00



Did the video change your prediction?

Yes

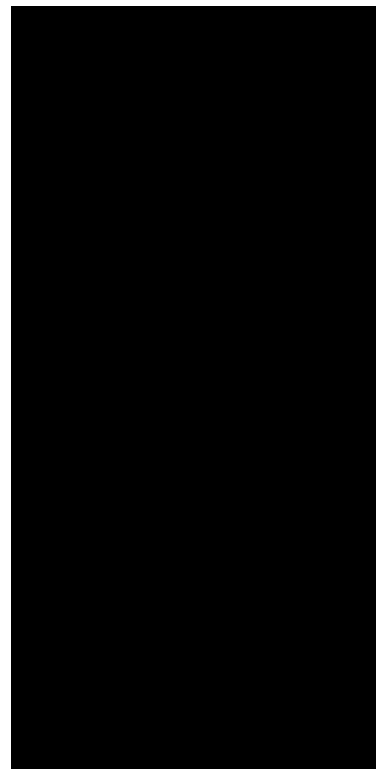
No

If not, why not?

If so why?

Configuration 1 - C - User 3 - User 3

First six seconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First twelve sconds of movement



0:00

What object is the robot reaching for?

Soda Can

Rubber Duck

Telephone

Rate how confident you are on your choice

Serious Doubts

No Doubts

0 1 2 3 4 5 6 7 8 9 10

First eighteen seconds of movement



0:00

What object is the robot reaching for?

Soda Can

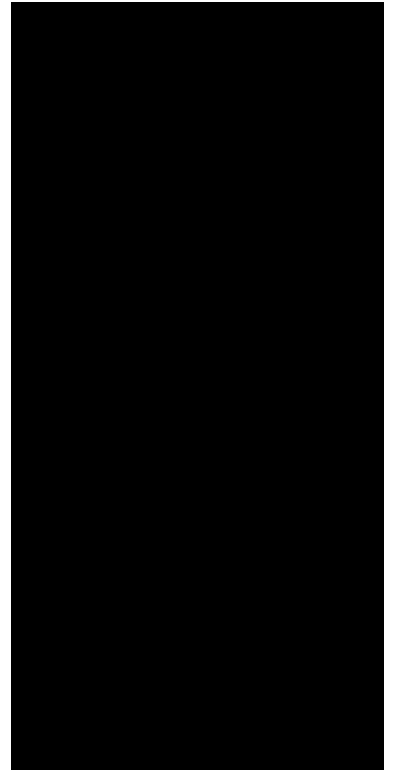
Rubber Duck

Telephone

Rate how confident you are on your choice



Entire movement to reach for Telephone



0:00



Did the video change your prediction?

Yes

No

If not, why not?

If so why?

User 3 Overall Evaluation

How clear were the robot's intentions in the movements?

Extremely Confusing

Extremely Clear

0 1 2 3 4 5 6 7 8 9 10

Control

What objects were on the table?

Mobile Phone, Rubber Duck, Telephone

Rubber Duck, Soda Can, Telephone

Rubber Duck, Mobile Phone, Soda Can

Rubber Duck, Soda Bottle, Telephone

Mobile Phone, Rubber Ball, Soda Can

Random ID Display

Here is your survey ID: \${e://Field/Random%20ID}

Please paste the ID into MTurk.

When you have copied and pasted the ID, please click the next button to submit your survey.

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