Virtual Unified Robotics 2020 Rules

Special Olympics
Washington
Unified Robotics

With 2020 being a virtual season, we are sadly losing much of the interaction that makes Unified Robotics unique. This year, most of the work for setting up and playing matches will reside with the referees and emcees, importing digital robotics into the virtual field of play, and letting the simulation determine the outcome.

Game Description

Teams compete together (virtually!) in a friendly version of a sumo wrestling style 'Battle Bot' contest. Two robots compete in a ring with the objective of pushing the opposition out of the ring. The ring is defined as the inner black region bounded by a white circle. Beyond the white circle is considered out. For the virtual 2020 season, we will be using the simulation tools in the Virtual Robotics Toolkit software. This software will simulate the robot actions and movement, and determine the winner based on which robot gets pushed beyond the white ring, and off the platform.

Game Philosophy

The primary goal is for the students to be engaged, challenged, and have fun. While we want to create an even and equitable playing field and experience, we need to understand that many of the students have varying levels of intellectual, physical and social disabilities. As such we need to be flexible and accommodating with the rules. When in doubt, err on the side of accommodation and grace.

Robot Structure

For the 2020 Virtual season, the robots will be built using Lego Digital Designer software, using parts from only the EV3 brick list. Prior to championship matches, referees will perform basic checks for the number of motors and sensors, and general size of the robot.

Match Setup/Start

• The referee will import both robots onto the field of play.

• Robots start the match on opposite sides of the ring, facing opposite directions.

• The team listed as Red will be started first.

• The Emcee starts the match by counting down 3-2-1-GO! When the Emcee says "GO" the referee will start the robot software and begin the simulation.
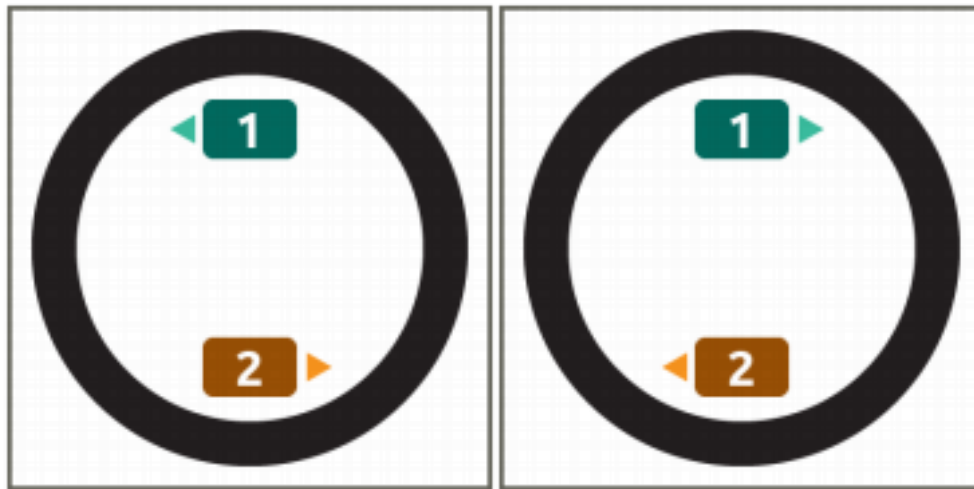
Matchplay

- The match will be over based on the simulation detecting one of the robots having been pushed from the play area (beyond the white ring).
    - There may be cases where the simulation selects a winner even if neither robot has been pushed completely from the ring. This is based on the amount that one robot has been able to push the other.
    - There may be cases where the simulation fails to detect a winner in the allotted schedule time as monitored by the referee. This may result in the emcee declaring a tie.
- During Qualification matches, the winner will be based on a single round of play.
- During Championship Finals matches, the winner will be based on the first robot with 2 wins in 3 rounds.

Competition Advancement

- After all qualifying rounds have been played, the teams will be ranked based on their win-loss-tie records.
- The top 2 teams from each division will advance to the Championship Finals.
- In the case where teams "tie" for position based on win-loss-tie records, the following tie-breakers will be used:
    - Tiebreakers will first be broken by reviewing a previous match where the two same teams competed. The winning team of that previous match will progress to the final rounds.
    - If the previous match ended in a tie, the average win time will be used for the tiebreaker. The team with the shortest average win time will progress to the final rounds.
- If both teams' average win times match, the team with the most chronological wins will progress to the final rounds. For instance, if one team won the first four matches while the other team won only the first three matches, the team with four wins.