The Annual Tech-Fest of GEC, Vaishali

VISION'25

13th- 14th Sept 2025

Maze Solver

OBJECTIVE:

Design an autonomous robot that can navigate a maze from the start point to the finish point in the shortest time without manual intervention.

TEAM:

- Each team must consist of 2-4 players.
- All players must be students of the same or affiliated institute.
- A Participant cannot be a member of more than one team.
- One team member must act as captain and will be the only point of contact with organizers.

RULES:

1. Robot must be autonomous, starting with a switch.
2. 2 trials per team; fastest trial time is final time.
3. 2 minutes setup time before trial.
4. 5 minutes maximum time to complete maze.
5. A run starts when the robot is placed at the Start Zone and ends when it reaches the Finish Zone or time ends.
6. Timer starts once the robot crosses the start line.
7. Robot must not damage the maze.
8. Touching or manually adjusting the robot during the run will incur a penalty of 5 seconds per touch.
9. If the robot gets stuck, the team can choose to restart with a time penalty.
10. Only one team member allowed in the arena during the run.
11. No code/hardware modifications post setup.

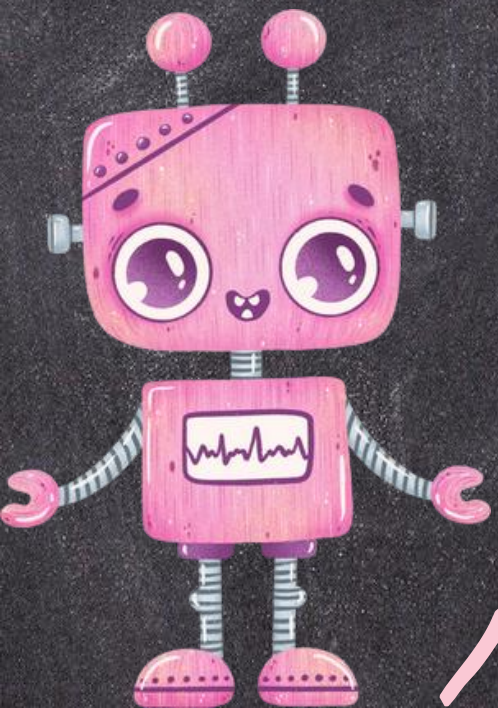
ARENA / MAZE DESCRIPTION:

- The maze will consist of white pathways (tracks) with walls and turns.
- Track Specifications: Path width 25-30 cm, wall height 10-15 cm, wall thickness 0.5–1 cm,
- Maze may include: Dead ends, Multiple paths, checkpoints and intersections.
- Exact maze configuration will be disclosed on the day of the event.

ROBOT SPECIFICATIONS:

- The robot must be autonomous (self-navigating without human control).
- Maximum robot dimensions: Length: 15 cm, Width: 15 cm, Height: 15 cm.
- The total weight of the robot shall not exceed 2kg.
- Power source: Onboard batteries only (no tethered connections).
- Use of external communication (Bluetooth, Wi-Fi, RF, etc.) during the run is not allowed.
- No sharp objects or hazardous materials should be present on the robot.
- The robot cannot be split or separated into more than a unit.
- The robot can use sensors (like IR sensors, ultrasonic, etc) to detect the line but cannot have any external guidance systems.

SCORING:



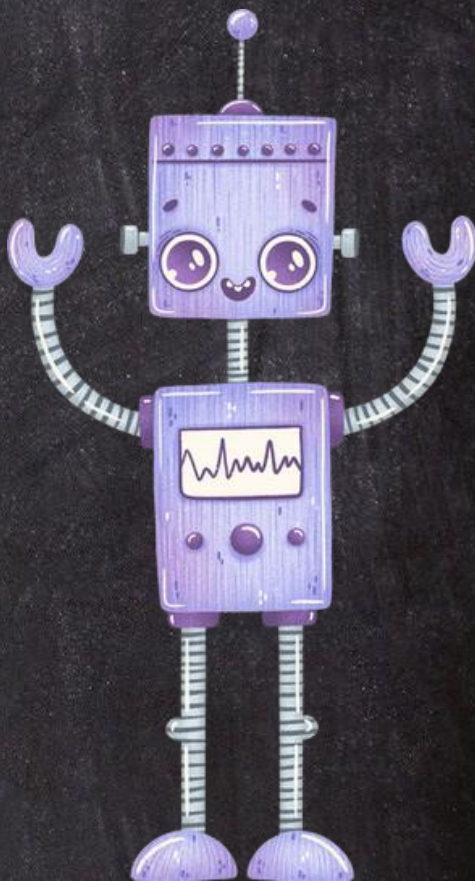
Event	Points
Fastest completion	Winner
Wrong turn	+5 sec
Retry	+5 sec
Manual interference	+5 sec

DISQUALIFICATION GROUNDS:

- Team is not present for robot inspection ten minutes before the beginning of a match.
- Team's robot does not meet the specifications.
- Robot damages the arena.
- Team violates rules repeatedly or misbehaves with judges/organizers.
- Using unfair means (remote assistance, software hacks, etc.).

GENERAL INSTRUCTIONS:

- No practice runs on the main maze will be allowed.
- Any clarification must be asked before the event starts.
- Judge's decisions will be final and binding.
- Organizers reserve the right to change the rules if required, with prior notice.



WINNING CRITERIA:

- The teams will be ranked based on the team's final (fastest) time.
- In the event of a tie, the team's next trial time of the two tries will be referred.

VENUE: BADMINTON COURT

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