BOT-A-MAZE

EVENT DESCRIPTION:

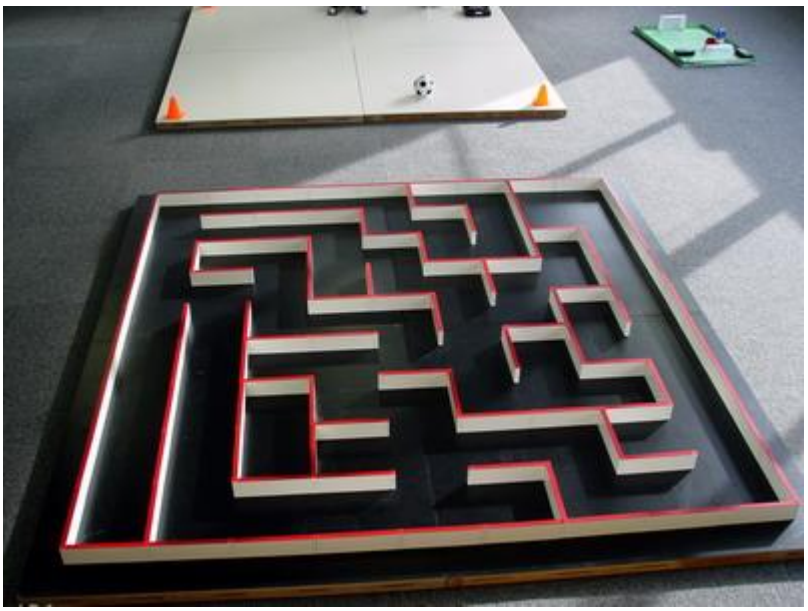
The team has to build an autonomous bot capable of traversing a 3-D maze containing walls of specified height, using any shortest pathfinding algorithm suitable to implement. The bot will have to traverse the maze and find the way out as soon as possible without any human interference.

Team Specification:

1. The team can have a minimum of 2 & maximum of 3 members.
2. Robots per team: 1

Event Structure:

1. The event will be held in a single round (each bot will get only a chance to travel) with all bots traversing the maze one by one.
2. The top 3 teams will be decided on the basis of time taken and the one taking the shortest time will be declared the event winner.



3. **Arena:** The arena will be equivalent to the one shown above with dimensions as specified below. The floors will be painted black, the walls will be white on both sides and red on the top. The paint will be non-glossy and the flooring shall be made of plywood. Do not expect any extra friction provided on the floors, teams are suggested to add gripping on their bot wheels for efficient movement. Above is a tentative picture of the arena but the actual maze will have a random set of paths, so avoid any type of hard coding as the maze will not be shown before the event.

4. Length of event: 10 minutes per team.
5. Robot weight Range: Not Specified.
6. Robot Dimensions: 20 cm X 20 cm maximum (no restrictions for height).
7. Arena Specifications: 2.5 X 2.5 meters square arena, with entry and exit points at opposite ends of a diagonal.
8. Bot Control: Autonomous/ Remotely controlled.
9. The maze walls will be 15 cm tall and 1-2 cm thick.
10. Do not assume consistent paint in any part of the arena, fading may occur.
11. The starting point will be in a corner and the end at the diagonally opposite corner, both marked white lines, and a timer will start and stop as soon as the white lines are crossed.

Penalties and Advantages:

- Human interference: +5 sec (penalty)
- Wall touch: +2 sec (penalty)
- Autonomous bot: -10 sec (advantage)

Rules and guidelines:

1. Each team has to register offline or, online on the official TRISHNA'24 website for the event.
2. The arena is supposed to have a simple maze and not a complex one, thus no prior run shall be to any team for mapping the maze.
3. All participants are required to report 15 min before their allotted slot to the reporting desk, being late will be subjected to disqualification.
4. All team members must have a valid TRISHNA id card and college id card in order to participate.
5. The teams should mark their bots so as to uniquely identify them as they will see the arena and then submit their bots before the event starts. Then on their particular turn, they will have to take their bot and put it in the maze. This is done so that no team can alter bot components (sensors, power supply, chassis, etc.) or the code within the microprocessor used after the arena has been revealed.
6. Any misbehavior of participants during the event may lead to disqualification.
7. Any bot exceeding the specified dimensions will be disqualified beforehand.
8. Teams are allowed to use custom sensor arrays, readymade microcontrollers, PCBs, etc.
9. TechMITi will not be responsible for any late, lost, or misdirected entries.
10. The organizing committee reserves the right to change any of the above rules as they deem fit, at any point in time. However, registered participants will be informed about any changes through email/ message/ WhatsApp groups.
11. The jury's decision will be final and abiding.

CONTACT FOR QUERIES:

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