Mouse Trap Car

Problem Statement:

Design, build and test a vehicle using one or two snap mousetraps as the sole propulsion energy source.

Round 1:

- The vehicle has to cover maximum possible distance in a time span of 10 seconds. It should be noted that the path can be little rough, so provision of adequate clearance should be made!
- The distance that would be taken into consideration will depend on the position of vehicle at the end of 10th second measured from the starting point.

Round 2:

- In this round the aim is to stop the mousetrap car closest to a specified target.
- The target is 5 meters from the start line, in the centre of the 2 meter wide track.
- The winning car will be the one that stops closest to the specified target. Points would be awarded accordingly.

Round 3:

- In this round the mousetrap car has to push a plastic cup (8-13cm) out a distance and return to a point behind the starting line as quickly as possible.
- Reversing and stopping mechanisms must work automatically.
- The vehicle must push a standard disposable plastic cup (provided by the Event Supervisor) to the 3 meter Line, leave it there, reverse direction, and stop at the centre of the Minus 4-meter Line in order to receive the ideal Distance Score.
- Decisions taken by event co-ordinators will be final.

Rules and Regulations:

- TEAM SIZE: MAXIMUM of 3 students.
- Reversing and stopping mechanisms must work automatically.
- Only one or two unmodified snap mousetraps must be used as energy sources.
- The mousetrap bases must be less than 6.0 cm x 12.0 cm.

- Soldering, taping, tying, gluing, and clamping are allowed.
- Holes may not be made anywhere on the mousetrap, except for holes used to bolt or screw the mousetrap to the vehicle.
- All parts of the vehicle must move as a whole; no anchors, tie downs, launching ramps, or other separate pieces are allowed.
- All of the vehicle's kinetic energy must originate from the unmodified mousetrap.
- The vehicle must not be tethered or remotely controlled in any way to guide, reverse, or stop it.
- Recoil is NOT considered reversing.
- Electric devices are not permitted.
- The point of the fixed object nearest the track surface is used as the reference point for distance measurements.
- The entire vehicle must fit within a 1.0 meter x 1.0 meter box in ready to start mode only before a run. There is no restriction on the height of the vehicle.

Specifications:

- Mousetrap bases must be less than 6.0 cm x 12.0 cm.
- The entire vehicle must fit within a 1.0 meter x 1.0 meter box.

Deadlines:

- Sep 21st : Registration closes
- Oct 4th : Submission of "Infra" required for the prototype

You will be given the infra required, latest by Oct 7th.

FAQ's:

What is a mousetrap powered car and how does it work?

A mouse trap-powered racer is a vehicle that is powered by the energy of a wound-up mousetrap's spring. The most basic design is to tie one end of a string to the tip of a mousetrap's snapper arm and then the other end of the string has a loop that is designed to "catch" a hook that is glued to a drive axle

How far can a mouse trap car travel?
The sky is the limit! The first mouse trap car Doc Fizzix ever made only went 26 meters. Currently, Doc Fizzix has made a car travel over 182 meters.

You can refer the following link:
http://www.youtube.com/watch?v=FjNXjVKKfg8