The Flash

"The fastest bot alive"

Objective :
To build an autonomous line follower robot which can follow the lines on the arena and pave its path to the finish line.

Gameplay :
● The tournament will have three events mentioned in the order of occurrence:
1.Access the Speed Force
2.Travel Through Time
3.Escape the Time Wraith

● Access the Speed Force
The line follower robot should reach the centre of a spiral track following the line in minimum time.
○ Teams who successfully reaches the centre with minimum time will be selected for next round.
○ The points of each checkpoint would be disclosed at the time of event.
○ The number of shortlisted teams are subjected to change as per number of registrations.
○ First Priority would be given to the teams who reaches the centre.

● Travel Through Time
This round will be a knockout round where the line follower robots will face a one on one race.
○ On the basis of the ranking of the first round, pairs would be decided for a one on one sprint race.
○ On start signal, both will race each other on a long track by following line in their respective tracks.
○ The robot to reach the finishing line first will be qualified for the final round and the one who loses would be knocked out.
○ Participants need to have their bot submitted after the second round
○ No further modifications to the bot after second round are allowed and team can only take their battery to charge them for the next round.

● Escape the Time Wraith
This will be a knockout round with where the line follower robots will face a one on one circuit race.
○ Complete details about this round will be disclosed on the spot.

Arena :
● Access the Speed Force
The dimensions of arena will be disclosed on the spot.

○ The tracks will have straight paths and **multiple circular(smooth) turns of 90°** .
○ The lines to follow will be of **standard white** colour of the width of 3cm.(with a tentative dark background)
○ The starting point and ending point will not coincide.

●Travel Through Time
The dimension of arena will be disclosed on the spot.
○ The tracks will have **no turns less than or equal to 60°** .
○ There will be two tracks running parallel for two contenders.
○ The lines to follow will be of **standard white** colour of the width of 3cm. (with a tentative dark background)
○ This track will have considerably longer race track with respect to other events.

● **Escape the Time Wraith**
○ The arena lines will be a **continuous closed loop** with a start line.
○ The lines to follow will be of **standard white** colour of the width of 3cm.(with a tentative dark background)

Robot Specifications :

● The robot must be completely autonomous.
● The robot should be controlled by any microcontroller(Atmega32/ATmega8 etc) but **not** a printed development board. (Arduino UNO/ Arduino Mega etc)
● The robot must be differential driven.
● At any time of the event, the robot dimensions must not exceed 200x200 mm length and breadthwise.
No constraint on height.
● The robot weight has no constraints.
● The maximum DC voltage between any two points in the circuitry must not exceed 24V.
● No pneumatics and hydraulics.
● No mechanisms or slingshots to be mounted on the robots which can harm opponent robots.

Scoring :

● Access the Speed Force
○ The least time taken by robots to touch the finishing line will be considered.
○ The robots that go rogue or step out of their respective track will be disqualified.
○ If a participant robot is not able to reach the centre of the spiral, the points scored by crossing the intermediate checkpoints would be considered.
○ The judges' decision will be final, unbiased and unquestionable.

● Travel Through Time
The robot which will touch the ending point after traversing the whole track will be considered winner.
○ The robot that goes rogue or steps out of their respective track can restart from the last checkpoint after the judge permits. There can be maximum of 3 restarts in the race.
○ In case a robot goes rogue and disrupts opponent robot, the robot disrupting can restart from the last checkpoint after the judge permits while the robot that got disrupted can continue from the point of disruption directly.
○ Points will be deducted for each restart.
○ The judges' decision will be final, unbiased and unquestionable.

● **Escape the Time Wraith**
The robot that goes rogue or steps out of their respective track will be considered disqualified and other robot will be declared winner.

NOTE : The number of qualifying teams and the number of races are subject to change depending on the number of registrations.

Team Specification :
● A team should consist of minimum 3 & maximum 5 members with valid id-card from SVNIT.
● All the team members must be from first year.
● One member cannot be in two different teams for the same event.

Certificate Policy :
● Certificate of Excellence will be awarded to top two teams only.
● Certificate of appreciation will be awarded to Semi-finalists.

Rules and Regualtions :

- Any damage caused to the arena at any point of time will lead to disqualification / penalty.
- A sample arena will be available for calibration and it will be calibrated before event will start.
- The Robot has to follow the White line on Black background and complete the track in least possible time.
- The robot should follow the line accurately. If the robot deviates from the line, contestants are allowed to keep the robot manually in its right direction by consider hand touch penalty.
- Event Managers and Coordinators reserve the right to ask for explanation about the robot at any time during the event.
- We reserve the right at any time and in our sole discretion to make changes to rules and regulations without prior notice.
- In case of any disputes the organizers decision will be final and binding

For queries, contact :-

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