



# TECHY EVENTS RULEBOOK 2025

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# CODE CLASH

A competitive programming competition where participants solve algorithmic and mathematical problems within a limited time frame. It tests participants' problem-solving skills, algorithmic efficiency, and coding speed.



## **General Details:**

- Online
- Team Size: 1 member per team

## **Rules:**

- Only individual participation is allowed.
- The scoring system will be based on the extended ICPC Rules (same as the format of the Educational and Div. 3/4 rounds on Codeforces).
- Other general Codeforces rules apply.
- Contestants are not allowed to discuss problems or solutions with anybody else through any medium of communication.

## **Scoring criteria:**

- There is an extra penalty time of 20 minutes for every wrong submission (including answers on test case 1).
- Contestants will be ranked by the number of problems solved.
- Ties will be resolved based on the total time which is the sum of the total time taken to solve the problem and the extra penalty time due to wrong submissions for each problem.



# ENIGMA CTF 25

Jeopardy-style Capture The Flag.

EnigmaCTF25 will be a Jeopardy style Capture The Flag competition. The participating teams will be given challenges based on reverse engineering, cryptography and forensics. The objective is to find hidden flags.



## **Rules:**

- The flags will have the format ‘enigmaCTF25{...}’.
- Event duration is 24 hours.
- Use of any tools, resources and the internet is allowed.
- Brute-forcing or performing a DOS or DDOS or any other kind of attack on the server will result in disqualification.
- Sharing of flags and hints across competing teams is prohibited throughout the entire duration of this competition.
- Report any bugs found on the platform immediately.
- Participants have to register themselves and their teams on the platform. New teams may join while the event is in progress.
- Further guidelines regarding contest platform, timing, etc shall be released as the event approaches.
- Organizers reserve the right to use their own discretion regardless of any rule.

## **Scoring:**

- Submitting a flag correctly will score points for the team.
- The amount of points for a challenge is based on its difficulty. Points will be visible along with the challenge on the competition platform.
- The weightage of a question is dynamic and reduces as more teams solve it. The final weightage is applied to all teams. Points gained are independent of the time of submission.
- There are no penalties for wrong submissions. (Note: brute forcing is not allowed and is not feasible)
- In case total scores are tied, the tiebreaker will be on the earliest time to solve the last question.



# GAME JAM

Participants must design and create video games from scratch within a given time frame. It showcases participants' creativity, programming skills, and game design abilities.



## **General Details:**

- Online
- Team Size: 1-5 members per team

## **Rules:**

- The game should be made within the stipulated time.
- The game should be relevant to the theme.
- You are free to use any game engine, software, or library to create your game.
- You can also start with any base code that you already have.
- You can use assets that you previously created yourself.
- You can also use third-party assets (including artwork, audio, character models, and sprites) as long as you have the legal right to use them. All assets used and their sources must be mentioned in the report.
- At least one of the members should have an Itch account.
- Do not mention your name anywhere in your game or the Itch submission page. Doing so might result in disqualification. The titles of your games and the reports will be collected towards the end of the Jam.

## **Prohibitions:**

- Uploading or linking viruses or malicious code to the Service or any related platform will lead to expulsion from the event.
- Any sign of plagiarism or cheating and violation of the rules of competition will lead to immediate disqualification of teams.
- Participants should not sabotage the work of others which includes spreading misinformation etc.
- Participants should not attempt to communicate with judges or organizers outside of designated channels or periods for fair examination. Any clarification will be handled by assisting staff.
- Participants should not provide false information or manipulate data. All submissions should be truthful and transparent.
- Presenting any offendable information or content in the presentation or the game can lead to elimination.
- There is no room for any sort of bias (gender, race, caste, nationality, age) throughout the competition.
- Unauthorized communication between the teams should be avoided.
- The participants must not include any of their details in the game concept or the final submission.

## **Procedure:**

- The game submission must be on itch.io try to fill in all the details on the submission page.
- You may be asked to send a gameplay video clearly showing both the screen and the player interacting.

## **Judging Criteria:**

- Relevance to the theme
- Does the game connect with the subject?
- Is the Theme information presented clearly and accurately?
- Creativity in the interpretation of the theme
- Concept and complexity of the game
- Is the game new, fresh, and innovative?
- How unique is the design and concept of the game?
- Does it bear little resemblance to other games?
- Completeness & Game aesthetics.

## **Report:**

- Additionally, each team also has to write a report describing their game. It should consist of:
- Title of the game (it should be the same as the title you upload to Itch).
- Name of your team and the names of your team members
- Concept and idea behind the game
- Controls/instructions
- List of themes used and in what ways were they incorporated into your game
- List of software, assets, and resources used along with their sources (for example, links)

# PULSE QUEST

A machine learning competition where participants develop and deploy machine learning models to solve specific tasks or challenges, demonstrating their proficiency in data analysis, model building, and deployment.



## **General Details:**

- Online
- Team Size: 1-3 members per team

## **Submission:**

- Participants are also required to submit a .csv file containing the predictions which will be tested against a private test dataset.
- A Kaggle competition page will be shared after the start of the competition, where you can submit the .csv file to know the live leaderboard ranking.
- Participants are required to submit a .ipynb notebook that was used to experiment, train, and/or fine-tune the model that was used to produce the leaderboard submission results.

[The above two files will be collected via a Google form which will be sent to the Team Leader via registered email]

## **Evaluation:**

- The top 3 submissions with the highest score on the private test dataset will be rewarded.
- If there is a clash between any two submissions (same scores), the participant who submits first gets preference.
- The decisions of the organizers will be final and binding. No claim will be entertained against the announced results.

## **Rules:**

- Participants can participate in teams of up to 3 members.
- Code submitted will be subjected to a plagiarism check. Submissions found to contain plagiarized material will be disqualified.
- The number of submissions per day will be mentioned on the Kaggle website.
- Any form of cheating will lead to disqualification.
- Participants who set up a team are the default Team Leader but they can transfer leadership to other participants on the team. The Team Leader can invite other data scientists to their team. Invited participants can accept or reject invitations. Until a second participant accepts an invitation to join a team, the participant who initiated a team remains an individual on the leaderboard. No additional members may be added to teams within the final 5 days of the competition or the last hour of a hackathon.



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# DEV DUEL

Welcome to the Hackathon conducted by Lambda and Elan and nVision!

We are thrilled to have you participate in this week-long challenge where creativity meets code. Get ready to build something extraordinary and showcase your technical and creative abilities!



## **General Details:**

- Duration: 1 Week
- Objective: Build a fully functional product (website or app) based on the provided themes.
- Framework Restrictions:
  - Frontend: React.js, JavaScript, Flutter
  - Backend: Go, Flask, Django, Node.js
- Team Size: Maximum of 4 members

## **Objective**

- Participants will work on building innovative products based on given themes.
- Teams are expected to complete their projects using only the permitted frameworks and languages.

## **Themes**

- To be announced

## **Format**

- Teams will submit their final projects as GitHub repositories. The repository must include a README.md file with setup instructions.
- Teams may optionally deploy their projects to earn bonus points.

## Eligibility

- Open to all students and professionals.
- Ensure you register your team before the event starts.

## General Rules

- **Originality:** All work must be original and created during the hackathon. Pre-existing projects will be disqualified.
- **Framework Usage:** Use only the permitted frameworks and languages. Usage of any other technology will result in disqualification.
- **Plagiarism:** Strictly prohibited. Any instance of plagiarism will lead to immediate disqualification.

## Technical Guidelines

- **Code Quality:** Focus on clean, modular, and well-documented code.
- **Version Control:** Use Git for version control. Commit history will be reviewed.
- **Backend:** Implement robust backend logic and demonstrate an understanding of API design.
- **Frontend:** Ensure responsiveness and accessibility across all screen sizes.
- **Database:** Secure and efficient database integration is optional but encouraged.
- **Deployment:** Deployment is optional but will earn bonus points.

## Presentation Guidelines

- **Demo:** Prepare a 5-minute demo video showcasing your product's features.
- **Documentation:** Include a brief description of your approach and workflow in the README.md file.
- **Q&A:** Be ready to answer judges' questions during the demo session.

## Scoring and Evaluation

Category	Weightage
Functionality	25%
Design and UI/UX	15%
Code Quality	15%
Backend Complexity	20%
Innovation	10%
Presentation/Demo	10%
<b>Bonus:</b> Deployment	5%

# INNOV- AI-TION

A competition where participants aim to harness the power of AI and machine learning, to solve a very specific problem! Participating teams will develop an AI-powered application which provides a specific type of service (To be announced!)...



## **General Details:**

- Online
- Team Size: 1-5 members per team

## **Submission:**

- Participants are required to submit their application's source code in a GitHub repository (documented with a README, with instructions to configure the environment to run the application, along with a short 3-5 minute video which covers the merits, unique features and selling-points of their product).

[The above files will be collected via a Google form which will be sent to the Team Leader via registered email]

## **Evaluation:**

- The top 10 submissions with the highest score on the private test dataset will be considered for further evaluation. The aim is to select the best 3.
- These applications are then reviewed, and their different utilities, limitations, novelty, scope for improvement and efficiency are all compared and contrasted with each other.
- If there is a clash between any two submissions (same scores), the participant who submits first gets preference.
- The decisions of the organizers will be final and binding. No claim will be entertained against the announced results.

## **Rules:**

- Participants can participate in teams of up to 5 members.
- Code submitted will be subjected to a plagiarism check. Submissions found to contain plagiarized material will be disqualified.
- Collaboration between teams is forbidden.
- Any form of cheating leads to disqualification.



# ROBO SOCCER

Design a team of robots which play football. The team would compete against the other teams in a knockout tournament.



## **General rules:**

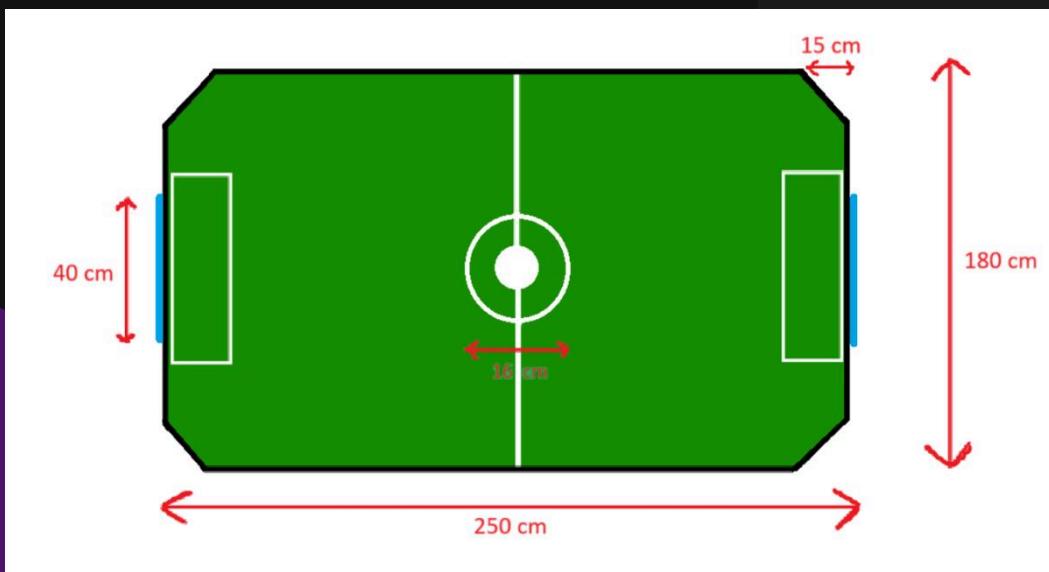
- A team can consist of a maximum of 6 people.
- Each team must have at least one bot meeting the specifications stated below.
- Any attempt to tamper with or damage the bot of any other team, either during a match or otherwise, will result in instant disqualification.
- A team must be ready with their bots ahead of time. If a team is not ready even after 5 minutes of calling them, then the opposite team will be declared the winner. If both teams are not ready, it will be counted as a loss for both teams, i.e., each team will be awarded 0 points.
- In case of any confusion or dispute, the judge's ruling shall be conclusive.
- Any act of misbehavior or misconduct will lead to disqualification.

## **Robot specifications and rules:**

- Each competing team may have at most 2 robots inside the field at any point in time.
- Each robot may not exceed 30 cm in any dimension, and 3 kg in weight (the dimension of the remote, if used, aren't included in the constraint).
- The robots can be wired, wireless or autonomous. In case of a wired robot, the wire should not hamper the movement of any other robot.
- Only a DC power supply not exceeding 12V should be used in each bot.
- The robots should not employ any methods that withhold, grab or lift the ball in a way that makes it impossible for the opponent to tackle the ball. They may only push, hit or drag the ball.
- Any attempt to harm the opponent's robot will lead to immediate disqualification.

## The arena:

- The field will be of the dimensions 250 cm x 180 cm. Each corner is cut so as to remove an isosceles triangle of 15 cm sides is removed (See figure)
- The arena will be surrounded by a wall of height 20 cm.
- At opposite edges, a rectangular hole 40 cm long and 15 cm high will be present. These will be the goalposts.
- The ball for the game shall be a standard tennis ball of diameter of around 6.6 cm.



## **Match format**

- The playing time (i.e., the time not counting any breaks or pauses) of each match will be 10 minutes long. A timer of 10 minutes called the game timer will be started at the start of the match.
- At the start of each match, the ball shall be kept at the center of the field. The team who gets to start the match shall be decided by a toss. The said team may start only after the referee has given the permission to do so.
- All the bots must demonstrate before the start of the match that they are in fact in working condition, and are controllable.
- Just before the start of the match, no robot of any team may cross the half-way line and go to the opponent's side.
- If the ball passes through a goalpost fully, it is counted as a goal for the opposite team whose goalpost the ball passed through.
- The aim of each team is to score as many goals as possible.

- In case of a goal, the team against whom the goal was scored gets to start at the center. The judge keeps the ball at the center and the game is resumed.
- A team is awarded 2 points for a win, 1 for a draw and 0 for a loss.
- There shall be no direct human interference or physical contact when the match is in action.
- However, if a bot malfunctions, a team can request a break for a maximum of 3 times. A team can request a combined total of 3 minutes for such breaks. The team must tell the judge, who will then order both teams to halt. The team can adjust both their bots, but they must be put back where they originally were. The bots of the opposite team must stay still during this time. The judge has the right to decide not to pause, depending on the situation (for example, when one team is close to scoring a goal).

- If a bot is unable to move for more than 45 seconds, but the team does not want to request a break to fix it, or is unable to fix it, then the bot shall be removed from the arena until it is fixed and is confirmed with the judges.
- If two or more bots are stuck at the wall while trying to tackle the ball for more than 45 seconds, the game shall be paused and restarted at the center. The team opposite to the court the ball was stuck in shall resume the game at the center.
- No bot is allowed to directly strike, touch or topple the bots of the opposing team. In such a situation, the opposite team gets to start at the center, and the offending team gets a yellow card. Three such yellow cards will result in a direct victory of the opponent, and five yellow cards will lead to full disqualification of the team from the event.
- At the start of a match, an overall timer of 15 minutes is set. Unlike game timer, this timer shall not be paused in case of any breaks or discussions. If the overall timer runs out before the game timer, then the match is declared finished, the winner is declared based on the goals up to that point, and points are awarded accordingly.



# DRONE RACING COMPETITION

Design, construction and pilot drones capable of high speed and good controllability in order to pick up and deliver payloads in the shortest time possible.



## **General guidelines:**

- Each team can consist of a maximum of 6 people.
- Each team needs to have at least one drone meeting the specifications stated below. They also have an option to have one more drone as backup.
- Any attempt to tamper with or damage the drone of any other team will result in instant disqualification.
- The decision taken by the judges and the organizers will be final.

## **Drone specifications:**

- The drone must be an unmanned quadcopter.
- The drone (excluding the transmitter or any payload) must weigh below 4 kg.
- The distance between the ends of the diagonal propellers must not exceed 50 cm.
- The drone must be controllable up to a distance of at least 150 m.
- Care must be taken to ensure that the drone is ready at least 15 minutes ahead of the race.
- The drone can be piloted either directly, or through an FPV camera and display.
- In case an FPV camera is used, the video resolution must be SD (720 x 480p) or lesser. The field of view should be 180 degrees or narrower.
- Charging stations will be provided during the competition, if required. However, each team must carry a backup battery for each drone.
- Before the actual race, the team needs to conduct a test flight in the presence of the judges so as to qualify for the race. If the judges find the drone is not sufficiently controllable, or if any of the above rules are violated, the team is not allowed to participate. The team can make necessary modifications on the spot and try again.

## Race format and arena:

- The arena will be a cuboid of height 30 m, with the base being a square of side 50 m.
- During the race, the drone of the racing team is not allowed to go outside this racing area. If it is observed that a drone is losing control and going out of this area, the team is instantly disqualified.
- When a team is not currently racing, their drone may not enter the racing area. They may only test their drones in the test flight area.
- The starting point, where the drone shall take off, is one of the corners of the arena. There will be three payloads placed at each of the other corners.
- The drone has to take off from the starting point, go to each of the corners (in any order), pick up the payloads one by one and drop it near the starting point.
- The payload can be dropped anywhere within a 2 m distance of the starting point. After the race, the drone needs to land inside the same circle.

- There shall be obstacles placed between the corners. This includes, but is not limited to, Hula hoops, horizontal poles, tunnels, etc.
- The drone must go through all the obstacles when going from one corner to another.
- The aim is to navigate through all the obstacles, pick up all the payloads and drop them in the least amount of time possible.

## **Payload description:**

The payload is a 10 cm x 2 cm x 2 cm cuboid, fitted with a washer of radius 2 cm. This washer will be made of a ferromagnetic material. Each payload weighs less than 300 grams. All the four payloads will be identical.

## **Points format and judging criteria:**

- If a team qualifies for the race, 50 points are awarded to the team. Carrying each payload from the end point to the start awards the team 100 points each. Hence, each team can score a maximum of 350 points.
- Apart from this, the time elapsed from the start to the last payload dropped will be noted.
- Hence, for example, if the drone takes off at time  $t = 0$ , finishes dropping two payloads in 2 minutes, but is unable to drop the third payload successfully, the points earned would be 250, and the time taken would be 2 minutes.
- The primary judging criteria will be the number of points. In case of a tie, the team which took the least time wins.



ELEKTRONICA  
IIT HYDERABAD

# WAVEFORM WARS

Showcase your skills in the signal processing hackathon, an electrifying two-round signal processing hackathon! Solve exciting challenges, from fundamental concepts to advanced tasks, and race against time to outthink your competitors. Prove your expertise and claim the title of signal processing champion!

## **General rules:**

- Number of members per team: 1-2
- The hackathon will consist of two rounds, and neither will be eliminatory.
- Platform: Participants will use pre-installed MATLAB or Python compilers (No online compilers are allowed).
- Start code: A template code will be provided for each problem. Participants must strictly adhere to it and cannot modify the structure unless specified.

- **Evaluation:**

- Submissions will be evaluated using a pre-defined testbench.
- Each test case passed will earn positive marks.
- Each failed test case will carry negative marks, but the final marks for a question will not drop below zero.

## Round 1: Basics of Signal Processing

- **Duration:** 1 hour.
- **Format:** 3–4 questions of easy to moderate difficulty.
- **Allowed Resources:**
  - Offline resources such as textbooks, notebooks, and printed cheat sheets.
  - Online resources are strictly prohibited.
- **Penalties:** Teams caught using online resources will face severe penalties or disqualification.
- **Challenges:** Topics may include:
  - Signal filtering basics.
  - Frequency domain analysis.
  - Signal decimation and reconstruction.
  - Simple MATLAB or Python implementations.
- **Scoring:** Based on the number of test cases passed, with no penalty for partially correct solutions.

## Round 2: Advanced Signal Processing

- **Duration:** 1.5 hours.
- **Format:** A single challenging problem (may have sub-problems).
- **Allowed Resources:**
  - Both offline and online resources are permitted.
  - Communication with outsiders is strictly prohibited. Violation will result in disqualification.
- **Challenges:** (Topics may include)
  - Real-time signal denoising using wavelet transform.
  - Digital communication system design (e.g., QPSK simulation).
  - Spectrogram-based signal classification.
    - Adaptive filtering using LMS.
  - Advanced signal compression (e.g., PCA).
- **Scoring:** Detailed scoring for each sub-problem will be provided. In case of a tie, the team submitting the code first will be declared the winner.

## **General Guidelines:**

- A short break will be provided between the two rounds.
- Attempting to plagiarize, cheat, or communicate with other teams will result in immediate disqualification.
- The final decision regarding marks, penalties, and disqualifications will rest with the event organizers.



Glitch

# BGMI

Get ready to showcase your gaming skills at one of the most thrilling Battlegrounds Mobile India (BGMI) tournaments! Join us for an action-packed event as part of Elan & nVision Fest at IIT Hyderabad.

## Tournament Details

- **Tournament Name:**

- Elan & nVision BGMI Battle Royale Tournament

- **Tournament Format**

- **Online Screening Round**

- An online screening round will take place.
    - Teams will compete to secure a spot in the top 25.

- **Offline Finale**

- The top 25 teams from the screening round will be invited to IIT Hyderabad during the Fest.
    - These teams will battle it out in an intense offline tournament held at IIT Hyderabad to claim glory and the prize pool.

- **Prize Pool**

- A grand prize pool awaits the champions! Details to be announced.
- **Gear up, register your team, and show the world your strategic gameplay!**

- **Teams**

- A total of 25 teams will compete in each match.
- Each team will consist of four players.
- Each team is allowed to have one substitute player.

- **Participant Information**

- All teams are required to provide the following information to the organizers in advance:
- Team Name
- Each team members name and in game name
- Character ID
- Roll Number

## **Scoring System**

Points will be awarded based on both team performance and individual kills. The scoring system is as follows:

- Team Performance**

- 1st Place: 15 points
- 2nd Place: 12 points
- 3rd Place: 10 points
- 4th Place: 8 points
- 5th Place: 6 points
- 6th Place: 4 points
- 7th Place: 2 points
- 8th to 14th Place: 1 point each
- 15th to 25th Place: 0 point each

- Individual Kills**

- Each kill: 1 point

### **Individual Player Ranking:**

Players will also be ranked based on their individual kills. The player with the highest number of kills in each match will be recognized as the top fragger for that match.

## **Rules and Regulations**

Participants are expected to adhere to the following rules and regulations throughout the tournament:

### **In-Game Rules**

1. All matches will be played in "BGMI" (Battlegrounds Mobile India) on the official tournament server.
2. Players are not allowed to use any third-party cheats or hacks. Violators will be disqualified.
3. Any use of in-game bugs or glitches for an unfair advantage is prohibited.

### **Match Guidelines**

1. All teams must be ready and in the lobby 15 minutes before the scheduled match start time.
2. The match format will be TPP (Third Person Perspective).
3. In case of server crashes or technical issues, the match may be restarted at the discretion of the tournament organizers.
4. The tournament organizers' decisions are final and binding.

## **Scoring and Results**

1. The tournament organizers will announce the official results and leaderboard after each match.
2. Participants must take a screenshot after each match as proof of their performance. Screenshots should clearly show the team's placement and the total number of kills.
3. Participants can request a review of their match results within 30 minutes of the result announcement. Afterward, no changes will be made.
4. The overall winner will be determined based on the total points accumulated over all eight matches.

## **Tiebreaker System**

In the event of a tie in points for any position in the tournament standings, the tie will be determined in the following order:

1. Total times of winning the first placement across all Tournament games.
2. Total accumulated placement points across all Tournament Games in the applicable Tournament.
3. Total accumulated finishes across all Tournament Games in the applicable Tournament.
4. Placement in the most recent match of the Tournament.

## **Fair Play and Sportsmanship**

1. All participants are expected to display good sportsmanship and respect for fellow competitors.
2. Harassment, abuse, or unsportsmanlike conduct will not be tolerated and may result in disqualification.

## **Prizes**

1. Prizes and awards will be provided to the winning team and individual players.
2. The specific prizes and awards will be announced before the tournament begins.



# VIRTUAL TRADING COMPETITION

## CRYPTO

Dive into the world of cryptocurrency trading with this exciting 3-day competition on the Roostoo platform. Starting with a mock portfolio, participants will trade in real-time markets using market and limit orders to maximize returns. Compete for the top spot on the live leaderboard and win exciting prizes based on your final portfolio value.

## **Competition Rules:**

- Starting Portfolio- Each participant will be allocated a virtual portfolio containing mock \$X worth of paper money. This amount will be available for trading based on real-time market prices.
- Trade Action- Participants can execute trades using two types of orders
- Market Order- Immediate execution at the current market price with a virtual commission fee of 0.016%.
- Limit Order- Execution at a specified price set by the participant with a virtual commission fee of 0.012%.

The competition will be hosted on Rostoo platform.

## **Leaderboard:**

- Participants will be ranked based on the overall portfolio return rate throughout the competition period. An internal leaderboard will display real-time rankings.

## **Winners:**

- The competition winners will be announced at the end of the 3-day period.
- Prizes will be awarded to the participants with the highest net assets, combining cash and cryptocurrency holdings.
- Prizes will be awarded to the 1st and 2nd place participants, determined by their ranking on the leaderboard.



# MAZE EXPLORER

Design and implement a maze-solving robot capable of autonomously navigating through a given 3D maze constructed with rigid walls and open pathways. The robot should reach a specified destination while avoiding obstacles in the shortest possible time.



## **General Details:**

- Offline
- Team Size: 1-4 members per team
- In case of any confusion or dispute, the judge's ruling shall be conclusive.
- Any act of misbehavior or misconduct will lead to disqualification.

## **Description of the maze:**

- The maze will be a 8 x 8 grid of cells, each measuring 30 cm x 30 cm.
- Two cells can either be open, or be blocked by a wall.
- The height of all walls will be 20 cm.
- The wall will be white in color (ideal for IR sensors, if used), and will be made of cardboard rigid enough to work well with ultrasonic sensors, if used.
- The bottom left corner will be the starting cell for all of the rounds and runs.
- The floor of the target cell will be colored red, while rest of the maze will be white in color.
- It is assured that there is at least one path between the starting cell and the target cell.

## **Rules and Bot Specifications:**

- The size of the bot should not exceed the cell dimensions excluding the height. Participants should choose an optimum size for unhindered maneuvering given the cell size. If there is excessive contact/collision of the bot with the walls which might or might not damage the walls, the team may be disqualified.
- The bot is to be powered by an on-board battery.
- The weight of the bot should not exceed 1 kg, inclusive of the battery.
- The bot must be completely autonomous. No direct human involvement or manual control is allowed at any point in time.
- Any kind of remote link between the bot and the outside world is strictly prohibited. Components such as WiFi/Bluetooth modules, RF transceivers are not allowed. Microcontrollers/computers with WiFi or Bluetooth capabilities (e.g., ESP32, Raspberry Pi, etc.), are not advised. If used, strong justification is required, and prior verification of the code is necessary.
- Participants are provided with initial time (minimum 5 minutes) before the actual round to calibrate their PIDs, sensors, and localization according to the arena.
- The code uploaded to the bot will be asked to be uploaded for verification. Software should not be tampered with or changed except for sensor calibration and PID values after the final code submission. If necessary, a team may be asked to upload this code under the supervision of the judges.
- Any form of plagiarism in the code is unacceptable.
- Hardcoding or pre-programming robot movements will be penalized.

## **Match format:**

There shall be a qualification round, followed by the final rounds:

### **The Qualification round:**

In this round, there shall be a tunnel consisting of 4 cells of the dimensions mentioned earlier, with walls on either side. Then, there shall be a right turn, consisting of 2 cells. The bot of each team is required to go from one end of this to another, without colliding with any of the walls. The objective of this round is to make sure the bot is equipped enough to proceed to the next stage.

### **The final rounds:**

- There shall be two rounds in this stage. The target cell will be different in both of these rounds. Additionally, some cells will be chosen as the checkpoint cells.
- Each team gets three runs for each round. The best of these three tries will be counted and compared.
- The bot is expected to reach the target cell and stop there, signifying that the bot has correctly identified the target cell.
- Points are awarded based on how close the bot was to the target, with the maximum points of 100 being awarded for reaching the target.
- Apart from this, the time taken for each of the rounds is also noted down.
- If a bot is stuck in a situation, or there is a failure, the team has an option to respawn to the previous checkpoint.

## Judging Criteria

The teams will be judged and ranked based on the following points format:

1. Method of solving the maze (30 points): The code will be examined, and teams will be awarded points based on the method used to solve the maze, and its creativity.
2. Qualification round (20 points): Clearing the qualification round earns 20 points to each team.
3. Performance in the final rounds (100 points each): If a team reaches a target successfully during a round, 100 points are awarded for that round. If the bot is unable to reach the target cell, the points will be awarded proportionally based on the closest the bot has been to the target. For example, if the total distance between the starting cell and the target cell is 7 units, and the least distance of the bot from the target during the run is 2 units, then the points earned during this round will be  $(7 - 2)/7 * 100 = 71.4$ .
4. Penalties: If there is a strong collision of the bot with the wall at any point in time, 5 points will be deducted for each such collision. Additionally, if the team chooses to respawn to the previous checkpoint, a penalty of 20 points will be applied. These penalties apply cumulatively.

Hence, a team can score a maximum of 250 points. If two teams have scored equal number of points, the team which took lesser total time for both the rounds will be declared the winner.



# REAL CRICKET

Compete in an intense 1v1 knockout format on Real Cricket. Register and compete in thrilling 5-over T20 matches, and claim the champion's title!



## Tournament Structure:

- **Format:**

- Single elimination knockout format.
- Matches will consist of 1v1 games, with the winner progressing to the next round.

- **Rounds:**

- The number of rounds will depend on the total number of registered participants.

- **Fixture Announcement:**

- Match fixtures and timings will be shared after registration is complete.

- **Match Venue:**

- Matches will be conducted offline at the designated tournament venue. Details will be shared prior to the event.

## **General Rules:**

- **Game Version:**

- The latest version of Real Cricket will be used. Participants are advised to familiarize themselves with the latest updates.

- **Gameplay Settings:**

- Match type: T20.
- Overs per side: 5 overs.
- Difficulty: Standard.
- Other gameplay settings will be preset by the organizers.

- **Fair Play:**

- Any form of cheating or unsportsmanlike conduct will result in immediate disqualification.
- All decisions made by the referees and organizers are final and binding.

- **Technical Issues:**

- If a technical issue arises during the game, the match may be restarted at the discretion of the organizers.
- Participants are required to report any issues immediately.

## **Participant Guidelines:**

- **Eligibility:**

- Open to all individuals aged 16 and above.

- **Registration:**

- Participants must register by the announced deadline.
- No on-spot registrations will be entertained.

- **Timings:**

- Participants must report to the venue 30 minutes prior to their scheduled match.
- Late arrivals will be disqualified.

- **Conduct:**

- Participants must maintain decorum at all times.
- Misbehavior with other participants or organizers will lead to disqualification.

## **Match Rules:**

- **Start of Play:**

- Toss will determine which player bats or bowls first.

- **Game Play:**

- Players must use the preset controls and settings.
- Any attempt to manipulate game settings or controls will result in disqualification.

- **Victory Conditions:**

- The player with the highest score at the end of the match wins.
- In case of a tie, the match will proceed to a Super Over.

- **Disconnects:**

- In case of a disconnect, the match may be restarted or forfeited based on the organizers' decision.

### **Important Notes:**

- The organizers reserve the right to modify the rules at any time.
- Any disputes will be resolved by the organizing committee, and their decision will be final.

Good luck, and may the best player win!



# ROAD TO VALOR

Welcome to the Road to Valor Offline Knockout Tournament! Compete against other strategists in this intense head-to-head tournament to claim the title of champion. The tournament follows a knockout format, ensuring only the best move forward. Assemble your army, plan your strategy, and lead your forces to victory!

## Tournament Structure:

- **Format:**

- Single elimination knockout format.
- Matches will consist of 1v1 games, with winners progressing to the next round.

- **Rounds:**

- The number of rounds will depend on the total number of registered participants.

- **Fixture Announcement:**

- Match fixtures and timings will be shared after registration is complete.

- **Match Venue:**

- Matches will be conducted offline at the designated tournament venue. Details will be shared prior to the event.

## **General Rules:**

- **Game Version:**

- The latest version of Road to Valor will be used. Participants are advised to familiarize themselves with recent updates.

- **Gameplay Settings:**

- Default settings will be used for all matches.
- Additional gameplay settings will be preset by the organizers and cannot be changed by participants.

- **Fair Play:**

- Cheating, use of exploits, or unsportsmanlike conduct will result in immediate disqualification.
- All decisions made by the referees and organizers are final and binding.

- **Technical Issues:**

- If a technical issue arises during the game, the match may be restarted at the discretion of the organizers.
- Participants are required to report any issues immediately.

## **Participant Guidelines**

- **Eligibility:**

- Open to all individuals aged 16 and above.

- **Registration:**

- Participants must register by the announced deadline.
- No on-spot registrations will be entertained.

- **Timings:**

- Participants must report to the venue 30 minutes prior to their scheduled match.
- Late arrivals will be disqualified.

- **Conduct:**

- Participants must maintain decorum at all times.
- Misbehavior with other participants or organizers will lead to disqualification.

## **Match Rules:**

- **Start of Play:**

- Each match will begin with both players selecting their chosen army composition.

- **Game Play:**

- Players must use the preset controls and settings on the provided devices.
  - Any attempt to manipulate game settings or controls will result in disqualification.

- **Victory Conditions:**

- The player who destroys the opponent's main base first or has the highest score when the timer ends will be declared the winner.

- **Disconnects:**

- In case of a disconnect, the match may be restarted or forfeited based on the organizers' decision.

## **Important Notes:**

- The organizers reserve the right to modify the rules at any time.
- Any disputes will be resolved by the organizing committee, and their decision will be final.
- Participants must adhere to all safety and health guidelines in place during the event.

Prepare your strategy and rise to the challenge. Good luck to all participants!



# BULLET ECHO

Welcome to the Bullet Echo Offline 3v3 Knockout Tournament! Form your team, showcase your strategy and teamwork, and outlast your opponents in this high-stakes competition. The tournament follows a knockout format, where teams must work together to claim victory and progress to the next round. Only the best will rise to the top!



## Tournament Structure:

- **Format:**

- 3v3 team-based knockout format.
- Winning teams progress to the next round; losing teams are eliminated.

- **Rounds:**

- The number of rounds will depend on the total number of registered teams.

- **Fixture Announcement:**

- Match fixtures and timings will be shared after registration is complete.

- **Match Venue:**

- Matches will be conducted offline at the designated tournament venue. Details will be shared prior to the event.

## **General Rules:**

- **Game Version:**

- The latest version of Bullet Echo will be used. Participants are advised to familiarize themselves with recent updates.

- **Device:**

- Tournament organizers will provide devices for the matches.
- Participants are not allowed to use their own devices.

- **Gameplay Settings:**

- Standard game settings will be used for all matches.
- Additional settings and map choices will be determined by the organizers.

## **Participant Guidelines:**

- **Eligibility:**

- Open to all individuals aged 16 and above.

- **Registration:**

- Each team must consist of three members.
- Participants must register their team by the announced deadline.
- No on-spot registrations will be entertained.

- **Timings:**

- Teams must report to the venue 30 minutes prior to their scheduled match.
- Late arrivals will result in disqualification.

- **Conduct:**

- Teams must maintain decorum at all times.
- Misbehavior with other participants or organizers will lead to disqualification.

## **Match Rules:**

- **Team Composition:**

- Each team must consist of three players.
- Substitutions are not allowed once the tournament begins.

- **Game Play:**

- Matches will be conducted in a best-of-three format for each round.
- Teams must use the preset controls and settings on the provided devices.
- Any attempt to manipulate game settings or controls will result in disqualification.

- **Victory Conditions:**

- A team wins a round by eliminating all opposing team members or achieving the specific objectives set for the match.
- The team winning two out of three games advances to the next round.

- **Disconnections:**

- In case of a disconnect, the match may be restarted or forfeited based on the organizers' decision.

## **Important Notes:**

- The organizers reserve the right to modify the rules at any time.
- Any disputes will be resolved by the organizing committee, and their decision will be final.
- Participants must adhere to all safety and health guidelines in place during the event.

**Assemble your team, strategize your moves, and dominate the battlefield. Good luck to all participants!**



# E-WASTE MANAGEMENT IDEATHON

The E-Waste Ideathon invites participants to propose innovative and sustainable solutions for managing e-waste, biomedical waste, solid waste, and wastewater. Ideas will be evaluated on their creativity, feasibility, and potential societal impact. Showcase your problem-solving skills and help create a cleaner, greener future!

## **General Details:**

- Online/offline
- Team Size: 1-4 members per team

## **Problem Statement:**

Increasing volume of e-waste, its improper management and lack of scientific disposal methods lead to negative effects on human health and environment due to hazardous substances. Therefore, there is a need to reduce e-waste generation by various practices.

## **Focus Theme:**

- E-waste management.
- Bio-medical waste management.
- Solid waste management.
- Waste-water treatment.

## **Objectives:**

- Finding innovative solutions for waste reductions and management.
- Identifying valuable resources from waste and solutions for its effective utilization.
- Encouraging young intellectuals to apply reasoning and problem solving skills to solve real world problems at the grassroots level.

## **Evaluation Parameters:**

- The novelty of the idea and the recency of the approach.
- Degree of innovation
- Waste to Wealth ratio
- Simplicity & uniqueness of the proposed solution
- Practicability & Sustainability of the solution
- Scale of impact on the society
- Potential for future application
- Operational feasibility
- Organizers decision will be final.