BLOCK IT

Pool Event, Open to all

Points: 30

Tasks:

1. Each team has to make an autonomous bot using Arduino, one seven array sensor and two ultrasonic sensors.
2. This bot has to complete all the given tasks in the minimum time possible.

Bot Specifications

1. Each team will make one bot using Arduino, seven array sensor, and ultrasonic sensors.
2. Dimension of bot should not exceed by 20cm *20cm *20cm.
3. Motors and wheels will provided by club. Except them no other motors and wheels will allowed.
4. Bot must be started individually by only one on board switch. These switches should be shown to the judges/organizers before starting the game.
5. Potential difference between any two points on the bot should not exceed 12V.
6. Power will be given to the bot using the onboard battery.
7. Violation of the specifications will lead to direct disqualification of the team.

Game rules:

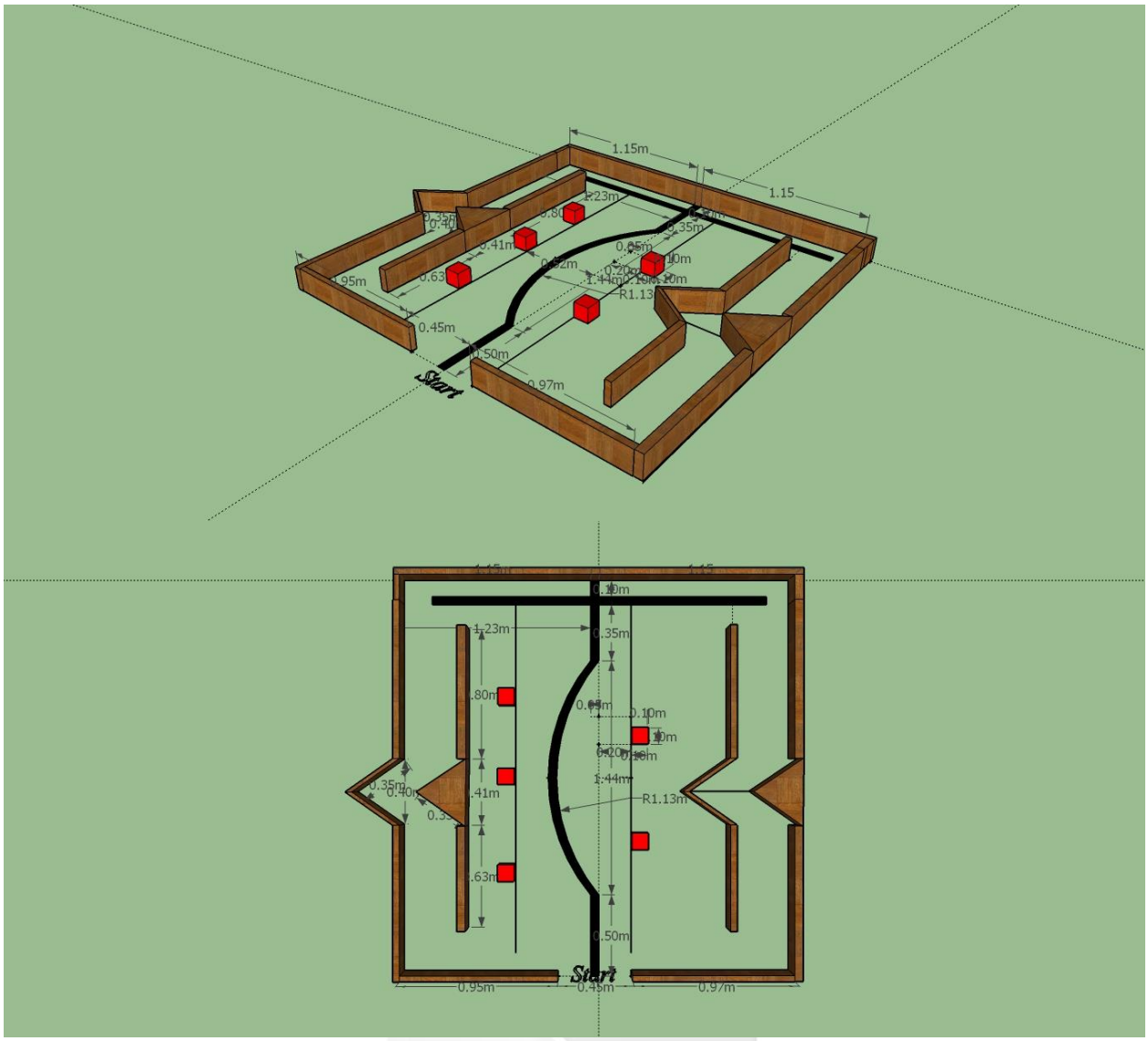
1. Each team will be given a dry run before the game but they cannot make any changes to the bot after the dry run.
2. This is a pool event so only one team will be allowed from each pool.
3. Bot will be placed on starting point and will start after signal is given.
4. At a time only one team will perform.
5. Total three trials will be given to each team. The best of them will be taken into consideration.
6. After the start of the trial, no team will be allowed to touch the bot . If the bot goes off track or human intervention is done then it will be considered as one trial and the bot will have to again go to the starting point and next trial will start.
7. Dimension of arena is given in the snap attached below.
8. Tampering with the arena may lead to elimination from the event.
9. All dimension given in snap are in mm.

Game Play:

1. The Bot should be autonomous.
2. The bot has to follow the curved black line and on either side of the line blocks will be placed and the number of blocks on either side will be decided by a lottery system. The lottery will be done before the start of the event. It will be in the combinations(N1,N2) of (1,4), (4,1), (3,2), (2,3) as total number of blocks placed will be 5.
3. The bot has to count the number of blocks on either side and then decide on which side the number of blocks is maximum. It will reach a node where two pathways will be there. The bot has to turn on the side where the number of blocks was maximum (example: 3 blocks were placed on the left side and 2 were placed on the right then the bot has to turn on the left side after reaching the node).
4. After some distance there will again be a turn and the bot has to turn in the same direction as it had done at the node and do wall following from there on.
5. The placing of the wall depends on N2. If N2 is even it will be placed on left side and if N2 is odd it will be placed on right side. Left and Right side are defined considering the front direction as the moving direction of the bot.
6. The bot has to reach the starting point after completing the above mentioned task and the time taken to complete the whole task will be noted.
7. If at any instant of time, any part of the bot touches the wall, that trial is considered to be over and total distance covered by the bot is calculated till that point.
8. The team which takes the minimum time to complete the task will be the winner. In case of a tie, the team whose bot has travelled the maximum distance in all the three trials taken together will be the winner.
9. If a team is unable to complete the task in all the three trials then the time which it takes in travelling the maximum distance in any of the trial will be considered as their best time.

WARNINGS-

- Robot should not move before the starting signal.
- Entering the arena w/o asking referee or without the permission of referee.
- In case of any discrepancy referee's decisions would be final.



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