

Autonomous Puck Handling Robot

Built with

- C
- Programmable System-on-Chip (PSoC)

Achievements

- Developed a fully autonomous robot capable of identifying puck color and transporting pucks based on their respective colors
- Programmed movement, color sensing, and puck handling functions using C

Description



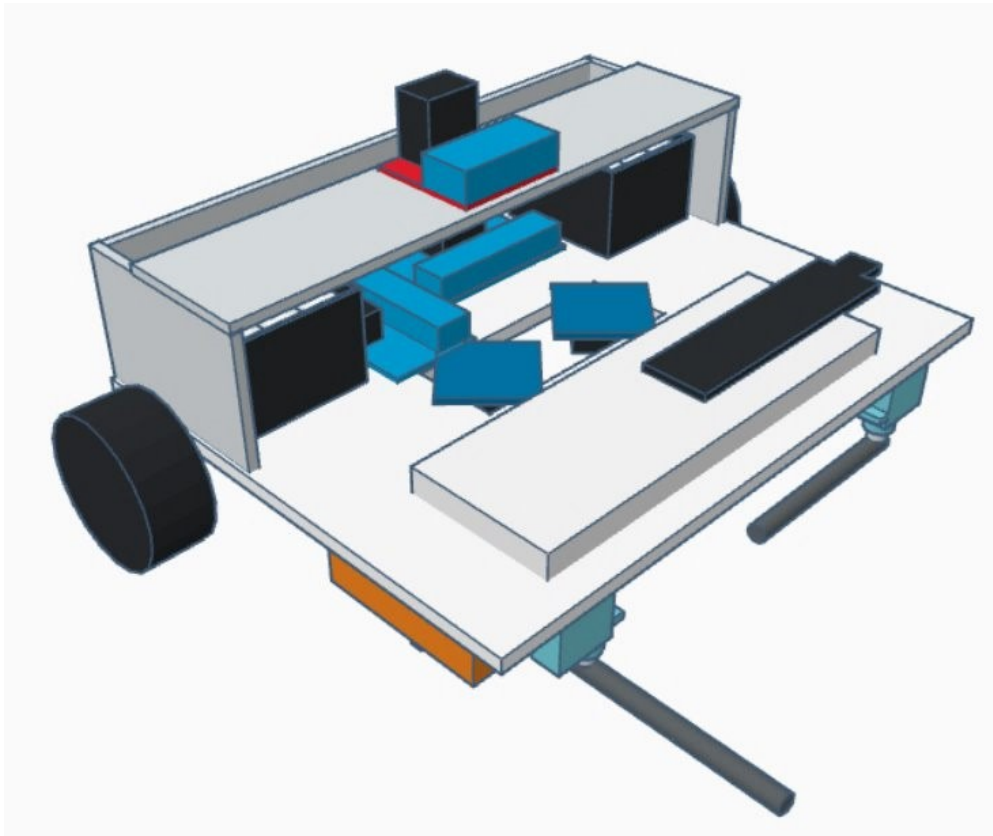
The diagram illustrates the RoboCup 3D soccer field layout and components. The field is a square with a side length of 1.2 m. The robot's starting base is located at the top center, with a width of 0.30 m and a height of 0.30 m. The field is divided into several regions, with dimensions and positions specified for various elements:

- Robot Starting Base:** Located at the top center, with a width of 0.30 m and a height of 0.30 m.
- Puck Capture Zone (x4):** Four rectangular zones, each with a width of 0.12 m and a height of 0.15 m, located in the corners of the field.
- Obstacle:** A rectangular obstacle with a width of 0.12 m and a height of 0.22 m, located on the right side of the field.
- Dimensions:** The field is divided into sections with dimensions of 0.12 m, 0.33 m, 0.15 m, and 0.40 m.
- Legend:**
 - RED:** Represented by a red cylinder.
 - BLUE:** Represented by a blue cylinder.
 - GREEN:** Represented by a green cylinder.
 - OBSTACLE:** Represented by a blue rectangular block labeled "PREMIER".

Below the field diagram, the dimensions of the robot and the puck are shown:

- Robot:** A blue cylinder with a diameter of 15 cm and a height of 1.6 cm.
- Puck:** A red cylinder with a diameter of 15 cm and a height of 1.6 cm.

Details may refer to the Project Report.



Early Robot

Totally forgot to take a demonstrable photo of the final robot... So here is the very crude early robot 😊

