



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: Help Me Carry

Team name: _____

Referee name: _____

| Action | Score | 1 st try | 2 nd try | 3 rd try |
|---|-------|---------------------|---------------------|---------------------|
| Main Goal | | | | |
| Following the person to the car | 300 | _____ | _____ | _____ |
| Perceiving the correct beg (visualize on screen or say which one) | 15 | _____ | _____ | _____ |
| Picking up the correct bag | 100 | _____ | _____ | _____ |
| Avoiding the crowd of people obstructing the path | 50 | _____ | _____ | _____ |
| Avoiding the small object on the ground | 50 | _____ | _____ | _____ |
| Avoiding the hard-to-see object | 50 | _____ | _____ | _____ |
| Avoiding the area blocked with retractable barriers | 50 | _____ | _____ | _____ |
| Bonus rewards | | | | |
| Re-reaching the starting location | 200 | _____ | _____ | _____ |
| Joining and staying in the queue on the way to the arena | 300 | _____ | _____ | _____ |
| Penalties | | | | |
| Dropping the bag | -50 | _____ | _____ | _____ |
| Deus Ex Machina Penalties | | | | |
| Rediscovering the operator by natural interaction | -50 | _____ | _____ | _____ |
| Rediscovering the operator by unnatural interaction | -100 | _____ | _____ | _____ |
| Rediscovering the operator by asking them to come back | -150 | _____ | _____ | _____ |
| Rediscovering the operator by direct contact | -200 | _____ | _____ | _____ |
| Special Penalties & Bonuses | | | | |
| Not attending | -500 | _____ | _____ | _____ |
| Using alternative start signal | -100 | _____ | _____ | _____ |
| Outstanding performance | 111 | _____ | _____ | _____ |
| Recordings | | | | |
| Duration (limit: 5:00 minutes) | | _____ | _____ | _____ |
| Restart after (sec) | | _____ | _____ | _____ |

| | | | | |
|---------------|------|-------|-------|-------|
| Score per try | 1115 | _____ | _____ | _____ |
|---------------|------|-------|-------|-------|

| | | |
|-------------|------|-------|
| Total Score | 1226 | _____ |
|-------------|------|-------|

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 | | | | |
| Executing the task associated with each command | 3×400 | _____ | _____ | _____ |
| Bonus Rewards | | | | |
| Understanding a command given by a non-expert operator | 3×100 | _____ | _____ | _____ |
| Deus Ex Machina Penalties | | | | |
| Using a custom operator | 3×-50 | _____ | _____ | _____ |
| Bypassing speech recognition | 3×-50 | _____ | _____ | _____ |
| Instructing a human to perform parts of the task will apply a percentage penalty according to similar penalties in other Stage I tests. | 3×-400 | _____ | _____ | _____ |
| Special Penalties & Bonuses | | | | |
| Not attending | -500 | _____ | _____ | _____ |
| Using alternative start signal | -100 | _____ | _____ | _____ |
| Outstanding performance | 150 | _____ | _____ | _____ |
| Recordings | | | | |
| Duration (limit: 5:00 minutes) | | _____ | _____ | _____ |
| Restart after (sec) | | _____ | _____ | _____ |
| Score per try | 1500 | _____ | _____ | _____ |
| Total Score | 1650 | _____ | | |
| Remarks: | | | | |

Date & time

Referee

Team leader

Score Sheet



Test: Receptionist

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 | _____ | _____ | _____ |
| Show the guest around (navigate to the beverage area and living room) | 2×30 | _____ | _____ | _____ |
| Look in the direction of navigation or at the navigation goal | 2×15 | _____ | _____ | _____ |
| Tell position of favorite drink | 2×20 | _____ | _____ | _____ |
| Look at the person talking | 2×75 | _____ | _____ | _____ |
| Introduce both guests to each other | 180 | _____ | _____ | _____ |
| Bonus Rewards | | | | |
| Open the entrance door for a guest | 2×200 | _____ | _____ | _____ |
| State a similarity between an interest between two or more persons | 50 | _____ | _____ | _____ |
| Describe the first guest to the second guest before reaching the living room (per correct visual attribute) | 4×30 | _____ | _____ | _____ |
| Penalties | | | | |
| Wrong guest information was memorized (continue with wrong name, drink or interest) | 6×-20 | _____ | _____ | _____ |
| Describe the first guest to the second guest before reaching the living room (per incorrect visual attribute) | 4×-30 | _____ | _____ | _____ |
| Introduce the wrong persons | -120 | _____ | _____ | _____ |
| Deus Ex Machina | | | | |
| Alternative HRI | 2×-75 | _____ | _____ | _____ |
| Not recognizing people | 2×-200 | _____ | _____ | _____ |
| Special Penalties & Bonuses | | | | |
| Not attending | -500 | _____ | _____ | _____ |
| Outstanding performance | 123 | _____ | _____ | _____ |
| Recordings | | | | |
| Duration (limit: 6:00 minutes) | | _____ | _____ | _____ |
| Restart after (sec) | | _____ | _____ | _____ |

| | | | | |
|---------------|------|-------|-------|-------|
| Score per try | 1230 | _____ | _____ | _____ |
|---------------|------|-------|-------|-------|

| | | |
|-------------|------|-------|
| Total Score | 1353 | _____ |
|-------------|------|-------|

Remarks:

Date & time

Referee

Team leader

Score Sheet



Test: Storing Groceries

Team name: _____

Referee name: _____

| Action | Score | 1 st try | 2 nd try | 3 rd try |
|---|--------|---------------------|---------------------|---------------------|
| Main Goal | | | | |
| Navigating to the table | 15 | _____ | _____ | _____ |
| Perceiving object and categorizing it correctly | 5×15 | _____ | _____ | _____ |
| Picking up an object for transportation to the cabinet | 5×50 | _____ | _____ | _____ |
| Perceiving objects in shelf and saying on which layer the currently handled object should be placed | 5×15 | _____ | _____ | _____ |
| Placing an object in the cabinet | 5×15 | _____ | _____ | _____ |
| Placing an object next to similar objects on the cabinet | 5×50 | _____ | _____ | _____ |
| Opening the first cabinet door | 200 | _____ | _____ | _____ |
| Opening the second cabinet door | 100 | _____ | _____ | _____ |
| Pouring cereal into the container | 300 | _____ | _____ | _____ |
| Bonus Rewards | | | | |
| Picking up an object from the shopping bag | 5×50 | _____ | _____ | _____ |
| Picking up a tiny object | 70 | _____ | _____ | _____ |
| Placing a tiny object | 30 | _____ | _____ | _____ |
| Picking up a heavy object | 70 | _____ | _____ | _____ |
| Placing a heavy object | 30 | _____ | _____ | _____ |
| Autonomously Picking any Object | 50 | _____ | _____ | _____ |
| Autonomously Placing any Object | 50 | _____ | _____ | _____ |
| Deus Ex Machina Penalties | | | | |
| Perceiving object and categorizing it wrongly | 10×-15 | _____ | _____ | _____ |
| A human handing an object over to the robot | 5×-50 | _____ | _____ | _____ |
| A human placing an object in the cabinet | 5×-15 | _____ | _____ | _____ |
| A human placing an object in the cabinet next to similar objects | 5×-50 | _____ | _____ | _____ |
| A human pointing at a target location | 5×-25 | _____ | _____ | _____ |
| A human opening the cabinet door | 2×-100 | _____ | _____ | _____ |
| Spilling cereal while pouring | -100 | _____ | _____ | _____ |
| Leaving cereal in the box | -100 | _____ | _____ | _____ |
| A human pouring cereal in the bowl | -300 | _____ | _____ | _____ |
| Special Penalties & Bonuses | | | | |
| Not attending | -500 | _____ | _____ | _____ |
| Using alternative start signal | -100 | _____ | _____ | _____ |
| Outstanding performance | 189 | _____ | _____ | _____ |
| Recordings | | | | |
| Duration (limit: 7:00 minutes) | | _____ | _____ | _____ |
| Restart after (sec) | | _____ | _____ | _____ |

Score per try 1890 _____

Total Score 2079 _____

Remarks:

Date & time

Referee

Team leader

Score Sheet



Test: Clean the Table

Team name: _____

Referee name: _____

| Action | Score | 1 st try | 2 nd try | 3 rd try |
|--|-------|---------------------|---------------------|---------------------|
| Main Goal | | | | |
| Navigate to the table to pick up items | 15 | _____ | _____ | _____ |
| Picking up the cup, bowl and drinks for transportation | 4×50 | _____ | _____ | _____ |
| Picking up cutlery (spoon, fork) for transportation | 2×80 | _____ | _____ | _____ |
| Picking up the plate for transportation | 100 | _____ | _____ | _____ |
| Placing the tableware and cutlery inside the dishwasher | 5×50 | _____ | _____ | _____ |
| Placing an item correctly (cleanable, convenient like a human would) in the dishwasher | 5×75 | _____ | _____ | _____ |
| Placing a drink inside the trash bin | 2×50 | _____ | _____ | _____ |
| Bonus Rewards | | | | |
| Pulling and pushing the dishwasher rack | 2×100 | _____ | _____ | _____ |
| Opening and closing the dishwasher door | 2×200 | _____ | _____ | _____ |
| Picking up the dishwasher tab for transportation to the dishwasher | 100 | _____ | _____ | _____ |
| Placing the dishwasher tab inside the dishwasher's hatch intended for the tab | 200 | _____ | _____ | _____ |
| Wiping the area where the drink was | 2×50 | _____ | _____ | _____ |
| Autonomously Picking any Object | 50 | _____ | _____ | _____ |
| Autonomously Placing any Object | 50 | _____ | _____ | _____ |
| Deus Ex Machina Penalties | | | | |
| Handing cup, bowl and drinks over to the robot | 3×-50 | _____ | _____ | _____ |
| Handing cutlery over to the robot | 2×-80 | _____ | _____ | _____ |
| Handing the plate over to the robot | -100 | _____ | _____ | _____ |
| Having a human place an object in the dishwasher | 5×-50 | _____ | _____ | _____ |
| Having a human place a drink inside the trash bin | 2×-50 | _____ | _____ | _____ |
| A human pointing at the trash bin | 2×-25 | _____ | _____ | _____ |
| Special Penalties & Bonuses | | | | |
| Not attending | -500 | _____ | _____ | _____ |
| Using alternative start signal | -100 | _____ | _____ | _____ |
| Outstanding performance | 230 | _____ | _____ | _____ |
| Recordings | | | | |
| Duration (limit: 10:00 minutes) | | _____ | _____ | _____ |
| Restart after (sec) | | _____ | _____ | _____ |

Score per try 2300 _____

Total Score 2530 _____

Remarks:

Date & time

Referee

Team leader

Score Sheet



Test: Enhanced General Purpose Service Robot

Team name: _____

Referee name: _____

| Action | Score | 1 st try | 2 nd try | 3 rd try |
|--|--------|---------------------|---------------------|---------------------|
| Main Goal (can be repeated unlimited times) | | | | |
| Find and clearly state an encountered problem | 3×150 | _____ | _____ | _____ |
| Solve a problem | 3×650 | _____ | _____ | _____ |
| 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 | _____ | _____ | _____ |
| <i>These Penalties are applied before any percentage based Deus Ex Machina Penalties</i> | | _____ | _____ | _____ |
| Deus Ex Machina Penalties | | | | |
| Asking for location of a problem | 3×-150 | _____ | _____ | _____ |
| Instructing a human to perform parts of the task will apply a percentage penalty according to similar penalties in other Stage II tests. | 3×-650 | _____ | _____ | _____ |
| Special Penalties & Bonuses | | | | |
| Not attending | -500 | _____ | _____ | _____ |
| Using alternative start signal | -100 | _____ | _____ | _____ |
| Outstanding performance | 240 | _____ | _____ | _____ |
| Recordings | | | | |
| Duration (limit: 10:00 minutes) | | _____ | _____ | _____ |
| Restart after (sec) | | _____ | _____ | _____ |
| <hr/> | | | | |
| Score per try | 2400 | _____ | _____ | _____ |
| Total Score | 2640 | _____ | _____ | _____ |

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

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 | _____ | _____ | _____ |
| 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 | _____ | _____ | _____ |
| Regular Penalties | | | | |
| Being guided to a table | 2×-200 | _____ | _____ | _____ |
| 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 | _____ | _____ | _____ |
| Deus ex Machina Penalties | | | | |
| Asking the Barman to handover object to the robot | 4×-50 | _____ | _____ | _____ |
| Guest needing to take the object from a tray or the robot's hand | 4×-50 | _____ | _____ | _____ |
| Being told/pointed where is a table/Kitchen-bar | 2×-100 | _____ | _____ | _____ |
| Special Penalties & Bonuses | | | | |
| Not attending | -500 | _____ | _____ | _____ |
| Using alternative start signal | -100 | _____ | _____ | _____ |
| Outstanding performance | 200 | _____ | _____ | _____ |
| Recordings | | | | |
| Duration (limit: 15:00 minutes) | | _____ | _____ | _____ |
| Restart after (sec) | | _____ | _____ | _____ |
| <hr/> | | | | |
| Score per try | 2000 | _____ | _____ | _____ |
| Total Score | 2200 | _____ | | |

Remarks:

Date & time

Referee

Team leader

Score Sheet



Test: New HRI

Team name: _____

Referee name: _____

| Action | Score | 1 st try | 2 nd try | 3 rd try |
|--|-------|---------------------|---------------------|---------------------|
| Regular Rewards | | | | |
| Approach a calling operator | 100 | _____ | _____ | _____ |
| Approach the human's hand without contact | 5×50 | _____ | _____ | _____ |
| Receive an object from the operator | 5×100 | _____ | _____ | _____ |
| Use natural interaction to clarify ambiguous delivery locations | 5×50 | _____ | _____ | _____ |
| Place an object at the correct location | 5×100 | _____ | _____ | _____ |
| Penalties | | | | |
| Initiating unattended interaction (e.g., talking to the open air) | 5×-50 | _____ | _____ | _____ |
| Place an object at the wrong location or by guessing the intended location | 5×-75 | _____ | _____ | _____ |
| Deus Ex Machina Penalties | | | | |
| Instruct the user how to hand over an object | 5×-75 | _____ | _____ | _____ |
| Special Penalties & Bonuses | | | | |
| Not attending | -500 | _____ | _____ | _____ |
| Using alternative start signal | -100 | _____ | _____ | _____ |
| Outstanding performance | 160 | _____ | _____ | _____ |
| Recordings | | | | |
| Duration (limit: 10:00 minutes) | | _____ | _____ | _____ |
| Restart after (sec) | | _____ | _____ | _____ |
| <hr/> | | | | |
| Score per try | 1600 | _____ | _____ | _____ |
| Total Score | 1760 | _____ | | |

Remarks:

Date & time

Referee

Team leader

Score Sheet



Test: Final Demonstration

Team name: _____

Referee name: _____

| Action | Score | Single try |
|--|---------|------------|
| <i>Main Goal (can be repeated unlimited times)</i> | | |
| Find and clearly state an encountered EGPSR problem | 3× 150 | _____ |
| Solve a EGPSR problem | 3× 650 | _____ |
| Opening the Door of the Apartment | 600 | _____ |
| Closing the Dishwasher | 600 | _____ |
| Closing a Cabinet Door | 300 | _____ |
| Custom Task | | _____ |
| Custom Task | | _____ |
| Custom Task | | _____ |
| <i>Penalties</i> | | |
| Find repeated EGPSR problem category | -100 | _____ |
| Solving repeated EGPSR problem category for the 2nd time | -300 | _____ |
| Solving repeated EGPSR problem category for the 3rd (or more) time | -500 | _____ |
| <i>Deus Ex Machina Penalties</i> | | |
| 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 Stage II tests. | 3× -650 | _____ |
| <i>Recordings</i> | | |
| Duration (limit: 10:00 minutes) | | _____ |
| Restart after (sec) | | _____ |

Total Score 3900 _____

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