

Report on “Go cart “Design contest conducted by Strate School of Design Bengaluru

Organisers: Strate School of design, a France based design school at Bangalore organized Mechathon “ The Race “a Go cart design contest for college students across the country.

Date and Venue: December 14 ,2019, at Aruani Grid- Racing track Bengaluru

Description of the event:

Participants had to design and run a Human powered race car with the materials given by the organisers. The time given to design the cart was 6 hours and the participating teams had 5 members in each team.

Time duration: 6 hours, 9 am to 3 pm

List of participants:

With about 30 teams of 5 members each participating the list of participants from our University

1. Sivamagadev-2nd year Mechanical
2. Ranjith Kumar-2nd year Automobile
3. Sridhar-2nd year Aeronautical
4. Suhail Diaudin Syed – 2nd year Mechanical
5. Varun(Mumbai)

Prize amount: 1.5 Lak INR for the winning team

Materials given: Card board, plastic chair, glue, single duct tape, metal cable, axles and wheels, and 2 m long rope.

Criteria for judging:

- The cart to be designed strictly with the materials given.
- Each team to think on their own and not to take help from anyone else.
- Run 2 rounds of race on the specified 1 km long racing track and finish it first.The first round being the trial round to test for the durability and strength of the vehicle and the second was to check for the speed.
- The vehicle to have a safe and comfortable seating for the driver with features for safe escape from the cart in the event of an accident.
- The cart to be human powered.

Strategies adopted

Chassis had to be strong and rigid to hold the weight of the driver. The principles of composites was adopted in aligning the sheets in all 3D so that the strength of the material is enhanced to support the weight of the driver.

Light weight of the vehicle was kept in mind as it had to be human powered. Adding weight would make it hard to be driven.

The Centre of gravity was maintained at the rear end to provide for greater speed and to reduce the drag resistance in the vehicle.

As the car has to be driven on a racing track with many sharp turns on both sides, the cart had to be designed with a steering system with low turning radius and high angle of turn. To achieve this the width of the chassis was reduced. A centrally pivoted steering system which can be steered by pushing the axle with legs. Strings and wires were used to support the front axle

Results:

With all the features in place our team was successful in bagging the first prize of Rs.1.5 L in the event. The event was covered live with lot of local media providing a very good coverage of the event. Members of our team were interviewed on the effective design strategies adopted.

Links to the videos:

<https://www.facebook.com/stratedesignindia/videos/2593040720791956/?t=17>

<https://www.facebook.com/stratedesignindia/videos/790284241396334/?t=8>

<https://www.facebook.com/stratedesignindia/videos/2458869924222786/>



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