DEATH RACE 2K24

OBJECTIVE:

Construction of a manually controlled robot that can compete against other robots in an elimination round, which includes the placement of numerous barriers and obstacles along the route in an arena made up of plywood, concrete, and ground.

TEAM SPECIFICATION:

- A team may have 2-4 members.
- There is no limit on the number of teams participating from an educational institution.
- Participants from different educational institutions may also form a team.
- A team can register as two separate teams using two different bots for the event.
- A team **cannot** participate with two bots of the same design

BOT SPECIFICATION:

- The size of the bot must fall within the range of [12cm x 12cm x 10cm] to [30cm x 30cm x 18cm] (LBH).
- The size constraint does not include the remote used to control the bot.
- The bot may be either wired or wireless. If it is wireless, it must be able to operate on two different frequencies.

- The bot's adapter (if used) must be compatible with a 220-240V AC power source, 50Hz.
- Only an AC power source will be provided for the bot; the team is responsible for fulfilling the rest of the power requirements.
- The minimum length of the wire should be at least 6m.
- The potential difference between any two points on the bot must not exceed 24V.

NOTE: NO LEGO PARTS OR HOLDING MECHANISMS ARE ALLOWED.

RULES AND REGULATIONS:

- Each team must adhere to the specified bot dimensions; failure to do so will result in elimination.
- The total time allotted for the event is fixed, and exceeding the time limit will lead to **disqualification**.
- Immediately after the timer starts, the bot operator must leave the wire slack, not tight. Failure to do so will result in a **penalty/disqualification** whatever the organisers feel right.
- Pulling or pushing the bot using the wire will incur a heavy penalty.
- A maximum of two technical timeouts, lasting up to 2 minutes (exact time is subject to change on the day of the event) each, will be permitted per team during the event. During a technical timeout, teams are allowed to make mechanical repairs. After the timeout, the bot must comply with all the specifications mentioned above; failure to do so will result in the score at the time of the timeout being considered the final score.
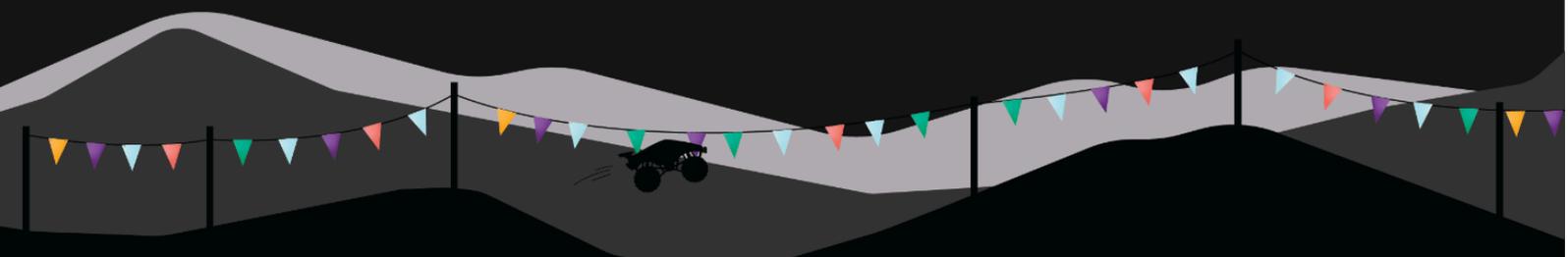
- If the bot falls off the track, points will be deducted, and the bot must restart from the last checkpoint.

- Only the operator and one companion assisting with the equipment will be allowed inside the arena during a match. Any contact with the arena or the bot will result in a 20-point penalty, except during a technical timeout. The number of penalty points is subject to change on the day of the event.

- A team will be penalized for causing any minor damage to the arena, with the penalty based on the extent of the damage as determined solely by the coordinators. Severe damage may lead to disqualification.

- The time recorded and points calculated by the organizers will be considered final; times recorded by any other method will not be accepted.

- **Bots will be exposed to fire during the race, so it is strongly recommended to implement heat-resistant materials or insulation and avoid using flammable substances.**

- Physical contact or jostling between bots is allowed; any damage received or caused will be the responsibility of the operator.

- Any foul play or violation of the rules mentioned above will result in disqualification.

- **The final decision rests with the coordinators.**

- Any argument with the coordinators will result in **immediate disqualification** from the event.
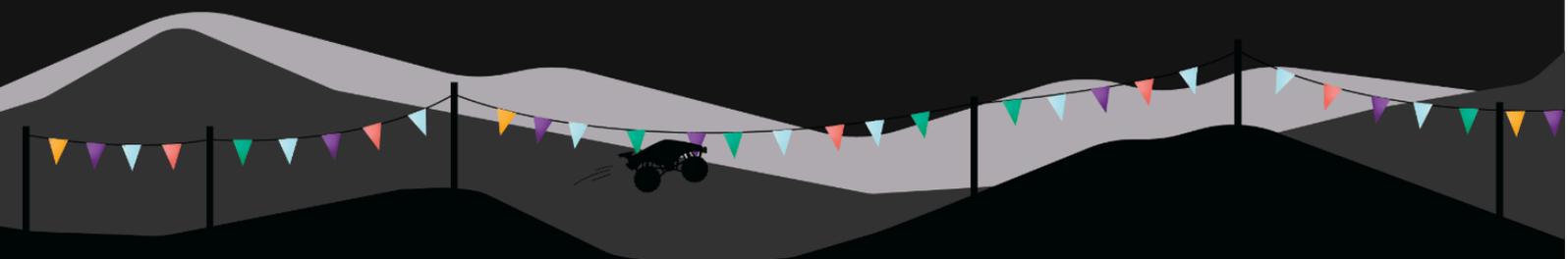
GAMEPLAY AND RULES:

## There will be 2 major rounds for the event:

ROUND 1:
This round is divided into 3 parts as follows

- Combat Arena
- Off Road Track
- Run Track

Combat Arena:
- Two teams entering the Combat Arena will be given 3 minutes to score as many goals as possible.
- After completing the Combat Arena, both teams will be placed at the starting point of the off-road track with various obstacles.

SAMPLE IMAGE (Subject to Change):
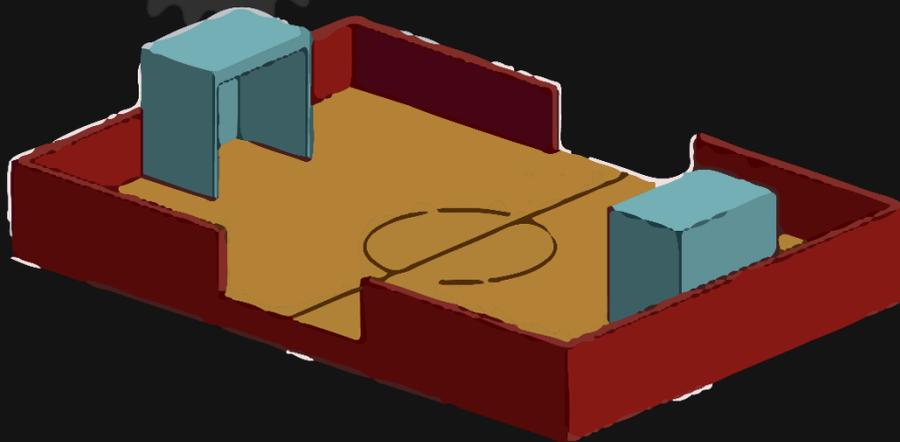
Off Road Track:

- Both teams would race against each other on a rugged track made up of earthly materials.

Run Track:

- Two bots will start and cover the track, which is peppered with various hurdles and obstacles.
- Points will be awarded for crossing each obstacle, and penalties will be enforced for skipping any obstacle.
- Sample obstacles for this round
  - Twisted Bridges
  - Moving Barricades
  - Conveyors
  - Sea Saw etc.

- Both bots must traverse the entire arena of the death race.
- Two attempts will be provided to cross each obstacle, failing which the bot will be forced to move on to the next one, along with a penalty.
- A penalty will be imposed for skipping an obstacle, and it will increase progressively for each subsequent obstacle skipped.

SAMPLE IMAGES (Subject to change)
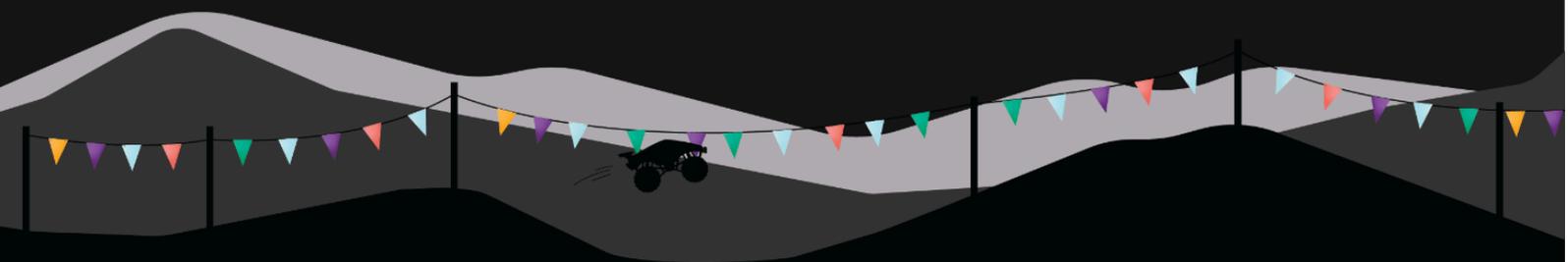
ROUND 2:

- The top X teams from the first round will qualify for this round.
- This round will be a knockout round where two teams will face each other. Based on points and the team that finishes first, the winner will qualify for the next knockout round, which follows a similar format.
- **The obstacles for this round will be revealed on the event day.**
- Bots will take on the course two at a time and tackle the obstacles, each of which carries different points. Three attempts will be allowed for each obstacle. Failure to cross after the third attempt will result in a penalty, and the bot will be moved on to the next obstacle.
- Rules for jostling and pushing other bots remain the same as in the first round.
- Penalties for falling also remain the same.
- Penalties for skipping any obstacle remain the same.

- A time limit of **8 minutes** will be enforced for completing the entire track (subject to change on the day of the event).

RANKING CRITERIA:

- The top X bots based on total points scored in the first round will qualify for the second round.
- The value of X will be decided by the coordinators, depending on participation.
- If two teams end up scoring the same points, the team that completes the track in less time will have a higher rank.
- If a tie persists after this criterion, the team that completes the maximum number of checkpoints will have a higher rank.

- If the tie persists, the team with the better score in the **"Combat Arena"** will have a higher rank.

NOTES:

- Coordinators are not responsible for any kind of technical problems.
- The number of rounds is subject to participation.
- Some obstacles are intentionally kept hidden and will be revealed during the event. These are special obstacles designed to test the capabilities of your bot.
- The course and scoring are subject to change. The final arena and obstacles will be revealed only on the event day.
- For any queries or clarifications, contact the coordinators.
- The time limits might differ on the day of the event.

ANY DISPUTE OR DISCREPANCY IS SUBJECT TO THE JURISDICTION OF THE COORDINATORS. THEIR DECISION ON ANY SUBJECT SHALL BE CONSIDERED FINAL.
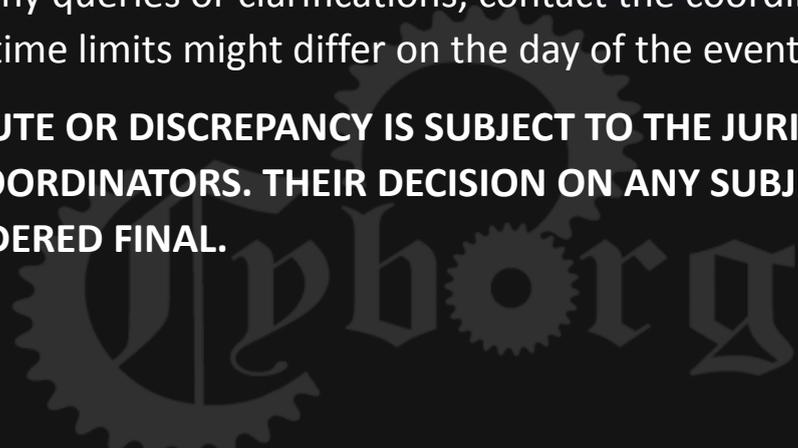
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We eagerly anticipate your involvement. We wish you all the best!

CONTACT US:

Sreeharsh : 9016670169

Saumit Pradhan: 7327058989

Sandeep Kumar Das: 9439549499

Ansuman Patro: 7008709736

Email: cyborg.team.nitr@gmail.com

Website: https://www.cyborgnitrkl.in

@Cyborg - We design intelligence ....

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