RobotChallenge - Puck Collect Rules

Note: All rules are subject to change without notice.

Name of Event: Puck Collect

Short Description: Two robots compete. Small coloured pucks are distributed on the field. The aim is to collect all pucks of the assigned colour and carry them to the own home base.

Changelog

25.02.2015

- Robot must not physically separate into pieces

09.01.2014

- Scoring slightly modified/clarified
- Material of pucks is ABS, not wood.

21.02.2013

- Puck dimensions changed (new height: 20mm)

20.12.2012

- Changed field dimensions
- Clarified color RAL codes

09.12.2011

- Scoring clarified

07.12.2011

- Rules slightly modified in such a way, that color recognition is necessary (Section 2.2)

21.10.2011

- Rules simplified: new way of counting collected pucks and removal of the rules for own goal and red card

04.01.2011

- First publishing

1. Requirements for Robots

1.1. Size and Weight Limits

The maximum size of a robot is 50 x 50 cm. Dimensional limits for robots shall be strictly enforced. Robots must have passed inspection prior to competing.

1.2. Further Robot Reqirements

A robot may expand in size after a match begins, but must not physically separate into pieces, and must remain a single centralized robot. Robots violating these restrictions shall lose the match. Screws, nuts, and other robot parts with a total mass of less than 5 g falling off from a robot's body shall not cause the loss of match.

2. General Requirements

2.1. Field Dimensions

The field in this competition has a size of 250 x 250 cm. It is framed with a board of at least 8 cm height of any color.

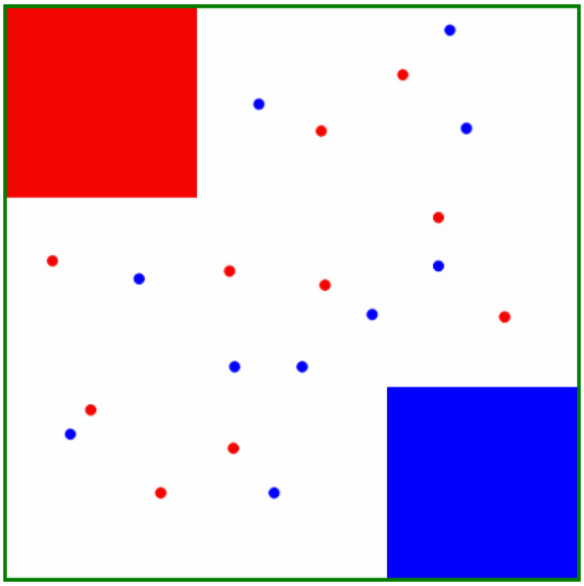

Fig 1: Puck collect field (schematic drawing)

2.2. Home Bases

Two 70 cm x 70 cm big home bases (red and blue, approximatley RAL 3024 "Luminous red" and RAL 5013 "Cobalt blue") are positioned in opposing corners of the field. The remaining part of the field is white and the neutral zone.

2.3. Pucks

Ten pucks of each colour are spread randomly in the neutral zone. The pucks are disks made of ABS plastic in the size of a tea light (40 mm diameter, 20 mm height) with slightly polished edges.

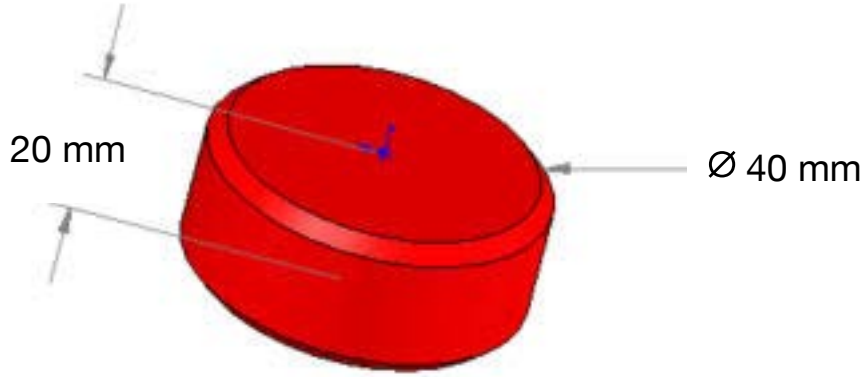

Fig 2: Puck

3. Game

3.1. Start of the Game

Each of the two robots is assigned a colour (red or blue) and is placed on the corresponding home base. The robots are not allowed to leave the home base until the judge announces the start of the match.

3.2. Aim of the Game

The aim of this competition is to collect all pucks of the assigned colour and place them into the assigned home base.

3.3. Scoring

A puck is counted as collected, if all the following conditions are met:

- Its entire body is located unmoved within any of the home bases for more than 1 second
- It is touching the floor
- It is outside the convex shape of the robot and not covered by any part of a robot

The judge immediately removes a collected puck. It counts for the robot, which is assigned to the colour of the particular home base as follows:

- If the colour of the puck is equal to the colour of the home base, the score will be increased by 1.
- If the colour of the puck is not equal to the colour of the home base, the score will be decreased by 1.

The total score of a robot at the end of a match must not be negative. Therefore, if there are more wrong coloured pucks than right coloured pucks the score will be corrected to 0

3.4. End of the Game

The match ends when all pucks have been collected. The robot with the higher score is declared the winner.

3.5. Time-Out

The match ends after a duration of 3 minutes or when the judge decides so. The robot with the higher score is declared the winner.

4. Scoring

4.1. Tournament

The winning robot is awarded 3 points. In case of a draw both robots receive 1 point each.

4.2. Knockout System

In knockout system there is no draw possible. If both robots have the same score the robot, which firstly gains the lead during the match (first robot to reach a score of 1) wins the game and advances to the next round. If no robot manages to collect a puck within the entire game, no robot advances to the next round.

5. Declaring Objections

5.1. Declaring Objections

A. No objections shall be declared against the judges' decisions.
B. The lead person of a team can present objections to the Committee, before the match is over, if there are any doubts in the exercising of these rules. If there are no Committee members present, the objection can be presented to the judge before the match is over.

6. Flexibility of Rules

As long as the concept and fundamentals of the rules are observed, these rules shall be flexible enough to encompass the changes in the number of players and of the contents of matches. The local event organizers can make modifications or abolition of the rules as long as they are published prior to the event, and are consistently maintained throughout the event.

7. Liability

A. Participating teams are always responsible for the safety of their robots and are liable for any accidents caused by their team members or their robots.
B. The RobotChallenge organization and the organizing team members will never be held responsible nor liable for any incidents and / or accidents caused by participating teams or their equipment.