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# RoboCup@Home

Forms & Score Sheets

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# Registration Form



**Team name:** \_\_\_\_\_

**Team leader name:** \_\_\_\_\_

## Safety first!

The speed of the robots should ensure safe operation. This means that the robot is not allowed to go faster than the local speed limits. During operation in an environment with humans it may not exceed a walking pace of humans (6 kph, 3.7 mph).

At any time when operating the robot inside and outside the scenario the owners have to stop the robot immediately if there is a remote possibility of dangerous behavior towards people and/or objects. If a referee, member of the Technical or Organizational committee, an Executive or Trustee of the federation tells the team to stop the robot, there will be no discussion and the robot has to be stopped *immediately*.

If the team does not comply, the team and its members can be excluded from the ongoing competition immediately by a decision of the RoboCup@Home Technical Committee. Furthermore, the team and its members can be banned from future competitions for a period not less than a year by a decision of the RoboCup Federation Trustee Board.

	<b>Robot 1</b>	<b>Robot 2</b>
Size of the robot		
Emergency button(s)		
Start button		
Collision avoidance		
Voice of the robot		
Robot speaker system		
Use of external devices		
ASR Bypassing method		
Other safety issues		
Custom containers.		

## External Devices:

I have read and fully understood the “Safety First” statement and agree to it. Furthermore, I agree to obey the rules in the official RoboCup@Home RuleBook.

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Date & time

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Team leader

# Score Sheet



Test: Poster Session

Team name: \_\_\_\_\_

Referee name: \_\_\_\_\_

## Instructions:

1. Please watch all posters carefully.
2. There will be a team member for questions about the poster.
3. After viewing the poster and asking your questions you may have, please fill in the evaluation sheet below.
4. Is not allowed to evaluate your own team.
5. You may use the space below "Remarks:" to take notes for yourself.
6. Enter your team's name ("Team name") and your name ("referee name") on top of the sheet.
7. Sign the form using either "Referee" or "Team leader" slots at the bottom.

## Evaluation sheet

Team	Overall score of poster (0-10)
Chief Scientist Office	
EPFL@Home	
eR@sers	
FBOT@Home	
Gentlebots	
Hibikino-Musashi@Home	
KIARO	
LAR@Home	
LASR	
LCASTOR	
LyonTech	
NimbRo@Home	
Pumas	
PUMAS-DSPL	
RoboCanes-VISAGE	
RoboFEI@Home	
RoBorregos rUNSWEEP	
Serious Cybernetics Corporation (SCC)	
Sinfonia Uniandes	
SKUBA	
SOBITS	
SocRob@Home	
SUTURO-VaB	
Team of Bielefeld (ToBi)	
Tech United Eindhoven	
Tidyboy-DSPL	
Tidyboy-OPL	
Tinker	
TRAIL	
UT Austin Villa@Home	

**Remarks:**

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Date & time

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Referee

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Team leader

# Score Sheet



Test: General Purpose Service Robot

Team name: \_\_\_\_\_

Referee name: \_\_\_\_\_

Action	Score	1 <sup>st</sup> try	2 <sup>nd</sup> try	3 <sup>rd</sup> try
<b>Main Goal</b>				
Understand the spoken command	$3 \times 80$	_____	_____	_____
Demonstrate a plan has been generated	$3 \times 100$	_____	_____	_____
Solving the command	$3 \times 250$	_____	_____	_____
<b>Bonus Rewards</b>				
Interleaved Task Bonus	200	_____	_____	_____
<b>Penalties</b>				
Using a custom operator	$3 \times -20$	_____	_____	_____
Request a rephrasing	$6 \times -30$	_____	_____	_____
Bypassing speech recognition	$3 \times -50$	_____	_____	_____
Human assistance: will apply a percentage penalty according to similar penalties in other tests.	$3 \times -250$	_____	_____	_____
<b>Special Penalties &amp; Bonuses</b>				
Not attending	-500	_____	_____	_____
Using alternative start signal	-100	_____	_____	_____
Outstanding performance	149	_____	_____	_____
<b>Recordings</b>				
Duration (limit: 7:00 minutes)		_____	_____	_____
Restart after (sec)		_____	_____	_____
<b>Score per try</b>				
	1490	_____	_____	_____
<b>Total Score</b>				
	1639	_____	_____	_____

Remarks:

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Date & time

Referee

Team leader

# Score Sheet



Test: Human Robot Interaction Challenge

Team name: \_\_\_\_\_

Referee name: \_\_\_\_\_

Action	Score	1 <sup>st</sup> try	2 <sup>nd</sup> try	3 <sup>rd</sup> try
<b>Main Goal</b>				
Offer a free seat to the new guest	$2 \times 100$	_____	_____	_____
Look in the direction of navigation or at the navigation goal	$2 \times 15$	_____	_____	_____
Look at the person talking, when receiving a guest	$2 \times 50$	_____	_____	_____
Introduce both guests to each other: correctly say name and favorite drink of each guest	$4 \times 30$	_____	_____	_____
While introducing guests, look to the correct guest while talking about the other guest	$2 \times 50$	_____	_____	_____
Grab the bag via handover from the guest	50	_____	_____	_____
Following the host to the bag drop area	200	_____	_____	_____
Drop the bag on the correct area	50	_____	_____	_____
<b>Bonus Rewards</b>				
Detect the doorbell sound as a signal that a guest has arrived	$2 \times 30$	_____	_____	_____
Open the entrance door for a guest	$2 \times 200$	_____	_____	_____
Describe the first guest to the second guest (per correct visual attribute)	$4 \times 20$	_____	_____	_____
Not asking non essential questions to confirm or correct information	$4 \times 15$	_____	_____	_____
<b>Penalties</b>				
Wrong guest information was memorized (continue with wrong name, drink or interest)	$4 \times -40$	_____	_____	_____
Describe the first guest to the second guest (per incorrect visual attribute)	$4 \times -20$	_____	_____	_____
Alternative HRI	$6 \times -20$	_____	_____	_____
Not recognizing people	$2 \times -200$	_____	_____	_____
<b>Penalties - Guiding</b>				
Ask the guest to place the bag somewhere on the robot	-25	_____	_____	_____
Drop the bag while following the host	-50	_____	_____	_____
Ask the host to place the bag on the bag drop location	-50	_____	_____	_____
Rediscovering the operator by natural interaction	-50	_____	_____	_____
Asking operator to wait	-50	_____	_____	_____
Guiding the robot with physical contact (take by the hand)	-150	_____	_____	_____
<b>Special Penalties &amp; Bonuses</b>				
Not attending	-500	_____	_____	_____
Outstanding performance	145	_____	_____	_____
<b>Recordings</b>				
Duration (limit: <b>6:00</b> minutes)		_____	_____	_____
Restart after (sec)		_____	_____	_____
<b>Score per try</b>	1450	_____	_____	_____
<b>Total Score</b>	1595	_____	_____	_____
<b>Remarks:</b>				

Date &amp; time

Referee

Team leader

# Score Sheet



Test: Pick and Place Challenge

Team name: \_\_\_\_\_

Referee name: \_\_\_\_\_

Action	Score	1 <sup>st</sup> try	2 <sup>nd</sup> try	3 <sup>rd</sup> try
Navigate to the table	15	_____	_____	_____
Correctly recognize an object	12×10	_____	_____	_____
Perceive objects on a shelf and indicate the correct placement	2×30	_____	_____	_____
<b>Picking</b>				
Picking up an object for transportation	12×50	_____	_____	_____
From the floor	+30	_____	_____	_____
Cutlery	2×+50	_____	_____	_____
Plate	+100	_____	_____	_____
Dishwasher tab	+100	_____	_____	_____
<b>Placing</b>				
Place an object in its designated location	12×40	_____	_____	_____
Place an item correctly in the dishwasher (cleanable and in a human-like manner)	3×+70	_____	_____	_____
Place an object next to similar objects in the cabinet	2×+20	_____	_____	_____
<b>Bonus Rewards</b>				
First Pick Bonus	100	_____	_____	_____
Pull or push the dishwasher rack	2×100	_____	_____	_____
Open or close the dishwasher door without assistance	2×200	_____	_____	_____
Place the dishwasher tab in its designated slot inside the dishwasher	200	_____	_____	_____
Open milk container without assistance	400	_____	_____	_____
Pour cereal or milk into the bowl without assistance	2×200	_____	_____	_____
<b>Penalties</b>				
Objects thrown or dropped while placing	12×-40	_____	_____	_____
Area around breakfast items is not cleaned (from breakfast placement scores)	4×-30	_____	_____	_____
Breakfast not served in a typical meal setting	-50	_____	_____	_____
Objects dropped on the floor	12×-40	_____	_____	_____
Spilling cereal and milk while pouring	2×-100	_____	_____	_____
Human assistance: object repositioned by a person	12×-40	_____	_____	_____
Human assistance: handover	24×-100	_____	_____	_____
Human assistance: opening milk container	-0	_____	_____	_____
Human assistance: moving dishwasher door or rack	-0	_____	_____	_____
<b>Special Penalties &amp; Bonuses</b>				
Not attending	-500	_____	_____	_____
Using alternative start signal	-100	_____	_____	_____
Outstanding performance	355	_____	_____	_____
<b>Recordings</b>				
Duration (limit: <b>7:00</b> minutes)		_____	_____	_____
Restart after (sec)		_____	_____	_____

<b>Score per try</b>	3555	_____	_____	_____
<b>Total Score</b>	3910	_____	_____	_____

<b>Remarks:</b>		
Date & time	Referee	Team leader

# Score Sheet



Test: Restaurant

Team name: \_\_\_\_\_

Referee name: \_\_\_\_\_

Action	Score	1 <sup>st</sup> try	2 <sup>nd</sup> try	3 <sup>rd</sup> try
<b><i>Regular Rewards</i></b>				
Detect calling or waving customer	2×100	_____	_____	_____
Reach a customer's table without prior guidance/training	2×100	_____	_____	_____
Understand and confirm the order received to the customer	2×200	_____	_____	_____
Communicate the order to the barman	2×100	_____	_____	_____
Picking up the requested items from the <i>Kitchen-bar</i>	2×200	_____	_____	_____
Return to the customer table with the order	2×100	_____	_____	_____
Serve the order to the customer	2×200	_____	_____	_____
<b><i>Bonus Rewards</i></b>				
Use an unattached tray to transport	2×200	_____	_____	_____
<b><i>Penalties</i></b>				
Being guided to a table	2×-100	_____	_____	_____
Not making eye-contact when taking an order	2×-80	_____	_____	_____
Not reaching the bar (barman has to move from behind the bar to interact with the robot)	2×-80	_____	_____	_____
Asking for directional confirmation	2×-80	_____	_____	_____
<b><i>Human Assistance Penalties</i></b>				
Asking the Barman to handover object to the robot	4×-100	_____	_____	_____
Guest needing to take the object from a tray or the robot's hand	4×-100	_____	_____	_____
Being told/pointed where is a table/ <i>Kitchen-bar</i>	2×-100	_____	_____	_____
<b><i>Special Penalties &amp; Bonuses</i></b>				
Not attending	-500	_____	_____	_____
Using alternative start signal	-100	_____	_____	_____
Outstanding performance	240	_____	_____	_____
<b><i>Recordings</i></b>				
Duration (limit: <b>15:00</b> minutes)		_____	_____	_____
Restart after (sec)		_____	_____	_____

**Score per try** 2400 \_\_\_\_\_

**Total Score** 2640 \_\_\_\_\_

Remarks:

Date & time

Referee

Team leader

# Score Sheet



Test: Doing Laundry

Team name: \_\_\_\_\_

Referee name: \_\_\_\_\_

Action	Score	1 <sup>st</sup> try	2 <sup>nd</sup> try	3 <sup>rd</sup> try
<b>Main Goal</b>				
Navigating to the laundry area	15	_____	_____	_____
Picking up a clothing item	100	_____	_____	_____
Placing clothing on the table	100	_____	_____	_____
Folding a piece of clothing	400	_____	_____	_____
<b>Bonus Rewards</b>				
Opening the washing machine door	300	_____	_____	_____
Retrieving clothes from inside the washing machine (per item)	4×100	_____	_____	_____
Using the basket for transportation	300	_____	_____	_____
Folding additional clothes (per item)	6×300	_____	_____	_____
Stacking folded clothes neatly (per item)	6×200	_____	_____	_____
<b>Penalties</b>				
Human Assistance: opening the washing machine door	-300	_____	_____	_____
Human Assistance: handing clothes to the robot	-100	_____	_____	_____
Human assistance during folding will apply a percentage penalty according to the amount of help	-400	_____	_____	_____
<b>Special Penalties &amp; Bonuses</b>				
Not attending	-500	_____	_____	_____
Using alternative start signal	-100	_____	_____	_____
Outstanding performance	461	_____	_____	_____
<b>Recordings</b>				
Duration (limit: 7:00 minutes)		_____	_____	_____
Restart after (sec)		_____	_____	_____

**Score per try** 4615 \_\_\_\_\_

**Total Score** 5076 \_\_\_\_\_

Remarks:

Date & time

Referee

Team leader

# Score Sheet



Test: Final Demonstration

Team name: \_\_\_\_\_

Referee name: \_\_\_\_\_

Action	Score	Single try
<b>Main Goal (can be repeated unlimited times)</b>		
Find and clearly state an encountered problem	$3 \times 150$	_____
Solve a problem	$3 \times 650$	_____
Opening the Door of the Apartment	600	_____
Closing the Dishwasher	600	_____
Custom Task		_____
Custom Task		_____
Custom Task		_____
<b>Penalties</b>		
Find repeated problem category	-100	_____
Solving repeated problem category for the 2nd time	-300	_____
Solving repeated problem category for the 3rd (or more) time	-500	_____
<b>Human Assistance Penalties</b>		
Asking for location of a problem	$3 \times -150$	_____
Restart (only applies if the robot continues scoring afterwards)	-50	_____
Instructing a human to perform parts of the task will apply a percentage penalty according to similar penalties in other tests.	$3 \times -650$	_____
<b>Recordings</b>		
Duration (limit: <b>10:00</b> minutes)		_____
Restart after (sec)		_____

Total Score 3600 \_\_\_\_\_

**Referee Information:** Note each problem (category, item, location) and mark if they are stated by the robot in remarks

Remarks:

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Date & time

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Referee

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Team leader