

# SHAPE-SHIFTER

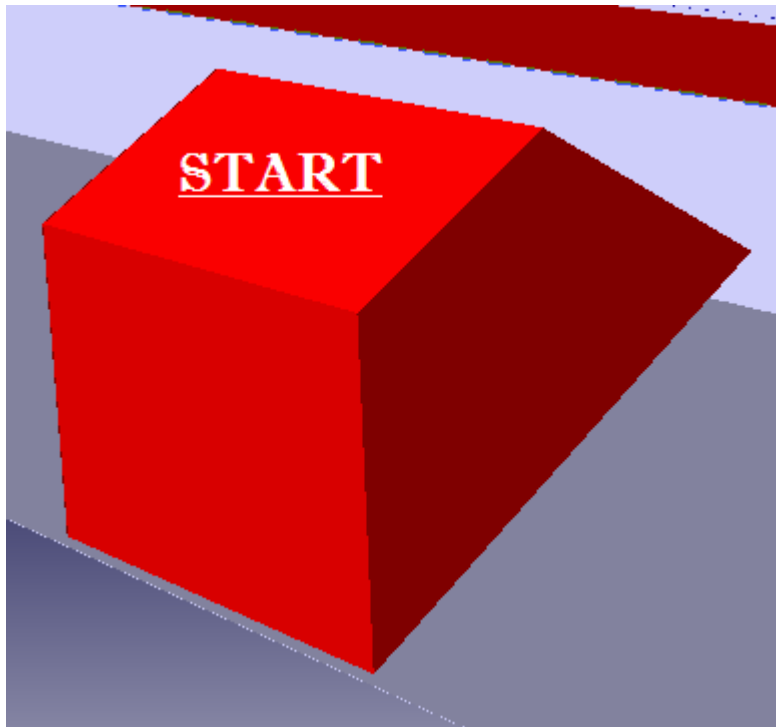
## Problem Statement

*DESIGN A MANUALLY CONTROLLED BOT THAT CAN CROSS DIFFERENT HURDLES AND CAN PERFORM CERTAIN TASKS.*

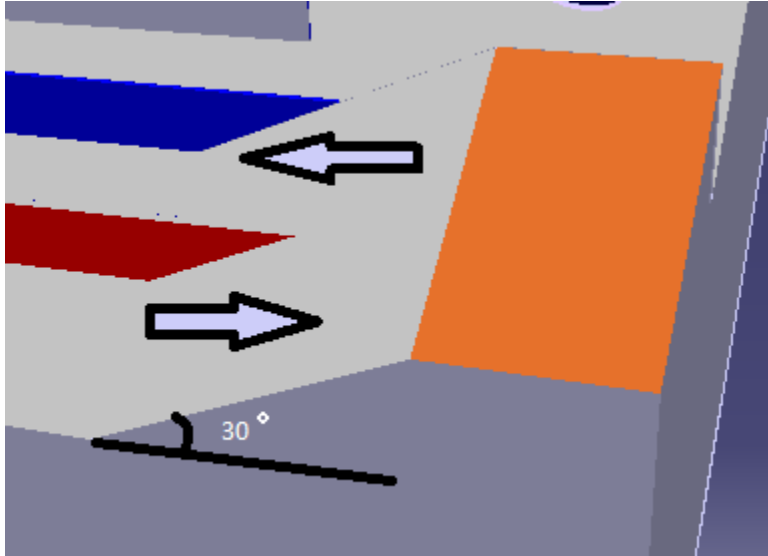
## Arena Specification

1. There are 4 diversions and 4 U-turns in the entire arena and hurdle present in each.
2. There is a wooden cube in first track, Bot has to pick the cube and move forward.
3. In 2nd U turn there are some small hurdles and in 3rd U turn there is some space between crossings you have to fill it with cubes after which you can move further.
4. There is a suspension bridge in the 3rd U-turn it will check your controlling capability.
5. After crossing 4th U-turns bot has to use its mechanism of shapeshifting to drive the slider to complete the unfinished overpass and at last Bot has to perform a final task.
6. As you know speed and controlling are two important factors in shapeshifter. So here you will get a small benefit of your controlling ability. In 2nd track there is a laser beam with its switch, the first team that will cross the beam can turn on the switch that will create an extra hurdle for the opponent. And he has to switch off the beam before crossing the beam.

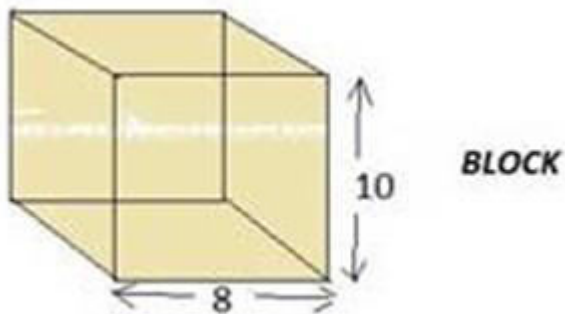
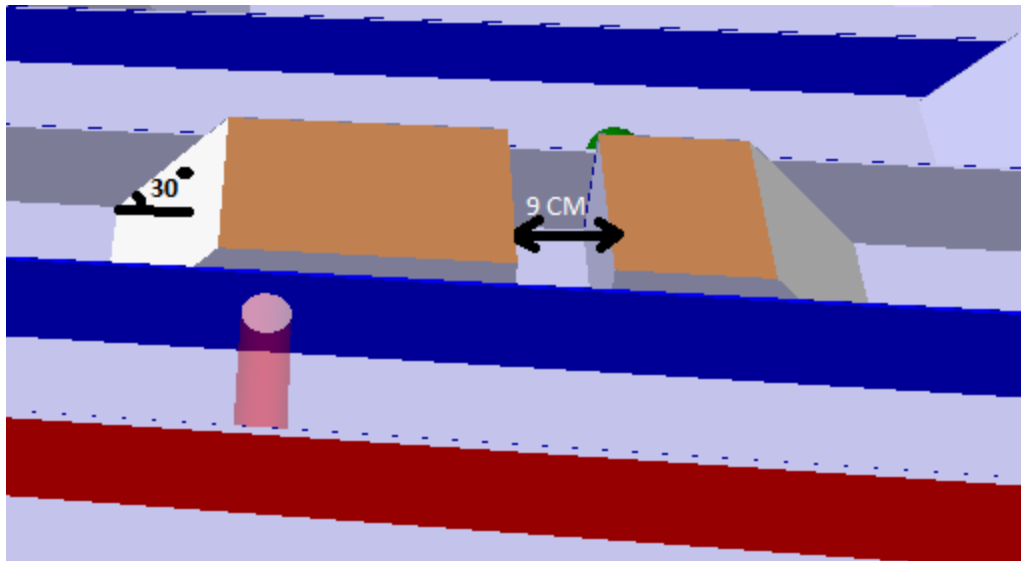
## Hurdles



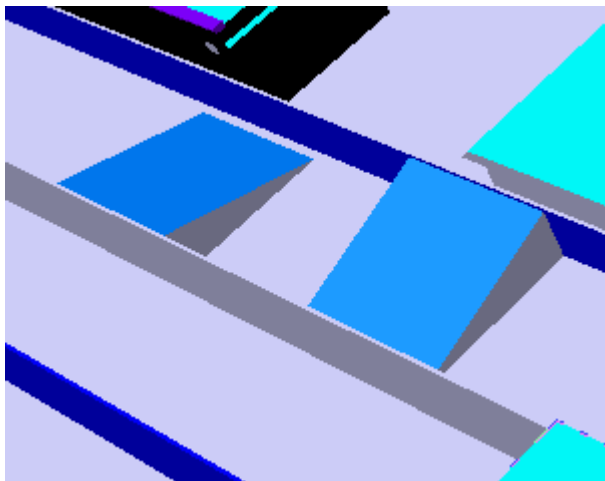
1. Start point – Bot will start from here.



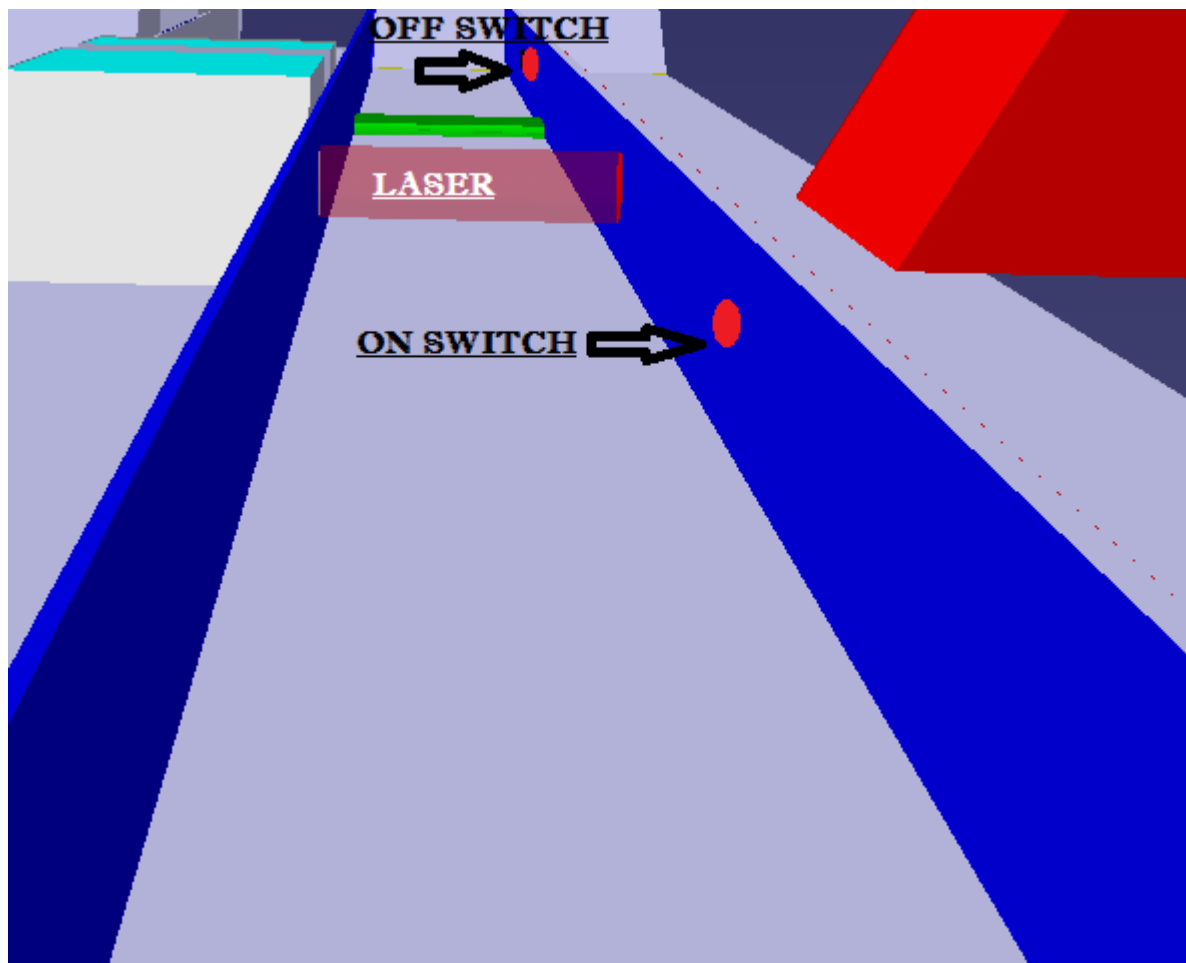
2. Inclination of 30 degree will be there on both side..



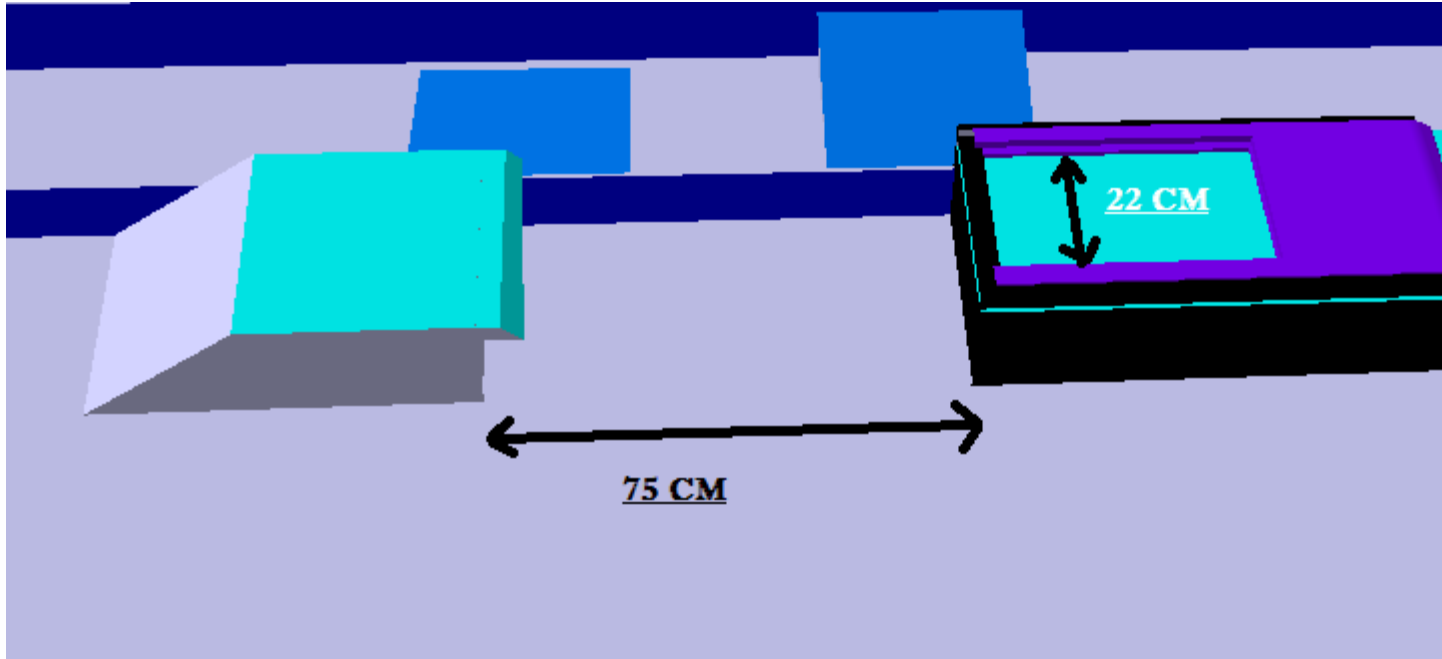
3. Pit: - Bot has to fill the pit with blocks provided & cross the hurdle. The inclination of this hurdle will be 25 degree.



4. Inclination of this hurdle will be 10-15 degree. .Bot has to cross this hurdle.



5. There is a laser beam with its switch, the first team that will cross the beam can turn on the switch that will create an extra hurdle for the opponent. And he has to switch off the beam before crossing the beam.



6. Bot has to slide the bridge in order to complete bridge. Overall length of the slider will be 2.5 times of the bot size i.e. 75 cm. There will be two strips on which bot has to move further and cross the bridge the gap between the slider will be 22 cm, and the width of the string will be 4 cm each.



7. In final task, the Bot has to play bowling game as described above.

The above rules and specifications are only for the first round. They may Change in the next rounds but the problem statement will remain the same.

### **Arena Views**

