XVI Latin American Robotics Competition (LARC)
and
XV Brazilian Robotics Competition (CBR)

Local Rules & Regulations

Curitiba – Paraná – Brazil

November 07 to 11, 2017

The local rules and regulations competition should use as support the backgrounds the rules and regulations of the last international ROBOCUP competition.

The original rules and regulations can be accessed at:
https://github.com/RoboCupAtHome/RuleBook

As the repository (GitHub) can be updated by the international committee, we use the PDF version available under this local guideline.

Local competition uses the simplified stage I as a rule base.

Scores: For each task, 100 points will be divided for each task item (line or topic). Split points can be assigned according to team meeting before the start of the competition.

Task 1: General Purpose

Objective: The robot must move to the location then it is given a command.
The robot must confirm that it understood the command.
Return to the position.
Do these actions three times.
Leave the arena after repeating what was asked to complete.

Observation: There are two levels of difficulty in the tasks.

Task 2: Help-me-carry

Objective: The robot waits for the operator inside the house.
The operator asks the robot to follow.
The operator is memorized.
The robot must follow until the operator gives the command to stop.
The operator asks the robot to grab the object and take to a place in the house.
Two options for the destination place are given to the operator, he must choose randomly one of the options.
Three options for the bag manipulation are given: Find the bag and grab it, the operator tells the robot where the bag is or the operator puts the bag in the robot's hand.
The robot navigates to the determined place with the bag.
The robot can put the bag on the floor of the final location, or in the exact place.
The robot must ask, kindly, the person near the delivery place to help with the groceries.
The robot must memorize the new operator
Guide the new operator to reach the car.
In the way back to the car, a door will be closed.
There are three options for the closed door: Open the door by using the door handle, with the door slightly open just by pulling or asking for help.

When the location is reached, the robot must announce that the destination has been reached.

Observation: There might be small objects, moveable objects or 3d objects such as tables, chairs.
The robot must avoid the object or even deal with the object, depending on its type.

Task 3: Speech Recognition

Objective: The robot will be standing in a room.
It must announce that it wants to play riddles.
After 10 seconds, the robot must turn and find the crowd.
After finding the crowd, the robot must state the size of the crowd (male and female count).
The robot must ask for an operator.
One operator will stand in front off the robot while the others will surround it.
5 questions are asked, the robot must answer all of them.
After that, the crowd will stand around the robot in a circle formation.
5 questions will be asked by 5 random persons in the crowd. One question each.
1 of the questions is from a predefined list.
1 or 2 will be about the arena.
1 or 2 about the crowd.
1 or 2 about the objects.

Task 4: Storing groceries

Objective: The robot stands between the cupboard and the table with the objects.
The robot must look at the cupboard to find the groups of objects of each type.
Then it must turn to the table and analyze the objects that are over it.
Recognize and identify the objects, how many and which objects are in the table by order (L2R).
The robot must manipulate the object and put it on the cupboard.
There are rules to store the object:
- If there's a similar object on the cupboard, the object must be placed next to it.
- If there's no similar object, but there are objects from the same type, then this object must be grouped with them.
- If it's a new category, it must create a new group with these unknown objects.

Final Demonstration

In the final demonstration, every team can choose freely what to demonstrate. The demonstration is evaluated by both a league-internal and a league-external jury.

The procedure for the demonstration and the timing of slots is as follows:
1. Setup and demonstration: The team has a maximum of ten minutes for setup, presentation and demonstration.
2. Interview and cleanup: After the demonstration, there is another five minutes where the team answers questions by the jury members. During the interview time, the team has to undo its changes to the environment.

Final Ranking and Winner

The winner of the competition is the team that gets the highest ranking in the finals.
There will be an award for 1st, 2nd and 3rd place. All teams in the Finals receive a certificate stating that they made it into the Finals of the XVI Latin American Robotics Competition (LARC) and XV Brazilian Robotics Competition (CBR) RoboCup@Home competition.

Additional Information

A team meeting will be held on 08/11/2017 (afternoon) to align the details of rules and scores. Review meetings are scheduled at the end of the competition days.