

# ROBO SOCCER

## THEME

RGUKT wishes to conduct a Football Festival. For a slight change, instead of human player they are planning this with the Robots.

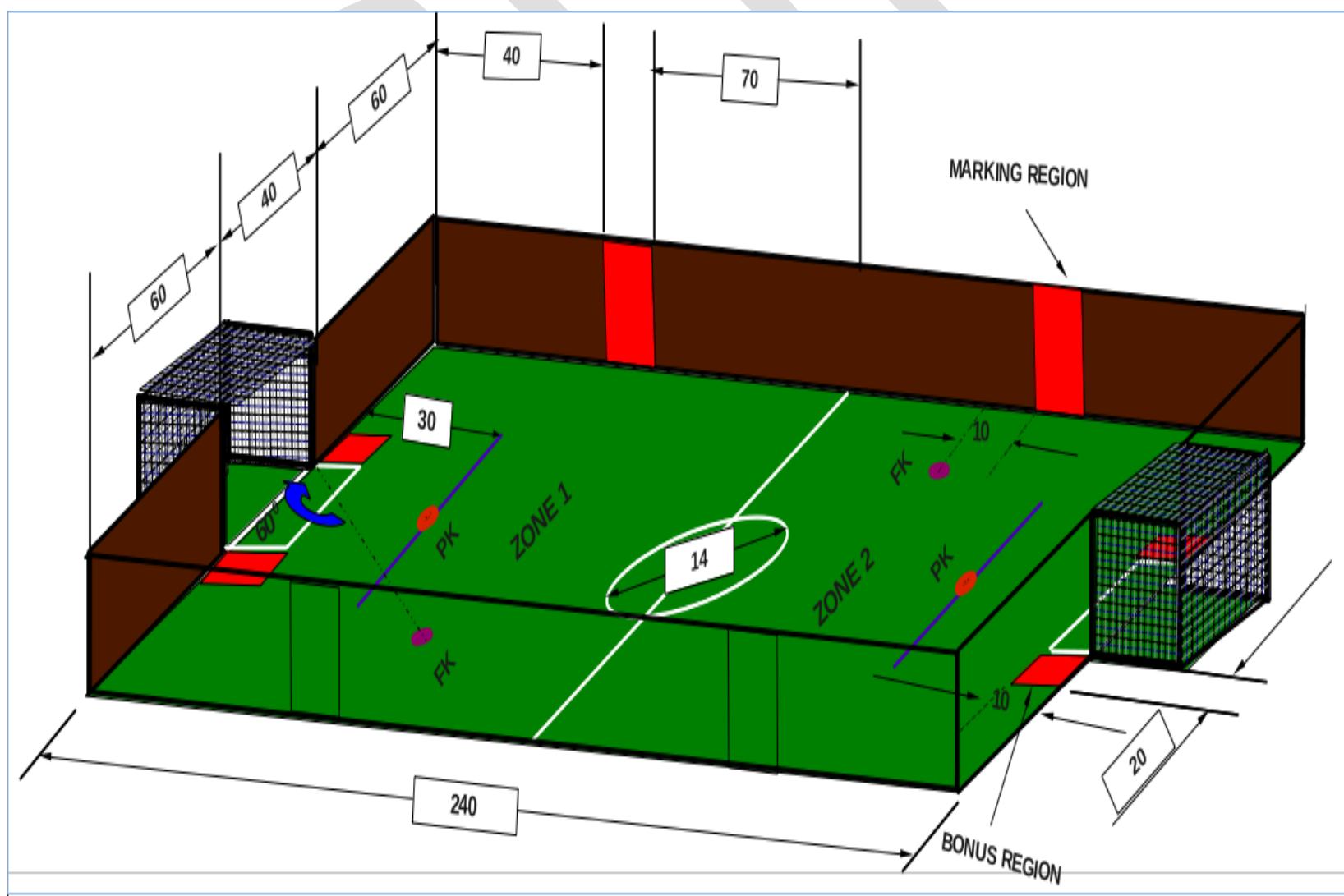
## MISSION

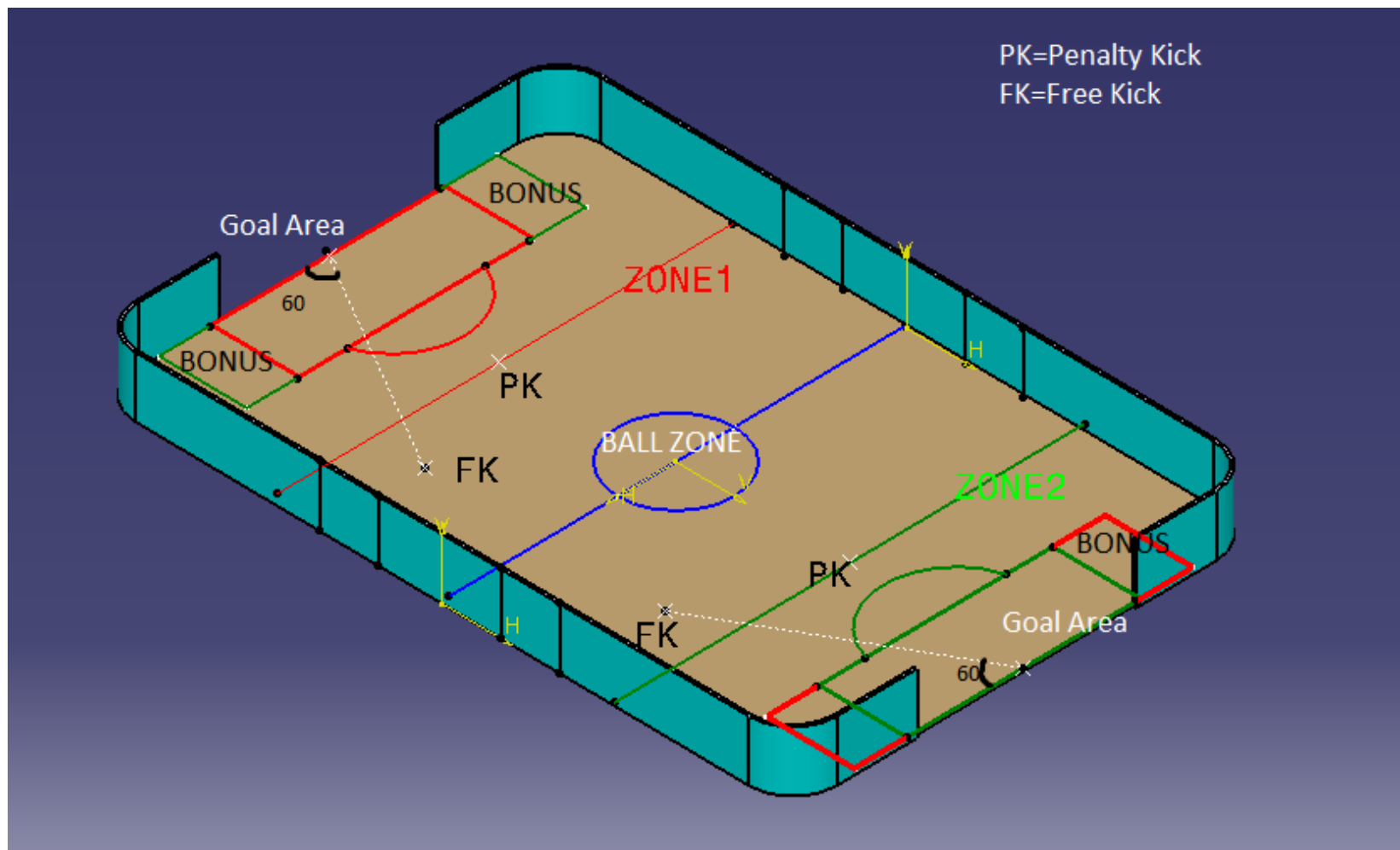
- The mission is to kick the ball into the net in between the goal posts.
- So each team has to prepare a manually controlled robot to beat the opponent.

## TASK

- ❖ Initially the bots are placed at their respective zones.
- ❖ The bots are positioned such that their front wheels should not cross the line that is drawn equidistant from the center of the arena.
- ❖ On the blow of a whistle the bots should move towards the ball to initiate the game.
- ❖ By kicking the ball, the bots should try to make a goal.
- ❖ Make as many goals as possible within 6 minutes.

## ARENA





### ARENA DESCRIPTION

- The Dimensions of the play area are 200cm\*160cm.
- The height of the wall which surrounds the play area is 10cm.
- Initially ball is placed within the circle of diameter 14cm at the center of the arena.
- The goal is 40cm wide.
- The Play area is divided into two equal zones.
- In each zone there are two bonus regions and one marking region.
- The penalty kick is taken from the position PK.
- The free kick is taken from the position marked FK.
- Weight of the ball which is used in this game is approximately 50gms and is made of plastic.
- Diameter of the ball is approximately 6.7cm.

### GAME RULES

- The bot which is in zone1 is attacker1 and the other one is attacker2.
- Arena is divided in to zone1 and zone2.
- The bot which is positioned in zone1 should goal in zone2 and vice versa.
- After each goal the ball is again placed in the circle by organizers.
- Bonus regions are in active state for only once in a while for each goal. They are activated when the attacker kicks the ball into that region.
- Marking regions are in active state only when the attacker (1) kicks the ball to touch the marking region. Once if the other attacker (2) kicks the ball before the attacker (1) makes a goal the marking region becomes inactive.
- Attacker1 can use the bonus region in zone2 only and vice versa.
- In case the Attacker1 kicks the ball out of the play area then Attacker2 will get a chance for Penalty kick(PK) and vice versa
- If any of the attackers intentionally damage the other one, then the damaged bot gets a chance for free kick(FK)
- Intentionally gripping the ball is not accepted. If done they are disqualified.
- Dragging (continuous touch with the ball) is not encouraged.

- Only one player from each team is allowed to operate the bot.
- If the wires of the bots are clubbed together then the operation of the bot is stopped until the wires are set free by organizers.
- Damaging any part of the arena will lead to disqualification.
- Operator should not touch the bot while the game is going on.
- The bot should not be pulled with the help of a wire.
- No arguing is encouraged. Organizer decision is final.

**SCORING**

- ✓ The attacker who kicks the ball first after each goal is awarded with 10 points.
- ✓ Attacker who kicks the ball into the bonus region will get 10 points for once in a goal time.
- ✓ For each goal the attacker gets 30 points.
- ✓ If the attacker activate the markings and makes a goal without interference then 30+10 a total of 40 points are awarded.
- ✓ If an attacker is able to make a goal within two kicks then it is awarded 50 points.
- ✓ If a goal is made with the help of a penalty kick 20 points are awarded whereas for a free kick 25 points will be awarded. If the goal isn't made then no points will be awarded.

**BOT SPECIFICATIONS**

- Initial dimensions of the bot should not exceed 25\*25\*30 (length\*breadth\*height).
- Weight of the bot should not exceed 5 Kg.
- Power supply should be limited to 12V D.C. Adopters and batteries might be used. Batteries are not provided by the organizers.
- Team should prepare their own bot. Avoid the usage of a readymade part to construct the bot.
- Pneumatics can be used. Hydraulics and chemicals are not allowed.

**CONTACT**

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