



Branksome Bot

Welcome to Branksome Bot!

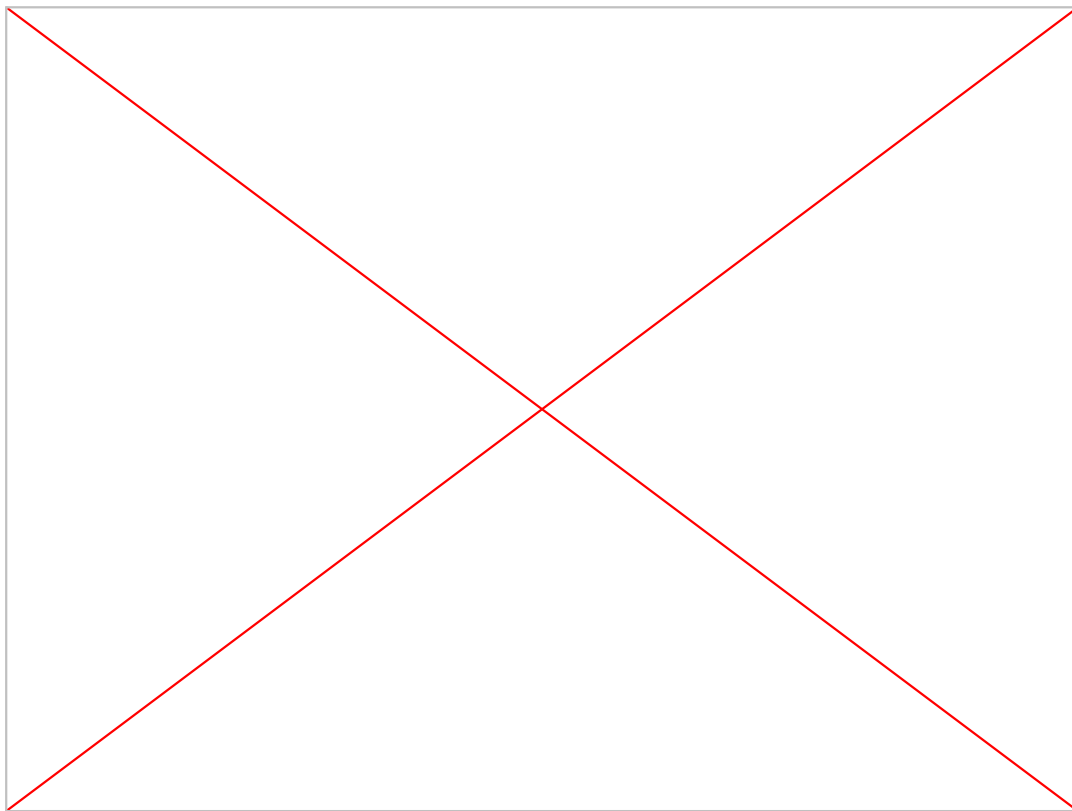


Branksome Bot Introduction

Goal of Branksome Bot

- Build Robots with VEX IQ
- GEC Soccer competition in May

VEX Competition at SJA



VEX Soccer competition



https://www.youtube.com/watch?v=BG6bZP8Pw3U&ab_channel=StemoticsCanada



Introduce yourself

- Name/Grade
- Vex IQ experience



**Disassemble the robot
and be familiar with the
parts!**



VEX IQ Introduction



VEX IQ Basic Parts



Motor



Wire



Battery



Brain



VEX IQ Sensors



Gyro



Distance



Color



Touch LED



Bumper Switch



Gyro

Measures how fast the robot turns



Distance

Stops the robot in front of the walls without physical contact



Color

Detects the colors in front of the robot



Touch LED

Changes the color when 'touch' is detected



Bumper Switch

Detects physical hits



Kahoot

<https://create.kahoot.it/details/65dd9518-1921-4583-9e63-e905e39e4ffb>



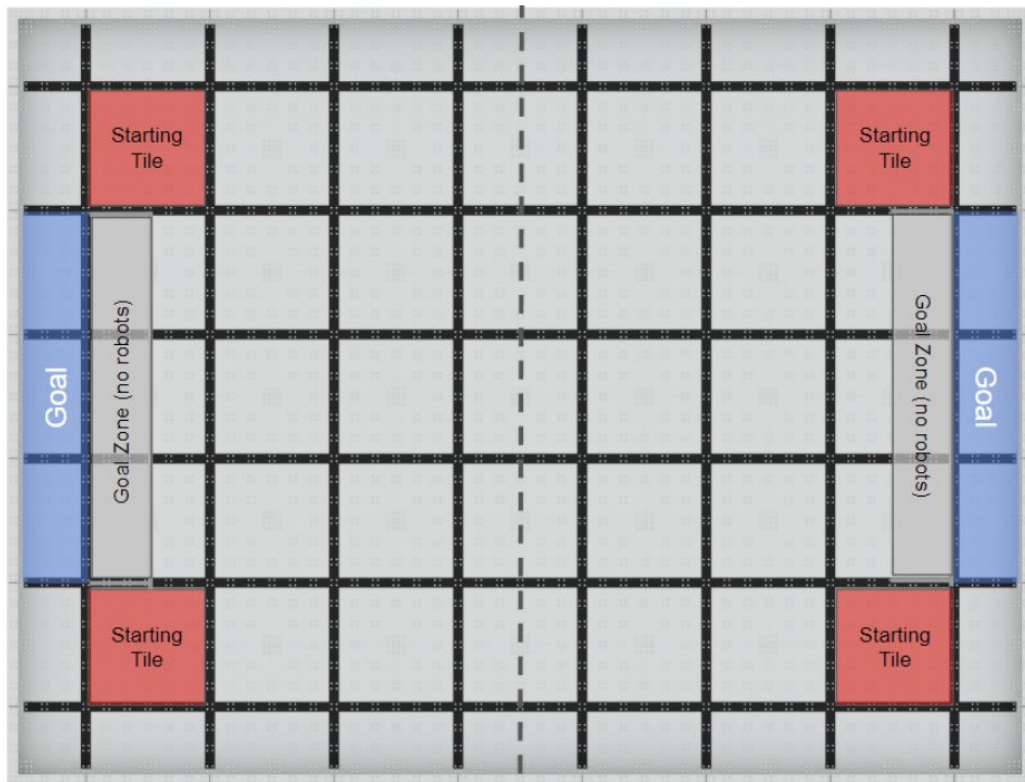
Soccer Game



May 4th Saturday

Detailed time:

Detailed location: SJA



2.1. Dimensions.

2.1.1. Robots will be measured in an upright position and **with all parts fully extended**.

2.1.2. The upright robot must fit inside an 8 inch x 8 inch x 10inch (20.3 cm x 20.3 cm x 25.4cm) volume when fully extended.

2.2. Control.

2.2.1. Robots must be controlled remotely.

2.2.2. Team members will rotate driving from half to half. If a team only has a single member, that person may drive both halves.

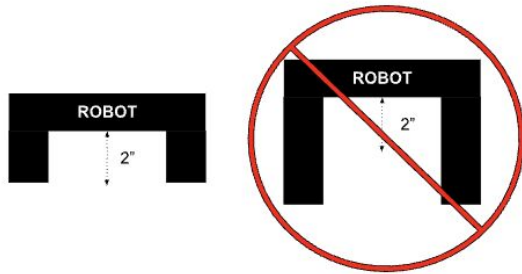
2.3. Construction.

2.3.3. Parts can be made from any materials available to the student.

2.4. Ball Capturing Zones.

2.4.1. Ball-capturing zones are defined as any internal space created when a straight edge is placed on the protruding points of a robot.

2.4.2. The ball cannot penetrate the Ball Capturing Zone by more than 2".



2.5. Kickers

2.5.1. If a robot damages a ball, it will be removed from play and treated as a damaged robot.

3.1. Length of Game.

3.1.1.1. The game will consist of two 2-minute halves.

3.1.1.2. A half will end early if one team has a 5-point lead.

3.1.2. There will be a 1-minute break in between the halves.

3.1.3. The game clock will run for the duration of the game without stopping with no time-outs.

3.1.4. Damaged or unmoving robots will be removed from the field

3.1.5. If a team does not report to the game start, it will forfeit the game and the winning team awarded a 5-0 score line.

3.4 Remote Play

3.4.2.3. If a team needs to be repaired, they may remove their robot from the field after a goal is scored but *may not* place their robot back on the field until another point is scored *or* the half ends. Any team that attempts to repair or adjust their robot without removing it from the field will be given a red card and removed from the remainder of the match.

3.5. Goal Zone

3.5.1. There is a goal and goal zone as described in section 1. Both areas are surrounded by low barricades. No robots may enter either of these areas.

3.5.2. In order to be a goal, the ball must pass over both low barricades into the Goal. If the ball only passes over the first barricade, it will be placed in the center of the field by the referee with no pause in play.

3.5.3. A goal is considered scored if it passes over the goal barricade. A ball that crosses the goal barricade but bounces out will be considered scored.

3.5.4. A robot is considered to have crossed the goal zone line if it touches any portion of the tiles on the goal side of the first barricade.

3.5.5. A robot that crosses the goal zone barricade will be removed from play until the next goal is scored.



5.5. Humans.

5.5.1. Humans can only move robots at the instruction of the referee.

5.5.2. Robots that are damaged or need adjustment can only be repaired according to rule 3.4.3

5.6. Ball Movement.

5.6.1. A robot cannot "hold" a ball.

Hint: Holding a ball means taking full control of the ball by removing all of its degrees of freedom. For example, this would mean fixing a ball to the robot's body, surrounding a ball using the robot's body to prevent access by others, encircling the ball, or somehow trapping the ball with any part of the robot's body. If a ball stops rolling while a robot is moving, or a ball does not rebound when rolled into a robot, it is a good indication that the ball is trapped.

5.6.4. Other players must be able to access the ball.

5.7. Scoring.

5.7.3. Any time a goal is scored, time will be paused and the team that scored will move their robots back to their starting tiles. The ball will be placed by the referee in the center of the field ~~and the other team can place their robots anywhere on their side.~~ When the referee restarts the match both teams can begin moving and either can kick the ball.

5.7.7. "Own goals" will be treated as a goal to the opposition, even if the ball is "pushed" into the goal.

5.9. Lack of Progress.

5.9.1. This occurs if the ball is stuck between multiple robots or between robot(s) and the wall, consequently the ball is deemed by the referee to have no chance of being free.

5.9.2. Lack of progress can also occur if neither robot is moving. In this case, the winner will be the team with the higher points. If neither team is leading, the match will be deemed a tie.



5.10. Damaged Robots.

5.10.2. If a non-functional robot is blocking its own goal or is deemed a hazard, it will be removed during the match at the discretion of the referee. It can only be put back into play after a goal is scored or the half ends.

5.12. Fouls.

5.12.1. If a robot utilizes a device or an action that continuously attacks or charges a robot not in possession of the ball, the robot will be given a red card and removed from the remainder of the match. Repeat offenders will be removed permanently.

5.12.3 If a robot is damaged by a foul, the referee will stop the game and stop the clock while repairs are made.

7.1. Fair Play.

7.1.1. Robots that cause deliberate interference with other robots or damage to the field or the ball will be disqualified.

7.1.2. Humans that cause deliberate interference with robots or damage to the field or the ball will be disqualified.

7.1.3. It is expected that the aim of all teams is to play a fair and clean game of robot soccer.



Each half of the game has 10 seconds autonomous kick-off.

But... Due to time constraints, we will stay still for the first 10 seconds 🥲🥲

Things to REMEMBER:

- You should build the robot strong!
- Your robot should not 'hold' the ball but you can create the kicker (arm) or/and the ball capturing zone.
- You should develop your controlling skills.



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