



TECHNOVANZA

Taking technology to society

Introduction:

"Ask any racer. Any real racer. It doesn't matter if you win by an inch or a mile. Winning's a winning." - Dom Toretto(The Fast and The Furious 2001)

Agility of the car is not the only touchstone when there are barricades which the robot has to tackle. It completely depends on how efficaciously the person manoeuvring the car deals with speed and accuracy.

VJTI's Technovanza brings to you another thrilling real time all-terrain racing competition, race The Fast and Furious from across the nation! Get ready put your car-designing abilities and your car's strength, power and efficiency of to test.

Team Specifications:

A maximum of 6 team members are allowed in a team. A team can participate with a maximum of 2 cars. Both cars will have a different driver and once the driver name has been fixed at the start of the event it cannot be changed. Teams from different educational institutes can participate.

Certificate Policy:

1. Certificate of appreciation/participation will be awarded to the all teams and certificate of excellence will be given to top three teams.
2. Disqualified teams will not be considered for any certificates.

Gameplay:

Make a wireless remotely controlled machine, powered by only an IC engine, which can race against other opponents on an off-road dirt track with many obstacles.

There will be two different types of races in qualification round:

A. Time Trial

B. Drag

A. Time Trial:

Each team will get two trials. Each trial consists of two laps. The fastest trial will be considered!!! Not more than two team members will be allowed in the arena at a time. Checkpoints will be placed throughout the arena. If a machine is stuck or falls off the arena, that team will be allowed to pick it up and place it at a checkpoint behind that point, the time for which will be added to the total lap time. If a machine disintegrates in the arena leaving behind loose parts the team will be disqualified. Once the race begins team members will be immediately disqualified if found touching their's or opponent's machine. If any of the cars starts off before the flag is waved, the counter would be restarted and the machines will get a second chance. However, if any machine starts off before the waving of flag (or countdown) for a second time, it will be disqualified. Once disqualified the team can't participate again in the event. If any member of a team is found purposely damaging other team's car, the team will be disqualified.

B. Drag:

Each team will get two laps. The fastest lap will be considered!! There will be no obstacles in this race type. The teams just have to accelerate on a straight path. Once the race begins the bot is not allowed to stop until it crosses the finishing line. If the car stops in between the race then that lap will not be considered. The car is not allowed to touch the track boundary. Extra time will be added if the car touches any boundary parts.

Total= A + B. Top teams in qualifying round will make it to the second round.

In case of any disputes/discrepancies, the organiser's decision will be final and binding

Rules:

1. The machine should fit in a box of dimensions 700mm x 500mm x 600mm throughout the race, excluding the external device which is used to control the machine.
2. The teams must design a purely wireless remote controlled machine.
3. The machine parts can be roughly classified into structural and functional parts: Functional parts - ready-made versions of Gears, differential gear, engine, springs, shock absorbers, servo motors (non-propulsion purposes only), batteries, wheels can be used. Structural parts - Chassis, steering mechanism, shock towers and suspension (excluding the upper suspension arm, suspension spring and shock absorbers) have to be built by the participants themselves.
4. Judging for the same will be strict and the participant will be immediately disqualified if any of the above structural components are found to be ready-made.
5. After a thorough inspection, machines which seem dangerous will be disqualified. This decision of the judges and the organisers will be ultimate.

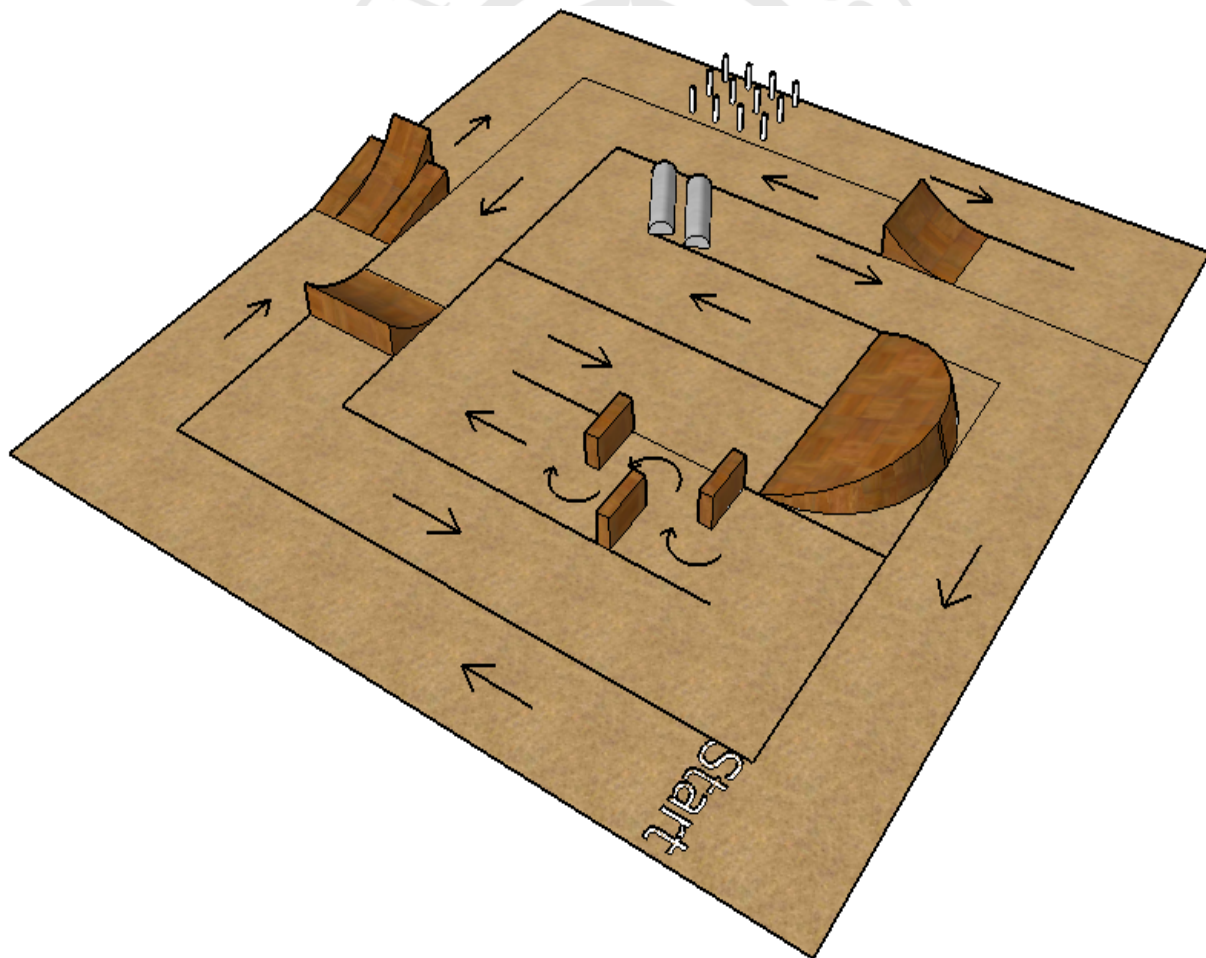
6. Minimum thickness of tyres is 3 inch. Selection of a good width will ensure better performance in dirt tracks.
7. Brake Mechanism: It is compulsory to incorporate a braking mechanism in the car. Participants have to fabricate the brake pad as a part of the braking mechanism. Any other part used in braking mechanism (including the brake disk) can be readymade.
8. Wheel Hub: Any part rigidly attached to the wheel hub will be considered as a part of it and hence can be ready-made. E.g.:- ball stud.
9. Steering Mechanism: Any part which is connected to steering rod rigidly i.e. has no degrees of freedom with respect to steering rod will be considered as part of steering rod and thus has to be fabricated by participants.
10. Suspension mechanism: Any part rigidly connected to suspension arms or one with no degrees of freedom with respect to suspension arm will be considered as its part and has to be fabricated by the participants, except the upper suspension arm. For example, both the helm joint for the upper suspension arm and the stud rigidly connected to the wheel hub can be bought from the market.
11. If there are parts used in the concerned joint which are neither rigidly connected with suspension or the hub, steering system or hub; they can be taken ready-made from the market.
12. The Bot must be propelled by only mechanical power generated by an internal combustion (IC) engine for propulsion. Only one IC engine should be used in the machine. Use of any other sources such as chemicals, compressed gas, rockets etc. is not allowed.
13. The maximum allowed capacity of IC engine to be used is 4.6 cc (i.e. Participants can also use 2.5 cc, 3 cc, 3.5 cc or any other IC engine lower in capacity).
14. The electric voltage anywhere in the machine should not exceed 12V at any point of time.

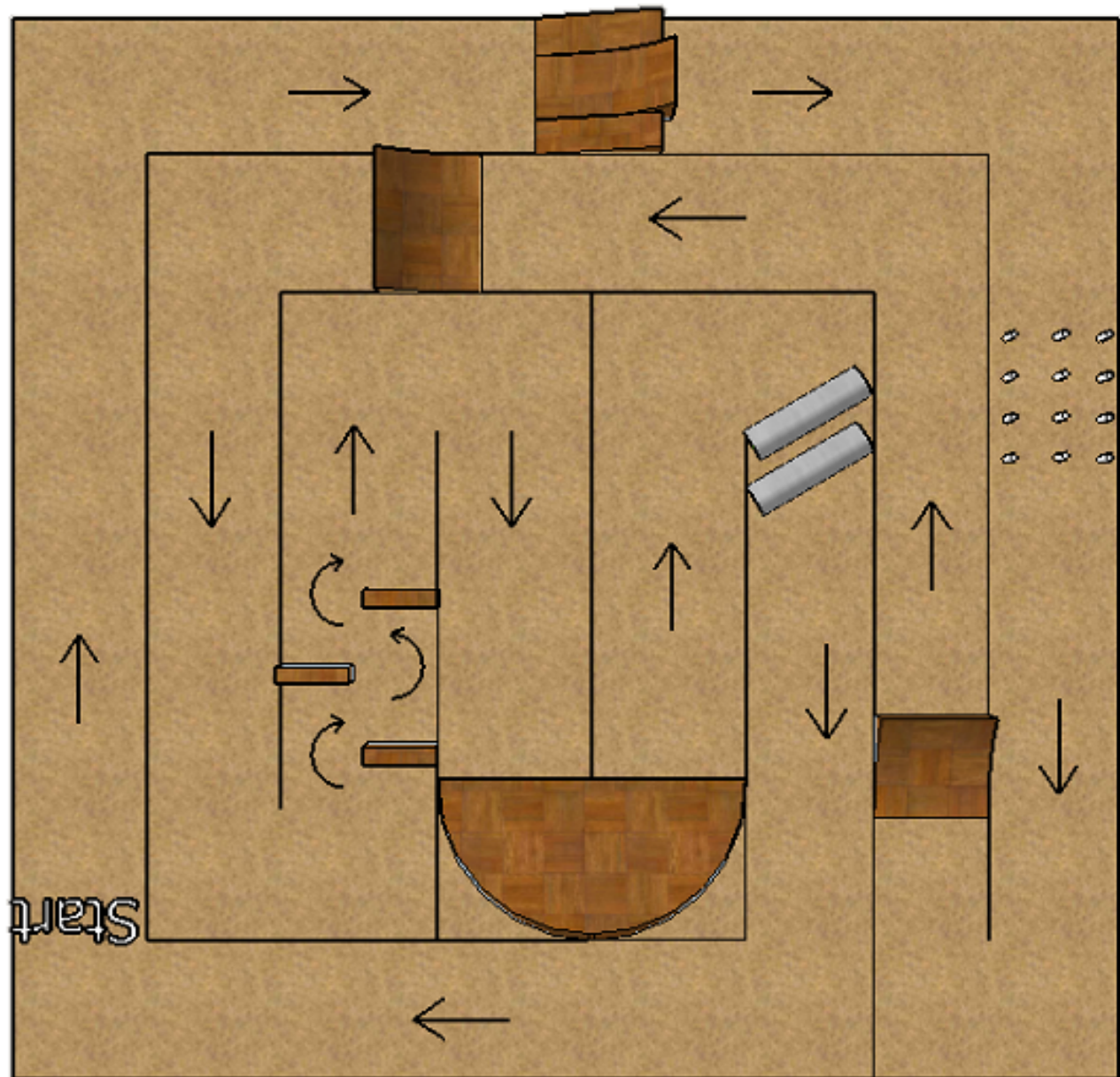


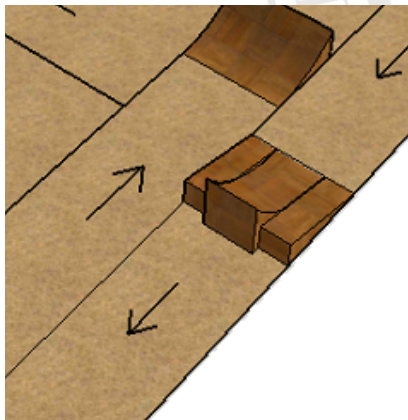
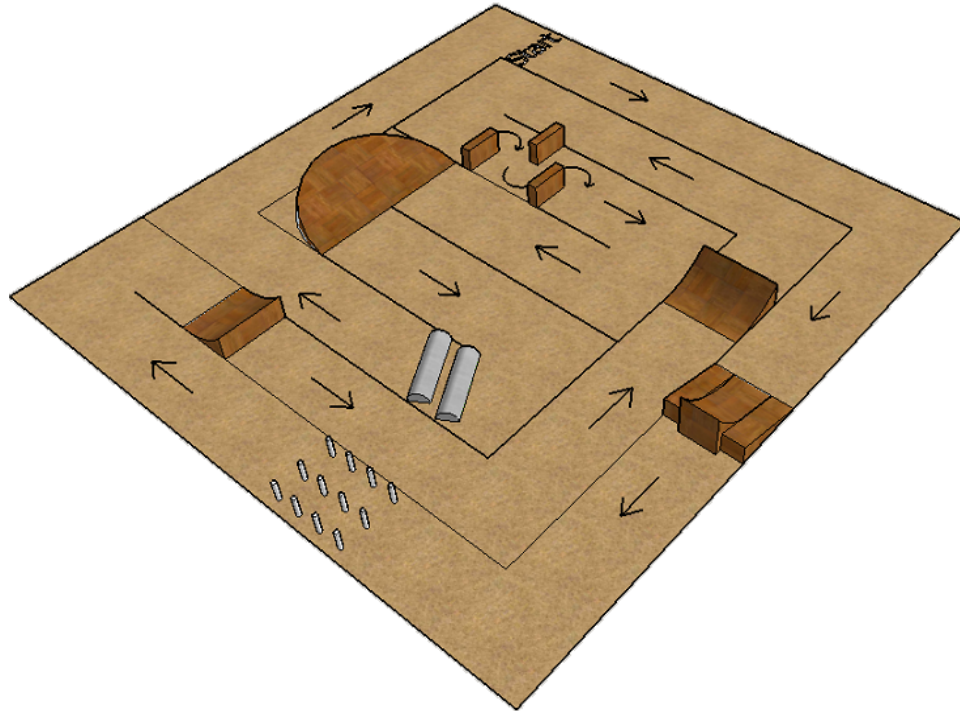
Arena:

The following pictures depict the track for the time trial round. The tracks for the further rounds will be revealed on the day itself.

Track width will be 6'.







The cars clearing this obstacle using the smaller ramps on the sides of the lane will get a 2-second advantage per lap in their final time.

Racing Policy after the First Round:

Teams with 2 cars per team will be named as Team 1A and 1B and/or Team 3A and 3B. Teams with single car will be named 2 and 4(or any number depending upon the total number of teams). Races will be held between all 'A' teams and separately between all 'B' teams and the winning teams will proceed to the subsequent rounds. For the teams registering or arriving late, races will be held between them and losing teams after following some necessary eligibility criteria as specified by racing officials on the race day.

Participants will not be allowed to exchange cars during the event. However in case the cars breaks down during or before the commencement of race then the team is allowed to change the engine and any other parts required within 15minutes in the failure of which teams will be disqualified. Teams can also borrow parts from the other teams under organisers' and other team members' permission.

Abstract Submission:

Teams have to send their abstract of their cars on fnf17@technovanza.org on or before 10th December, 2017 with following information:-

Team Name

Name of the captain

Number of members in the team

Length of the car

Width of the car

Weight of the car

Diameter of tyres

Height of car from top to ground

Ground Clearance

Engine CC

Number of fabrications & their description

Picture of car compulsory and video if possible

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