

AMIGO-ROBO

THEME:

Sustainability is yet to be achieved. There is no alternative to sustainable development other than harvesting the growing technologies for it.

A green corridor refers to a route that is demarcated and cleared out for an ambulance carrying harvested organs. The objective is to ensure that the in-transit organ arrives at its destination in the shortest time possible.

So, here we are practising one such way of sustainability. A heart transplant needs to be done and the organ has to be transferred from Mumbai to Delhi in a very short time span. For this fast travel, a green corridor has to be created.

Help the ambulance carrying the organ reach safely and quickly to its destination

You are required to build an autonomous robot which will be carrying the heart from the source to the destination and a manual robot which will help in creating a green corridor for it by clearing all the traffic to ensure a secure journey.

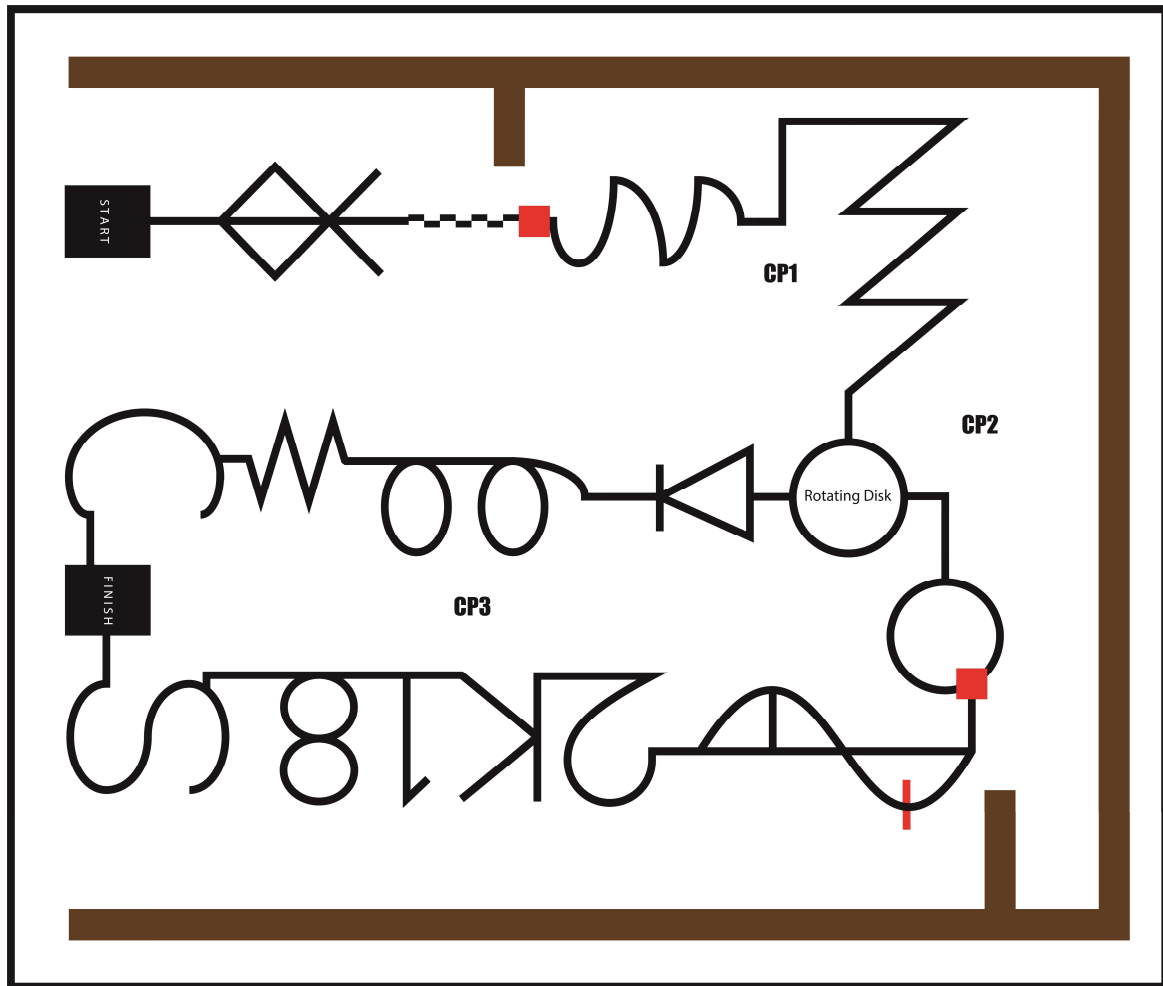
EVENT SPECIFICATIONS:

The arena will consist of two tracks. One will be a line follower track with a line of black colour on a white background and the other will be a manual robotics track. Your primary task is to develop an autonomous robot capable of following the track with the fastest and most accurate results but simultaneously you have to run a manual robot in the combined track.

However, simply following the track will not ensure victory. Both the robots need to run in synchronization and the line follower should be able to perfectly follow the path while the manual robot is occupied in tasks and hurdles that will give your team an edge over the others.

ARENA SPECIFICATIONS:

- The track will be of black colour on a white background.
- The width of the track will be 3 cm.
- There will be coloured line on the track.
- Actual track may vary from the picture shown.



GAME RULES:

- The teams will have to submit their bots before the start of the competition. Only those teams which submit their bots will be allowed to participate. The bot will be handed back to the team during the time of their run.
- They will be given a time of 1 minute for calibration (for autonomous bot).
- If any team is found altering its code or changing the mechanism after depositing its bots, then it will be immediately disqualified from the competition. They are however allowed to make any other hardware changes.

- The autonomous bot will start from the start line in the autonomous zone itself. And simultaneously the manual bot in the manual zone.
- When both the bots start, no team member is allowed to touch them other than the one operating the manual bot.
- The autonomous bot has to detect the hindrances and has to stop there as it is not allowed to drag the obstacle.
- Run will start only when the organizer gives the signal.
- The starting procedure of the bot should be simple and should not involve giving bot any manual force or impulse in any direction.
- The manual bot is prohibited to enter the autonomous zone and vice versa.
- Regarding manual bot, it can traverse the manual arena any number of times it wants but scores will be given only once.
- The team can skip the task/hurdle any no. of times he/she want. But points will be deducted after two skips.
- The team is required to be present at the arena at least 15 minutes before the scheduled time of its run.

EVENT RULES:

- The event will consist of one round.
- Each run will have a time-limit of 8 minutes.
- If a team exceeds the time limit, the points earned up to then will be added up, and any task currently in progress will be abandoned.
- In case of any problems during the run, a time-out of 60 seconds will be given to rectify the problem. After this, the team must either resume its run or forfeit it. A maximum of 2 time-outs will be given.
- In case of man-handling, the bot will be placed at the last checkpoint that it cleared.
- A team cannot skip any section of the track without at least attempting it once.

GENERAL RULES:

- Only 1 member of the team is allowed to handle the bot.
- Participants are not allowed to keep anything inside the arena other than the bot.
- Laptops/personal computers are not allowed near the arena. Other Wi-Fi, Bluetooth, etc. devices must be switched off. The organisers hold the right to check for these devices and their usage and disqualify the team. The bot should not receive any kind of input from outside the arena.
- There can be a maximum of 4 members in a team.
- Machine cannot be constructed using Lego kits or any ready-made mechanism, but ready-made gear assemblies can be used. Violating this clause will lead to direct disqualification of the team.
- The bot can use on-board or external power supply for manual bot only.
- However any fault or disconnection would be the responsibility of the participants. Participants will be provided with 12V DC and 24V DC power supply for manual bot only.
- The time measured by the organisers will be final and will be used for scoring the teams.
- Time measured by any contestant by any other means is not acceptable for scoring.
- In case of any dispute/discrepancy, the organisers' decision will be final and binding.
- Video proofs will not be considered for re-evaluation.
- The organisers reserve the rights to change any or all of the above rules as they deem fit. Change in rules, if any will be highlighted on the website.

TEAM SPECIFICATIONS:

A team may consist of a maximum of 4 participants. Students from different educational institutes can form a team.

SCORING RULES:

To be uploaded soon...

ELIGIBILITY:

All students with a valid identity card of respective educational institutes are eligible to participate.

COORDINATORS:

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