Sumo Challenge

Ketchup House Regulations

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1. Short description of category

In this category, the battle takes place between two robots, moving on a board composed of a grid of lines intersecting perpendicularly (lines are vertical and horizontal). The task of the robots is to transfer as many cans with ketchup as possible to their area. Robot that does the task in the shortest time and in a more precise manner wins.

2. Robots specification

2.1. Dimensions

Height - 50cm
Width - 20cm
Length - 20cm
Weight - 3 kg

2.2. Requirements

a) Robots must be fully autonomous - the only form of connection with external devices is remote START / STOP.

b) Robots should detect lines on the board, however they do not have to move along them – they can move freely on any direction they want.

c) Robots can transport cans in any way - they can be gripped, moved, pulled, etc.

3. Cans specification

Height: 74 mm(+/- 1 mm)
Width: 53 mm(+/-1mm)
Weight: 163 g(+/- 5 g)

4. Route

The route consists of a white board with black lines (19 mm wide) made of an insulating tape. The field is defined by a grid of 5 horizontal lines and 5 vertical lines with a spacing of 30 cm. A free space of at least 30 cm is left around the route.

5. Course of the game

a) Before the start, participants place robots on their baselines (these are opposite, outer lines of the board). The judge place the cans at randomly selected line intersections (the cans cannot be put on baselines). The game begins at the START signal given by the judge. The competition ends after 3 minutes or when all cans are collected.

b) When robot moves the can by at least one intersection, another can is put in its place. In this way the judge can add up to 4 cans, so the number of points possible to get is 9 (5 cans at the start and 4 additional).

c) The robot that transports more cans to its area wins.

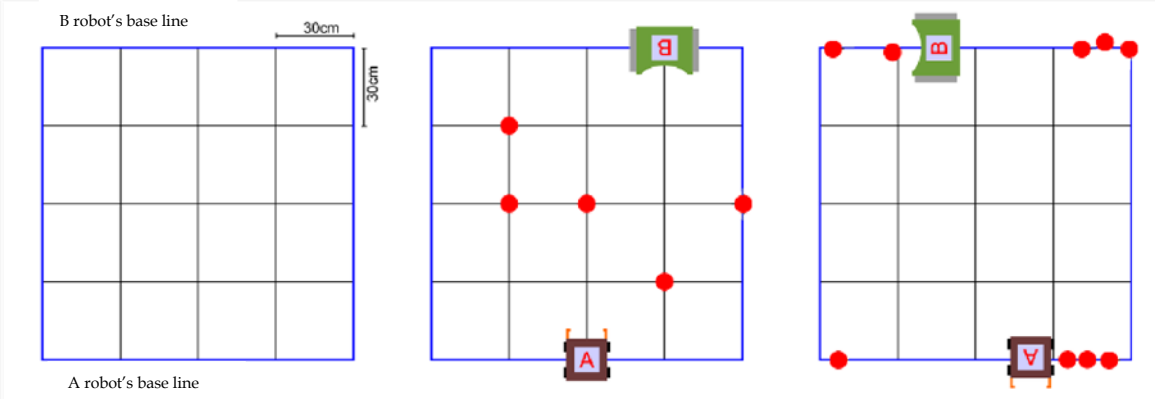

Figure 1 Example of course of the game
(figure from www.forbot.pl with modifications)

6. Final provisions

It is not allowed to submit , as the competition constructions, robots that are officially being sold. If the robot is a modified version of the finished structure, please contact the Organizers to agree on the rules of participation. If the participant does not inform the Organizers before the competition, he or she will be disqualified. Structures from sets that are not explicitly dedicated to this competition (e.g. Lego) can participate on the usual rules.

Competitions can take place in varying lighting conditions, which is why robotic sensors should be properly protected against the adverse effects of light. Contestants are not allowed to move around the track to provide shade on the route.

Robot is perceived as an inseparable object - no element (except the battery) can be used in another robot.

All situations not described in the regulations are solved by the Chief Judge.

The Chief Judge's decision is final and indisputable.

In case of a small number of robots, the organizers can decide to award only one prize.

Organizers have the right to make minor changes to the regulations until the start of the competition - all will be listed at the beginning of the regulations.