



TECHNOVANZA

Taking technology to society

ROBOSOCCER

Call it soccer, association football, or just plain football, soccer is the most popular game on the planet. From Chinese *cuju* (literally meaning 'kick ball') to huge national and international tournaments such as the EPL (English Premier League), World Cups, and Olympics, soccer has been a huge part of history. The most exciting new technology in this field is the soccer robot. The RoboCup tournament states its goal as **"By the middle of the 21st century, a team of fully autonomous humanoid robot soccer players shall win a soccer game, complying with the official rules of FIFA, against the winner of the most recent World Cup."** At VJTI, we are fully committed to bringing this technology alive, and we present to you a great starting point: **the Robosoccer tournament!** A battle between bots, to bring glory to the winner, Robosoccer 2017 is an exciting tournament, part of the Technovanza 2017 AutoBots events!

The objective – *To build a manually controlled robot, within the given specifications, which can successfully play soccer.*

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.
4. Both the controller and the wire holder may not be changed during a match.

CERTIFICATE POLICY

1. A certificate of participation will be awarded to all participating teams.
2. No certificates would be awarded to disqualified teams.
3. A certificate of appreciation (or excellence) would be awarded to the winners.





BOT SPECIFICATIONS

1. Bots can be wired or wireless.
2. Wireless bots should have a minimum range of 12 feet.
3. The wire length of wired bots must be greater than 11 feet.
4. The bot dimensions should be as follows (10% tolerance is allowed):
 1. Length ≤ 30 cm
 2. Breadth ≤ 25 cm
 3. Height ≤ 25 cm
5. Weight ≤ 5 kg.
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: 8 feet X 6 feet
2. Goal post Dimensions: 16 inches X 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 carpet surface for the pitch.

GAMEPLAY

1. At the beginning of each half, the ball will be kept within the centre circle(see figure), 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:
 1. Initial knockout matches – 3 minutes
 2. Quarter and semifinal – 4 minutes
 3. 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.

RULES

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.
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 may 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.

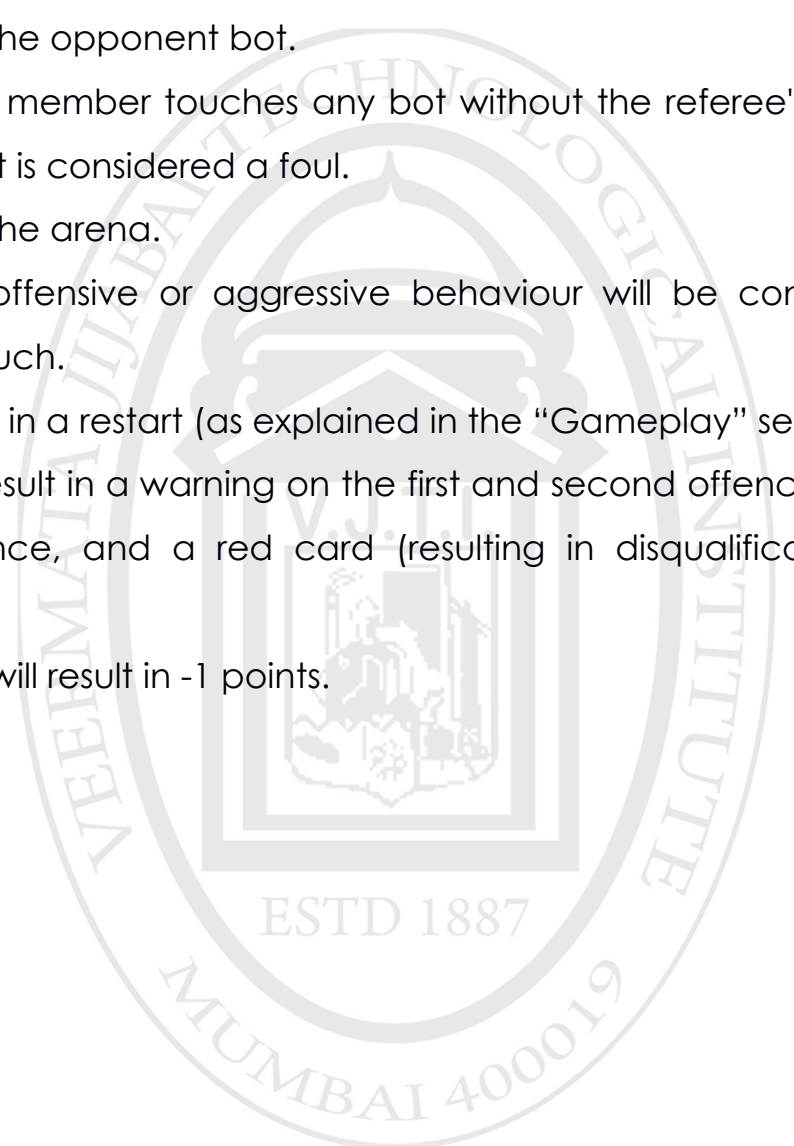
SCORING

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.

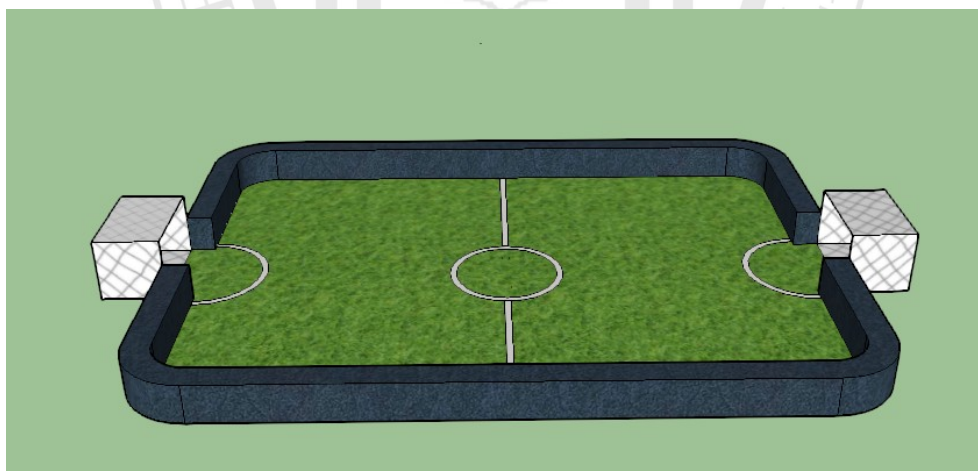
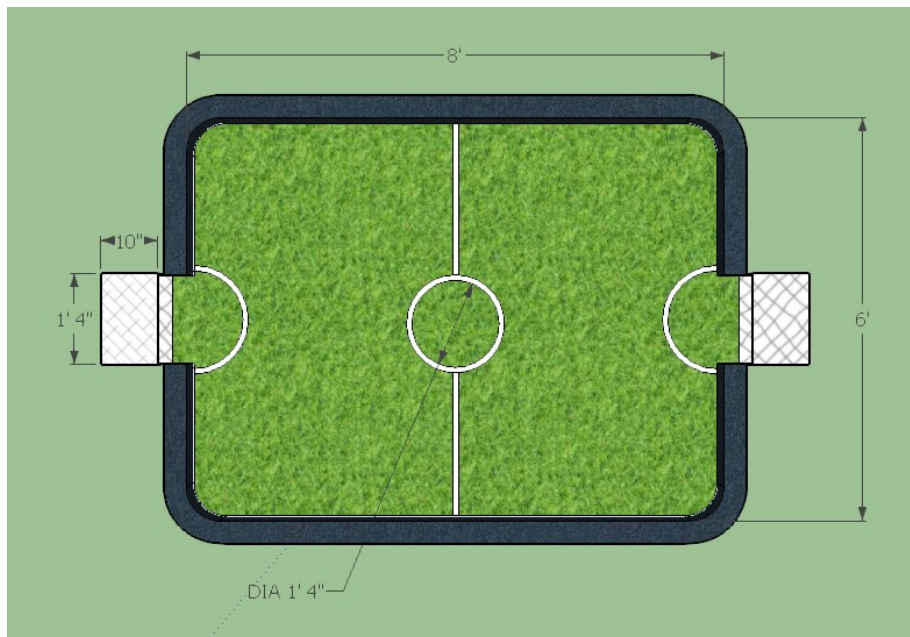


FOULS

1. The offences considered as fouls are as follows:
 1. Kicking the ball out of the arena.
 2. Damaging the opponent bot.
 3. If any team member touches any bot without the referee's / event manager's permission, it is considered a foul.
 4. Damaging the arena.
 5. 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. A yellow card will result in -1 points.

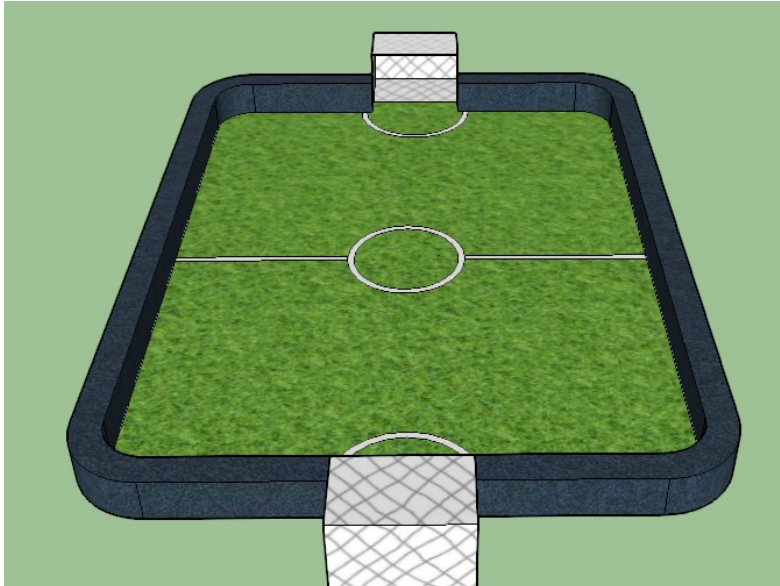


VIEWS





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