



“Betrayers are always there in a Society”

INTRODUCTION:-

Planet earth is in Danger. Some betrayer countries on Earth have leaked the information to the aliens about the planet. Aliens are arriving to take over the planet. SAVE PLANET EARTH BY MAKING YOUR ROBOT WHICH STANDS AGAINST THEM AND KNOCK THEM OUT. Your accomplishment will thwart the betrayers who are headed against you.

PROBLEM STATEMENT:-

Design a wired or wireless manual robot capable of dragging the given object and complete the specified task in the given time.

“Remember it is tougher to beat your friends than your enemies as they know your weakness.”

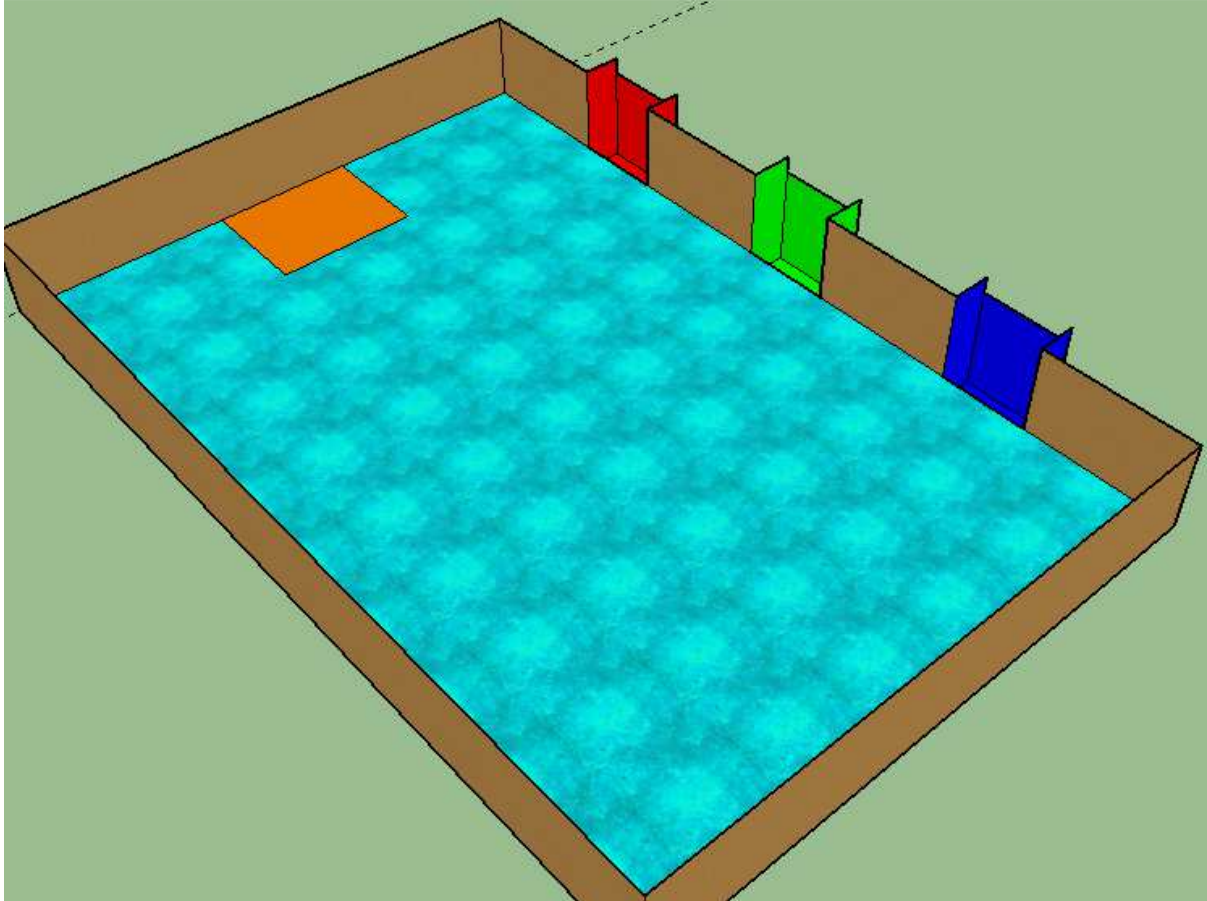
ARENA:-

*Arena is rectangular cross-section of size 200cm X 400cm (b*l). The Arena is divided in two parts so as to compete two teams simultaneously. There would be three kinds of balls (Red, Blue and Green) representing the bombs to be placed at the enemy site. Each team has to place the bombs in its opponent's area. The balls should be dragged and dropped in the opponent's strong sites.*

PRELIMS:-

- *Single team will play on the arena at a time.*
- *Team has to start heading from the orange zone.*
- *The balls of three colours(3*3each) would be placed on the surface.*
- *Each ball has to be dropped into its matching zone.*
- *Balls should be dropped alternatively (one by one).*
- *Top six teams scoring highest would head to the finals.*
- *Mismatching of zone and ball would loose points.*
- *Mismatching balls would not be counted and awarded some penalty.*
- *A bot can touch the arena a maximum of three times, beyond that the bot would be disqualified.*
- *Maximum of 2 minutes allowed to send all the balls to their respective zones.*

Fig:-



NOTE:- See the specifications in figure below

SCORING FORMULA:-

$$\text{SCORE} = \frac{(120 - T) + (20 * (G + B + R)) - (20 * H) - (40 * Rst) - (10 * M/C) - (10 * A)}{1}$$

T= Time taken to clear the arena

G= Number of green balls successfully dropped.

B= Number of blue balls successfully dropped.

R= Number of red balls successfully dropped.

H= Hand touching the bot

Rst= Number of times Re-started

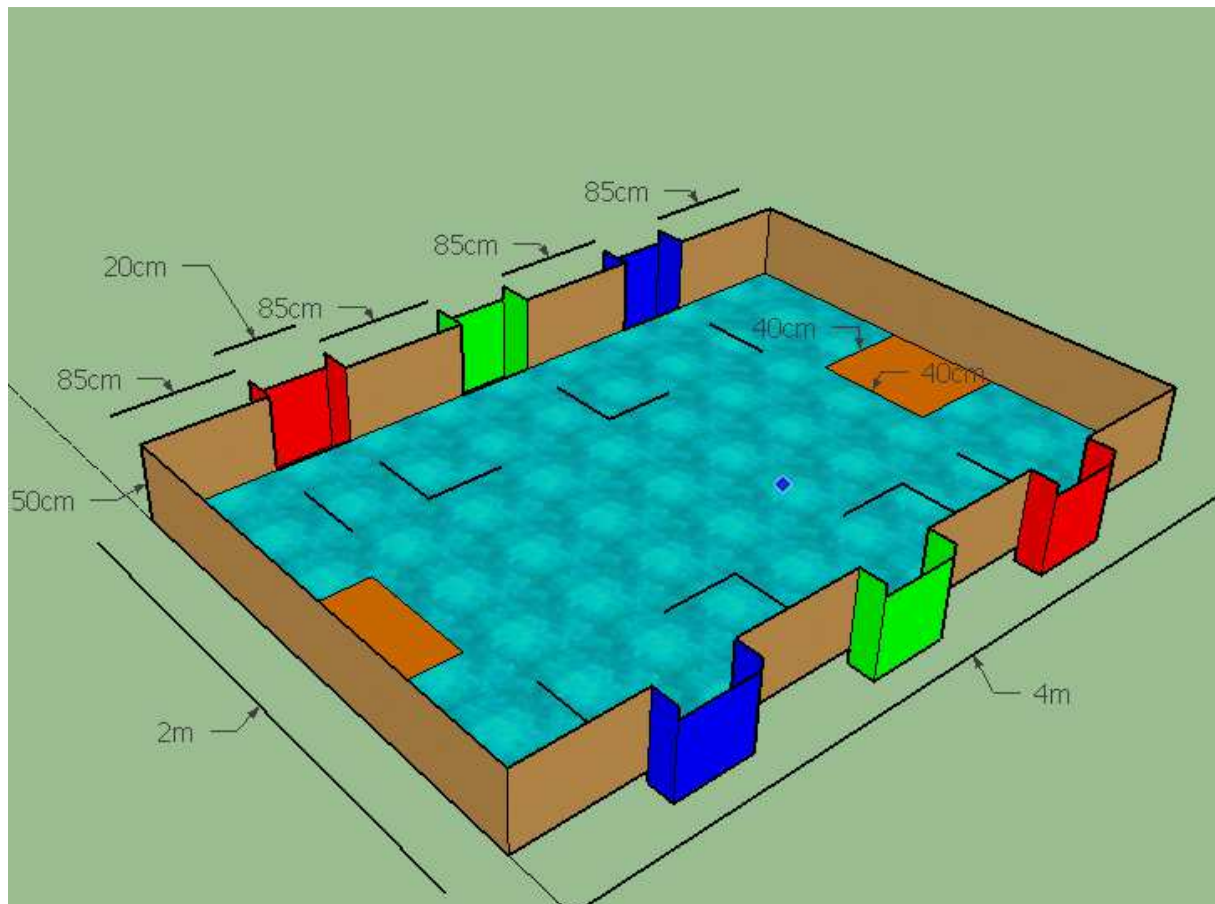
M/C= Number of balls mismatched or placed Consecutively

A= Number of times bot touched the arena (in case of picking up a ball if balls are laid to the wall, 1 penalty will be count and ball will be kept between the arena.)

FINALS:-

- *Two teams will play on the arena at a time.*
- *Teams has to start heading from the orange zone.*
- *Time limit will be of 2 minutes for(9*2 balls).*
- *The balls of three colours(3*3balls/team + 1 queen after 2 minutes(smaller in size)) would be placed in the arena.*
- *Each ball has to be dropped into its matching zone.*
- *Balls should be dropped alternatively.*
- *Red ball fetches more points.*
- *Mismatching of zone and ball would loose points.*
- *Mismatching balls would not be counted and awarded some penalty.*
- *A bot can touch the arena a maximum of three times, beyond that the bot would be disqualified.*
- *After dropping all the diff. balls alternatively into their respective zone teams are allowed to go for Queen.*
- *The queen destination will be the starting point of that team (Orange in Colour).*
- *Stepping on black lines would loose points.*

Fig:-



SCORING FORMULA:-

$$\underline{\underline{SCORE=(120-T)+(20*(G+B+R))+50*Q-(20*H)-(40*Rst)-(10*M/C)-(20*A)-(10*S)}}$$

T= Time taken to clear the arena

G= Number of green balls successfully dropped.

B= Number of blue balls successfully dropped.

R= Number of red balls successfully dropped.

Q=Queen Ball placed successfully

H= Hand touching the bot(in case of tie penalty would be awarded to both of the team and start again)

Rst= Number of times Restarted

M/C= Number of balls mismatched or placed consecutively in one Zone

A= Number of times bot touched the arena (in case of picking up a ball if balls are laid to the wall, 1 penalty will be count and ball will be kept between the arena.)

S= Number of times stepped on the black lines

ROBOT SPECIFICATIONS:-

- *Bot should fit in a box of (30 X 30 X 30) cm³. However, it can expand during gameplay (Maximum 10% tolerance allowed).*
- *Bot should not contain any readymade kit.*
- *Voltage difference across two points for a bot must not exceed 24V.*

TECHNICAL DETAILS:-

- *Team members will not be allowed to touch any part of arena, only organizer are allowed to handle the arena in any situation, the team will be disqualified whose member found touching arena.*
- *Teams will not be allowed to change bot's mechanism and parts once the game started.*
- *Participants are not allowed to keep anything inside arena other than the bot.*
- *The time measured by organizers will be final and will be used for scoring. Time measured by participants is not acceptable for scoring.*
- *Organizing team will not be responsible for any kind of damage to your bot.*
- *Organizers decision will be final and binding in case of any dispute.*
- *Organizers reserve the right to change any of the above rules they deem to be fit.*

- *The participants will be provided with 220 Volts, 50Hz standard AC supply. Participants will have to themselves arrange for any other power supply required for their robot.*
- *There may be slight variation in dimension of the arena & number of balls are liable to change.*

TEAM RULES:-

- *This event is restricted to students currently studying in any recognized Educational institute.*
- *A maximum of four participants are allowed per team.*
- *Students from different colleges can be a part of same team.*
- *An individual cannot be part of more than one team.*
- *Participants must bring the valid identity card of their institute.*
- *There is no restriction to the number of teams participating from same educational institute.*

Contact :-

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