



RoboCup@Home

Forms & Score Sheets

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.

| | Robot 1 | Robot 2 |
|-------------------------|---------|---------|
| 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.

Date & time

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:

Date & time

Referee

Team leader

Score Sheet



Test: General Purpose Service Robot

Team name: _____

Referee name: _____

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

Remarks:

Date & time

Referee

Team leader

Score Sheet



Test: Human Robot Interaction Challenge

Team name: _____

Referee name: _____

| Action | Score | 1 st try | 2 nd try | 3 rd try |
|------------------------------------------------------------------------------------------|--------|---------------------|---------------------|---------------------|
| Main Goal | | | | |
| Offer a free seat to the new guest | 2×100 | _____ | _____ | _____ |
| Look in the direction of navigation or at the navigation goal | 2×15 | _____ | _____ | _____ |
| Look at the person talking, when receiving a guest | 2×50 | _____ | _____ | _____ |
| Introduce both guests to each other: correctly say name and favorite drink of each guest | 4×30 | _____ | _____ | _____ |
| While introducing guests, look to the correct guest while talking about the other guest | 2×50 | _____ | _____ | _____ |
| 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 | _____ | _____ | _____ |
| Bonus Rewards | | | | |
| Detect the doorbell sound as a signal that a guest has arrived | 2×30 | _____ | _____ | _____ |
| Open the entrance door for a guest | 2×200 | _____ | _____ | _____ |
| Describe the first guest to the second guest (per correct visual attribute) | 4×20 | _____ | _____ | _____ |
| Not asking non essential questions to confirm or correct information | 4×15 | _____ | _____ | _____ |
| Penalties | | | | |
| Wrong guest information was memorized (continue with wrong name, drink or interest) | 4×-40 | _____ | _____ | _____ |
| Describe the first guest to the second guest (per incorrect visual attribute) | 4×-20 | _____ | _____ | _____ |
| Alternative HRI | 6×-20 | _____ | _____ | _____ |
| Not recognizing people | 2×-200 | _____ | _____ | _____ |
| Penalties - Guiding | | | | |
| 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 | _____ | _____ | _____ |
| Special Penalties & Bonuses | | | | |
| Not attending | -500 | _____ | _____ | _____ |
| Outstanding performance | 145 | _____ | _____ | _____ |
| Recordings | | | | |
| Duration (limit: 6:00 minutes) | | _____ | _____ | _____ |
| Restart after (sec) | | _____ | _____ | _____ |
| <hr/> | | | | |
| Score per try | 1450 | _____ | _____ | _____ |
| Total Score | 1595 | _____ | | |

Remarks:

Date & time

Referee

Team leader

Score Sheet



Test: Pick and Place Challenge

Team name: _____

Referee name: _____

| Action | Score | 1 st try | 2 nd try | 3 rd try |
|----------------------------------------------------------------------------------|---------|---------------------|---------------------|---------------------|
| Navigate to the table | 15 | _____ | _____ | _____ |
| Correctly recognize an object | 12×10 | _____ | _____ | _____ |
| Perceive objects on a shelf and indicate the correct placement | 2×30 | _____ | _____ | _____ |
| Picking | | | | |
| Picking up an object for transportation | 12×50 | _____ | _____ | _____ |
| From the floor | +30 | _____ | _____ | _____ |
| Cutlery | 2×+50 | _____ | _____ | _____ |
| Plate | +100 | _____ | _____ | _____ |
| Dishwasher tab | +100 | _____ | _____ | _____ |
| Placing | | | | |
| 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 | _____ | _____ | _____ |
| Bonus Rewards | | | | |
| 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 | _____ | _____ | _____ |
| Penalties | | | | |
| 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 | _____ | _____ | _____ |
| Special Penalties & Bonuses | | | | |
| Not attending | -500 | _____ | _____ | _____ |
| Using alternative start signal | -100 | _____ | _____ | _____ |
| Outstanding performance | 355 | _____ | _____ | _____ |
| Recordings | | | | |
| Duration (limit: 7:00 minutes) | | _____ | _____ | _____ |
| Restart after (sec) | | _____ | _____ | _____ |
| <hr/> | | | | |
| Score per try | 3555 | _____ | _____ | _____ |
| Total Score | 3910 | _____ | | |
| Remarks: | | | | |

Date & time

Referee

Team leader

Score Sheet



Test: Restaurant

Team name: _____

Referee name: _____

| Action | Score | 1 st try | 2 nd try | 3 rd try |
|------------------------------------------------------------------------------------------|--------|---------------------|---------------------|---------------------|
| Regular Rewards | | | | |
| 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 | _____ | _____ | _____ |
| Bonus Rewards | | | | |
| Use an unattached tray to transport | 2×200 | _____ | _____ | _____ |
| Penalties | | | | |
| 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 | _____ | _____ | _____ |
| Human Assistance Penalties | | | | |
| 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 | _____ | _____ | _____ |
| Special Penalties & Bonuses | | | | |
| Not attending | -500 | _____ | _____ | _____ |
| Using alternative start signal | -100 | _____ | _____ | _____ |
| Outstanding performance | 240 | _____ | _____ | _____ |
| Recordings | | | | |
| Duration (limit: 15:00 minutes) | | _____ | _____ | _____ |
| Restart after (sec) | | _____ | _____ | _____ |
| <hr/> | | | | |
| 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 st try | 2 nd try | 3 rd try |
|----------------------------------------------------------------------------------------------------|--------|---------------------|---------------------|---------------------|
| Main Goal | | | | |
| Navigating to the laundry area | 15 | _____ | _____ | _____ |
| Picking up a clothing item | 100 | _____ | _____ | _____ |
| Placing clothing on the table | 100 | _____ | _____ | _____ |
| Folding a piece of clothing | 400 | _____ | _____ | _____ |
| Bonus Rewards | | | | |
| 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 | _____ | _____ | _____ |
| Penalties | | | | |
| 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 | _____ | _____ | _____ |
| Special Penalties & Bonuses | | | | |
| Not attending | −500 | _____ | _____ | _____ |
| Using alternative start signal | −100 | _____ | _____ | _____ |
| Outstanding performance | 461 | _____ | _____ | _____ |
| Recordings | | | | |
| Duration (limit: 7:00 minutes) | | _____ | _____ | _____ |
| Restart after (sec) | | _____ | _____ | _____ |
| <hr/> | | | | |
| 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 |
|---------------------------------------------------------------------------------------------------------------------------------|---------|------------|
| Main Goal (can be repeated unlimited times) | | |
| Find and clearly state an encountered problem | 3× 150 | _____ |
| Solve a problem | 3× 650 | _____ |
| Opening the Door of the Apartment | 600 | _____ |
| Closing the Dishwasher | 600 | _____ |
| Custom Task | | _____ |
| Custom Task | | _____ |
| Custom Task | | _____ |
| Penalties | | |
| 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 | _____ |
| Human Assistance Penalties | | |
| Asking for location of a problem | 3× -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× -650 | _____ |
| Recordings | | |
| Duration (limit: 10:00 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:

Date & time

Referee

Team leader