Infinity Stone Hunt

Introduction

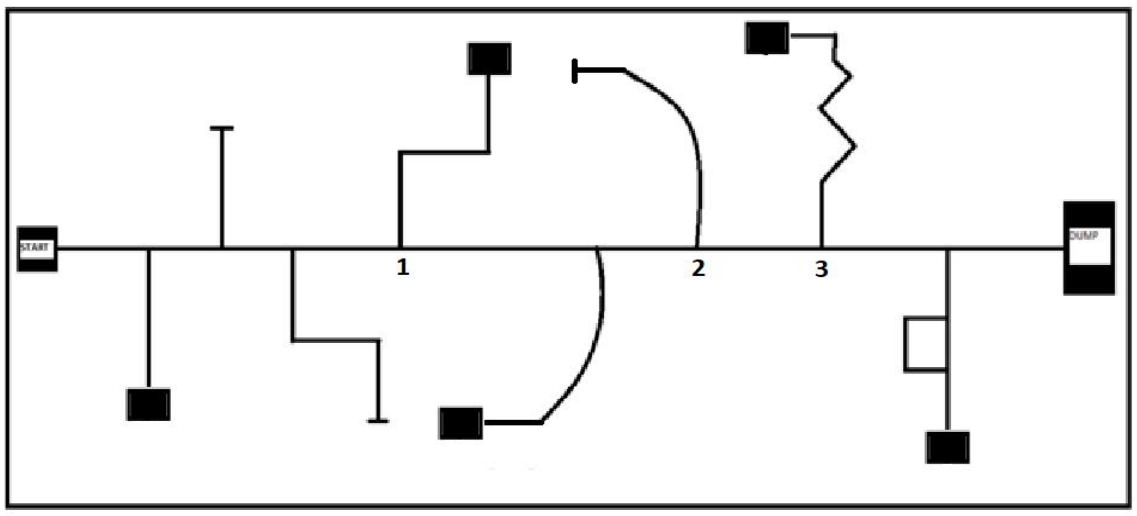
The problem of overpopulation is real, even if not in our generation. And it's also true that even though the universe is expanding, the amount of resources/ matter is seemingly finite. Now nobody except Thanos has tried to use the brutal method of randomly erasing half of all life from existence form planet to planet.

To erase randomly half of entire universe populations, Thanos require all the six infinity stones in his Infinity Gauntlet, so that he can snap his fingers and "boom" half of the population in dust and mission accomplished for Thanos. Currently Thanos has Power stone which he got after decimation of planet Xandar, but he still requires remaining 5 Infinity stones (Soul, Space, Time, Reality, Mind stone).

All the remaining 5 Infinity stones are scattered randomly across the universe, and Thanos has trusted you, the pilot of his spaceship, to go on a quest to retrive all the infinity stones for him. The path to Infinity stones are tricky, which includes Dead ends, sharp turns and looping paths. The spaceship is in autopilot, and is programmed to collect all the Infinity stones and hand it over to Thanos. Thanos has ordered you to meet at his home planet Titan with all the Infinity Stones, within 1 day (10 minutes).

Arena Design

Note- This is a sample arena and not upto scale.(The final arena may be changed).



Block positions

1,2 and 3 are checkpoints

Game Play

1. All the teams have to submit their robot for design testing.
2. Your robot has to traverse the whole arena from start to end.
3. There are five checkpoints in the whole arena.
4. After clearing any checkpoint, if any timeout required then robot has to restart the traversal from the last cleared checkpoint.
5. The dimensions of the block are 6cm x 6cm x 6cm.
6. Thickness of the black line is 3cm.

Add ons

1. After completion of the task i.e, dropping all the blocks at the drop point, a buzzer makes sound for 4-5 seconds.
2. LCD implementation which would display the block_id of the block picked up.

Scoring Criteria

1. For picking a block from its location = **BLOCK ID*40**
2. For droping block at final destination = **BLOCK ID*60**
4. Robot design and structure based = **+200** points (max)
5. Algorithm design = **+200** points (max)
6. Points for time taken to traverse the arena = total points scored – (time in seconds)*0.5
7. For each time out taken by robot = **-50** points.
8. **100** points for successful implementation of each add ons

Rules and Regulations

1. A team can have maximum 4 members.
2. You will be provided with 220V 50 HZ AC power.
3. You can't supply more than 120W power to your robot.
4. Voltage must not be more than 24V between any two points.
5. If robot is supplied with AC power, RMS voltage between any two points can't be greater than 24V.
6. Your Code should not be hard-coded.
7. Damaging the arena will lead to disqualification.
8. Robot must fit into a box of dimension 30 cm x20 cm x30 cm however it can expand later during gameplay.
9. Robots must not weigh more than 5Kg.

10. You are allowed to use readymade sensors.

11. Judges' decision will be final and binding to all.

12.Organizers reserve the right to change any rules or make new as they deem fit.

13. Maximum number of trials allowed are four.

14. This event is open for all years and cross year teams are allowed.

Event Format

Round 1: Abstract Submission

The abstract should convey the implementation of you bot describing the idea, work done and a picture of your bot in not more than 300 words. Robot design need to be submitted at the official robotics club e-mail ID **robotics.society.mnnit@gmail.com** with subject " **TeamName_EventName_AbstractSubmission** " by 15th September 2018. Abstract must be submitted in **.doc** or **.pdf** format. Abstract submission is only for outside participants.

Round 2: Gameplay as per the above mentioned rules.

Final Round:

Teams which qualified for final round, will run the bot at final day (27th September) of "Avishkar 2k18" as stated above in gameplay.

Contacts

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