Technical Challenge S.3

"Is that an obstacle?"

Goal

Score as many goals as possible to the goal defended by blue robots.

Description

- Get an updated version of SoccerSim specifically prepared for this challenge which you can locate at https://github.com/RoboCupJuniorTC/rcj-soccer-sim/tree/C3 (**please note it is in branch C3**)
- You are controlling (that is, programming) the yellow team robot (code should be located in "`score_goal`" controller)
- The ball starts at a random spot on the central axis.
- When the timer starts, the goal of the robot(s) is to score into the goal **defended by blue robots**.
- Once a goal is scored, the ball is moved to a random spot on the central axis and blue robots are moved in front of the other goal.
- You should not score a goal to your own goal (that is the one **not** defended by blue robots).
- Your robot is not moved after the goal is scored.
- If blue robots are pushed (their position changes by 0.1), the ball will be moved to a random spot on the central axis and blue robots will be moved in front of the other goal.
- Supervisor does not provide the position of your robot and blue robots. You should read your position from a **GPS** sensor. To detect blue robots, there is a **LIDAR** sensor for measuring the distance of objects. You can also use a **Compass** sensor if you want. **All these sensors are mounted on the robot already**.
- Webots provides visualization of the Lidar Point Cloud. This might help you with visualizing what it sees. You can turn it on via **View -> Optional Rendering -> Show Lidar Point Cloud** in Webots.
- "`rcj_soccer_robot`" file contains some useful functions for reading the data from aforementioned sensors.
- The timer stops after 120 seconds (two minutes).
- Check out some **useful hints** on the forum https://junior.forum.robocup.org/t/soccer-simulation-sensor-usage/2155/3

Grading

- For each goal scored to the goal being defended by blue robots you get +1 point.
- For each goal scored to the goal **NOT** being defended by blue robots you get -1 point.
- If you miss your interview or if your presentation is longer than 3 minutes, you'll get half of the points that you scored.

General Guidelines

- The simulation must include team name, league and the number of this challenge (feel free to use the team name label at the top).
- Please use the webots video export function ("Make Movie") and export to MP4/AVI.
- The video must be one take without cuts.

- The video must be uploaded to youtube.com or vimeo.com.
- Please send in your video submission **until June 26rd, 2pm UTC** here: https://forms.gle/T5RQYCpmXJMNeQ7e9