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# RoboCup@Home

Forms & Score Sheets

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# Registration Form



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

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

Weight & dimensions (robot 1): \_\_\_\_\_

Weight & dimensions (robot 2): \_\_\_\_\_

External devices: \_\_\_\_\_

Possible manipulation heights: \_\_\_\_\_

Manipulable objects: \_\_\_\_\_

\_\_\_\_\_

## 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.

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.

\_\_\_\_\_  
Date & time

\_\_\_\_\_  
Team leader

# Score Sheet



**Test:** Robot Inspection

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

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

The maximum time for this test is *7 minutes* for one robot and *9 minutes* for two robots. If the time limit is exceeded, the total score in this test is limited to 500 points.

A non-functioning robot can be registered by a team member.

For the evaluation of the posters, every team leader gives up to 10 points for each poster presented.

Action	Score	1st try	2nd try
<b>Registration</b>			
Non-autonomous registration	100	_____	_____
Autonomous registration (one robot)	500	_____	_____
Autonomous registration (two robots)	2 × 250	_____	_____
<b>Neat Appearance</b>			
No wires hanging out of the robot, e.g. no functional wire has to be tied to the robot, no duct-tape, internals covered, etc.	200	_____	_____
<b>Poster session</b>			
Arithmetic mean of scoring from evaluation sheets × 30	300	_____	_____
<b>Special penalties &amp; bonuses</b>			
Not attending	-500	_____	_____
Outstanding performance	100	_____	_____
<hr/>			
<b>Total score</b>	1100	_____	_____

**Remarks:**

\_\_\_\_\_  
Date & time

\_\_\_\_\_  
Referee

\_\_\_\_\_  
Team leader

# Score Sheet



**Test:** Poster Session

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

Team	Score	Result
CAS@Home	10	_____
Uchile HomeBreakers	10	_____
WrightEagle@Home	10	_____
ZJUPanda@Home	10	_____
b-it-bots	10	_____
homer@UniKoblenz	10	_____
NimbRo@Home	10	_____
ToBI	10	_____
MRL@Home	10	_____
Sourena	10	_____
eR@sers	10	_____
Ho-Ryu	10	_____
NANISHA	10	_____
Pumas	10	_____
Radical Dudes	10	_____
MINHO@Home	10	_____
DCR-I	10	_____
Robo-Erectus@Home	10	_____
RH5-Y	10	_____
AIrobot@home	10	_____
Crude Scientists	10	_____
TKU	10	_____
Plasma-MK	10	_____
GT@Home	10	_____

**Remarks:**

\_\_\_\_\_  
*Date & time*

\_\_\_\_\_  
*Referee*

# Score Sheet



Test: Follow Me

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

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

The maximum time of the test is *8 minutes*, including calibrating on the operator.

Action	Score	1st try	2nd try
<b>Checkpoint 1: Temporary occlusion</b>			
Successfully resume following the operator	100	_____	_____
<b>Checkpoint 2: Tracking from the distance</b>			
Understanding the user command	50	_____	_____
Bonus for using a gesture	100	_____	_____
Waiting a minimum of 10 seconds and then <i>finding and following the operator</i>	100	_____	_____
<b>Checkpoint 3: Recognize owner</b>			
Understanding the user command	50	_____	_____
Bonus for using a gesture	100	_____	_____
<i>Recognizing and following the operator</i> after he returns	200	_____	_____
<b>Checkpoint 4: Finish line</b>			
Crossing the finish line	200	_____	_____
<b>No touching</b>			
Reaching all 4 checkpoints and <i>not having touched any object or human</i> in the scenario	100	_____	_____
<b>Special penalties &amp; bonuses</b>			
Not attending	-500	_____	_____
Outstanding performance	100	_____	_____
<b>Total score</b>	1100	_____	_____

Remarks:

\_\_\_\_\_  
Date & time

\_\_\_\_\_  
Referee

\_\_\_\_\_  
Team leader

# Score Sheet



Test: Go Get It!

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

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

The maximum time for this test is *5 minutes*.

All points can only be given once in this test. If the robot identifies an object wrongly, it cannot receive the points for identifying the correct object.

If one of the robots *enters the room of the other robot* for more than 30 seconds and is not trying to return to its own room or interferes with the other robot, then the test is finished for this robot and it has to be removed from the area.

Action	Score	1st try	2nd try
<b><i>Navigating to the room</i></b>			
Successfully reaching the correct room	200	_____	_____
<b><i>Identifying an object</i></b>			
The robot correctly indicates which of the (known) objects it has identified. The robot has to be facing it and be within a distance of max. 50 cm.	200	_____	_____
<b><i>Grasping the object</i></b>			
Grasping the object and successfully lifting it up to at least 5 cm for more than <i>10 seconds</i>	200	_____	_____
<b><i>Handing to user</i></b>			
Successfully returning to the operator and handing the object to him/her. The operator has to be in the same place as he/she was when telling the robot where to go.	300	_____	_____
<b><i>Leaving the arena</i></b>			
Autonomously leaving the arena within the time limit	100	_____	_____
<b><i>Special penalties &amp; bonuses</i></b>			
Not attending	-500	_____	_____
Using start button	-50	_____	_____
Outstanding performance	100	_____	_____
<b>Total score</b>	1100	_____	_____
<b>Remarks:</b>			

\_\_\_\_\_  
Date & time

\_\_\_\_\_  
Referee

\_\_\_\_\_  
Team leader

# Score Sheet



Test: Who Is Who

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

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

The maximum time for this test is *7 minutes*.

When using an onboard microphone, the distance between the person speaking and the robot has to be at least *50 cm*.

Action	Score	1st try	2nd try
<b><i>Receive guests</i></b>			
Understanding name	$2 \times 25$	_____	_____
Using onboard microphone	$2 \times 100$	_____	_____
<b><i>Searching guests</i></b>			
Correctly identifying a person as a human ( $1 \times \text{per person}$ )	$5 \times 50$	_____	_____
Correctly identifying a known person by its name	$4 \times 75$	_____	_____
Correctly indicating that a person is unknown	100	_____	_____
Confounding one of the persons ( <i>identifying him/her by the wrong name</i> )	-100	_____	_____
Incorrectly identifying something as a human	-150	_____	_____
<b><i>Leaving the arena</i></b>			
Autonomously leaving the arena within the time limit	100	_____	_____
Autonomously opening the door before leaving	250	_____	_____
<b><i>Special penalties &amp; bonuses</i></b>			
Not attending	-500	_____	_____
Using start button	-50	_____	_____
Outstanding performance	100	_____	_____
<hr/>			
<b>Total score</b>	1350	_____	_____

Remarks:

\_\_\_\_\_  
Date & time

\_\_\_\_\_  
Referee

\_\_\_\_\_  
Team leader

# Score Sheet



**Test:** Enhanced Who Is Who

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

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

**Test repetition:** ☐ 1st ☐ 2nd

The maximum time for this test is *10 minutes*.

Action	Score	1st try	2nd try
<b><i>Receive guests</i></b>			
Understanding name	$3 \times 25$	_____	_____
Using onboard microphone	$3 \times 100$	_____	_____
<b><i>Taking the order</i></b>			
Finding the calling person and asking it for its order	$250$	_____	_____
Asking the wrong person or something that is not a person for its order	$-150$	_____	_____
<b><i>Grasping drinks</i></b>			
<i>Grasping a drink</i> and successfully lifting it up to at least <i>5 cm</i> for more than <i>10 seconds</i>	$3 \times 200$	_____	_____
<b><i>Delivering drinks</i></b>			
Delivering the correct drink to the person which ordered the drinks	$200$	_____	_____
Delivering to the other standing person	$225$	_____	_____
Delivering to the sitting person	$250$	_____	_____
<b><i>Leaving the arena</i></b>			
Autonomously leaving the arena within the time limit	$100$	_____	_____
<b><i>Special penalties &amp; bonuses</i></b>			
Not attending	$-500$	_____	_____
Using start button	$-50$	_____	_____
Outstanding performance	$200$	_____	_____
<hr/>			
<b>Total score</b>	$2200$	_____	_____

**Remarks:**

\_\_\_\_\_  
*Date & time*

\_\_\_\_\_  
*Referee*

\_\_\_\_\_  
*Team leader*



# Score Sheet



**Test:** General Purpose Service Robot

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

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

**Test repetition:** ☐ 1st ☐ 2nd

The maximum time for this test is *10 minutes*.

Action	Score	1st try	2nd try
<b>Category I</b>			
Asking correct/reasonable questions (to require missing information)	300	_____	_____
Solving half of the task or more (showing that the robot has understood the command and works on the test) <i>and</i>	200	_____	_____
Completely solving the task	300	_____	_____
<b>Category II</b>			
Showing that the robot has understood the command and works on the test	200	_____	_____
Solving the task up the point where the error occurred	200	_____	_____
Indicating that a problem has occurred while executing the task	200	_____	_____
Returning to the user and explaining what went wrong	200	_____	_____
Giving an alternative solution to the problem	200	_____	_____
<b>Total Score</b>			
max (Cat. I) + max (Cat. II) = 1800			
<b>Special penalties &amp; bonuses</b>			
Not attending	-500	_____	_____
Using start button	-50	_____	_____
Outstanding performance	180	_____	_____
<hr/>			
<b>Total score</b>	1980	_____	_____
<b>Remarks:</b>			

\_\_\_\_\_  
*Date & time*

\_\_\_\_\_  
*Referee*

\_\_\_\_\_  
*Team leader*

# Score Sheet



Test: Shopping Mall

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

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

The maximum time for this test is *10 minutes*.

Action	Score	1st try	2nd try
<b><i>Guide Phase</i></b>			
Reaching a <i>location</i> in the guide phase	$4 \times 50$	_____	_____
<b><i>Navigation Phase</i></b>			
Reaching a <i>location</i> in the navigation/manipulation phase	$3 \times 150$	_____	_____
<b><i>Grasping the correct objects</i></b>			
Successfully grasping a correct object from the shelf	$3 \times 200$	_____	_____
Successfully grasping from at least 2 different heights	150	_____	_____
<b><i>Delivering the correct objects</i></b>			
Successfully delivering (and handing over) the correct object to the user	$3 \times 150$	_____	_____
<b><i>No Touching</i></b>			
Successfully solving the complete test in time without <i>touching</i> anything.	150	_____	_____
<b><i>Special penalties &amp; bonuses</i></b>			
Not attending	-500	_____	_____
Outstanding performance	200	_____	_____
<hr/>			
<b>Total score</b>	2200	_____	_____

Remarks:

\_\_\_\_\_  
Date & time

\_\_\_\_\_  
Referee

\_\_\_\_\_  
Team leader