

ROBO SOCCER

GENERAL DESCRIPTION:

The objective is to build a manually controlled robot, within the given specifications, which can successfully play soccer and compete with other robots to score highest goals.

TYPE: TEAM EVENT

TEAM SPECIFICATIONS:

1. There can be a maximum of 4 members per team.
2. Only 2 members of each team may be present at a time at the arena.
3. One member will be the controller of the bot and the other will be the wire holder which should not be changed in between rounds.

RULES AND REGULATIONS:

1. The soccer bot can only transform to its size at the beginning. It cannot divide into multiple separate parts.
2. Each team will be given a time span of 2 minutes at the beginning of each half to make any changes or modifications to the bot.
3. If the bot becomes immobile during the match, the team will first be given 30 seconds to fix it, without any loss of points. If the team fails to fix it in 30 seconds, another 30 seconds will be given at the expense of 1 point. If the team does not repair the bot within this time, then it would be disqualified.
4. No stalling of any kind is allowed.
5. All bots must have their own power supply.
6. Bots will be analysed by the referee before a match. He will select or reject bots, taking into consideration the rules and dimension limits.
7. The match will be paused in case of any entanglement of wires of both the bots. Entanglement of wire will lead to start of initial position.
8. Any clamp in the structure of the bot should not have a length greater than half the diameter of the ball.
9. The ball should not be lifted in the air by the bot.
10. In case only one team is disqualified, the other team wins by default.
11. The decisions taken by the referees will be final.

12. In case of any disputes, **the decisions of the referees or event managers will be final.**

ROBOT SPECIFICATIONS:

1. Bots can be wired or wireless, if wired then wire length must be greater than 11 feet.
2. Wireless bots should have a minimum range of 12 feet.
3. The bot dimensions should be as follows (10% tolerance is allowed):
 - i) Length ≤ 30 cm
 - ii) Breadth ≤ 25 cm
 - iii) Height ≤ 25 cm
4. Weight ≤ 5 kg.
5. Ground clearance ≤ 3 inches (Ball should not get stuck under bot)
6. The battery voltage (potential) supplied to the bot should not exceed 12 volts.
7. Any kind of mechanism for kicking the ball is not allowed.

ARENA SPECIFICATIONS:

1. Arena Dimensions: 7 feet X 5 feet
2. Goal post Dimensions: 12 inches \times 10 inches .
3. Penalty arc chord width: 1.5 feet
4. Centre Circle diameter: 8 inches
5. Ball Diameter: 4 inches
6. The arena will have a plywood base with a green coloured foam board for the pitch.
Note: All dimensions are approximate and subject to normal construction variances and tolerances.

GAMEPLAY:

1. At the beginning of each half, the ball will be kept within the centre circle, and both bots must be outside the circle, within their own half of the arena. A toss will decide which team may start (that is, which may enter the circle first).
2. After every goal, the ball will be placed within the circle, and both bots must be outside the circle, within their own halves. When the play starts again, only the bot which was defending the goal may enter the circle first.
3. Each match will consist of two halves. The duration of a half will depend on the type of the match as follows:

- i) Initial knockout matches – 3 minutes
 - ii) Quarter and semi-final – 4 minutes
 - iii) Final – 5 minutes
4. In case of foul, the non-fouling team must start gameplay within its penalty arc. The other team must stay in its half till the play starts.
 5. In case of a draw, the tiebreaker will be as follows. The game will start as at the beginning of a half, and both bots may now enter the circle once play starts. Whichever bot scores a goal first, wins. If a foul is committed during the tiebreaker, the fouling team is disqualified and the other team wins.
 6. If no winner is declared even after the tiebreaker (maximum time of play 2 minutes), then a surprise element will be introduced.

SCORING SYSTEM:

1. 5 points are awarded for the first goal by each bot.
2. For every continuous goal the bot scores, it scores 1 point more than for the previous goal. Thus, the second goal in succession would be awarded 6 points, the third goal in succession would be awarded 7 points, and so on. Once a goal streak is broken (i.e. the other bot scores a goal), the bonus points are removed, and the next time the former bot scores a goal, it gets 5 points again.
3. The bots will continue to get bonus points for each succession of consecutive goals.
4. If a foul is committed, and a goal occurs before play is restarted for the foul, the goal is not counted.
5. A team gets -1 points for a yellow card (if it does not have 0 points already). See “Fouls” for when a yellow card would be given.
6. The winner will be decided on the basis of points.

FOULS:

1. The offences considered as fouls are as follows:
 - a. Kicking the ball out of the arena.
 - b. Damaging the opponent bot.
 - c. If any team member touches any bot without the referee's / event manager's permission, it is considered a foul.
 - d. Any other offensive or aggressive behaviour will be considered a foul and treated as such.

2. A foul will result in a restart (as explained in the “Gameplay” section).
3. A foul would result in a warning on the first and second offences, a yellow card on the third offence and a red card (resulting in disqualification) on the fourth offence.
4. **Damaging arena will be directly considered as yellow card.**
5. A yellow card will result in -1 points.