e-Yantra Robotics Competition (eYRC 2016)
Task 2 – Model a Terrain

Problem Statement 3: Expedition to Mars **(20 points)**

Develop a game to explore the type of rocks available on the Mars terrain. The objective is to identify the type of rocks available on the terrain.

- The terrain should be a 6x6 square with a texture resembling that of Mars surface. Use information available, your imagination and skills to create this.
- Model a rover. E.g. a cube can be a rover of size 1x1x1 unit
- Place the rocks randomly which you have modelled in Task 1 of the competition, at random places on the terrain. Choose the appropriate scale for the rover and the rocks such a way that the rocks are placed in the terrain and the rover can navigate comfortably to identify the rocks.
- Placing of rocks:

Sr. No.	Type of Rock	Maximum Count	Minimum Count
1	Object1(Adirondack)	3	1
2	Object 2(Rocknest 3)	3	1
3	Object 3(Heat Shield)	3	1

- The start position for the rover would be any one corner of the terrain.
- The rover should move using Up, Down, Left, and Right (near the numpad) sets of keyboard keys.
- Add parameters to the rover, such that we experience the speed variation with single press and long press of the key.
- When rover detects the rock, it should flash a message “Object1 detected!”
- When all the objects are detected, flash a message with Type of Rock and Number of the rocks detected.
- Pressing ‘Esc’, should quit the run mode.

Now, here is a chance to earn some brownie points: **(5 points)**

The rover can be of any shape for example, a Cube. You can earn points by modelling the rover into objects such as a Car, a robot, etc. You can go creative with this.

Evaluation would be done on the basis of your modeling, optimization of Python scripts, adding Physics, and the overall functionality of the game.

Finally, save the Blender file as ProblemSolution2.blend and make a video of the game you have made. Video should not exceed duration of 3 minutes. Instructions are given in Problem Statement Read Me file.