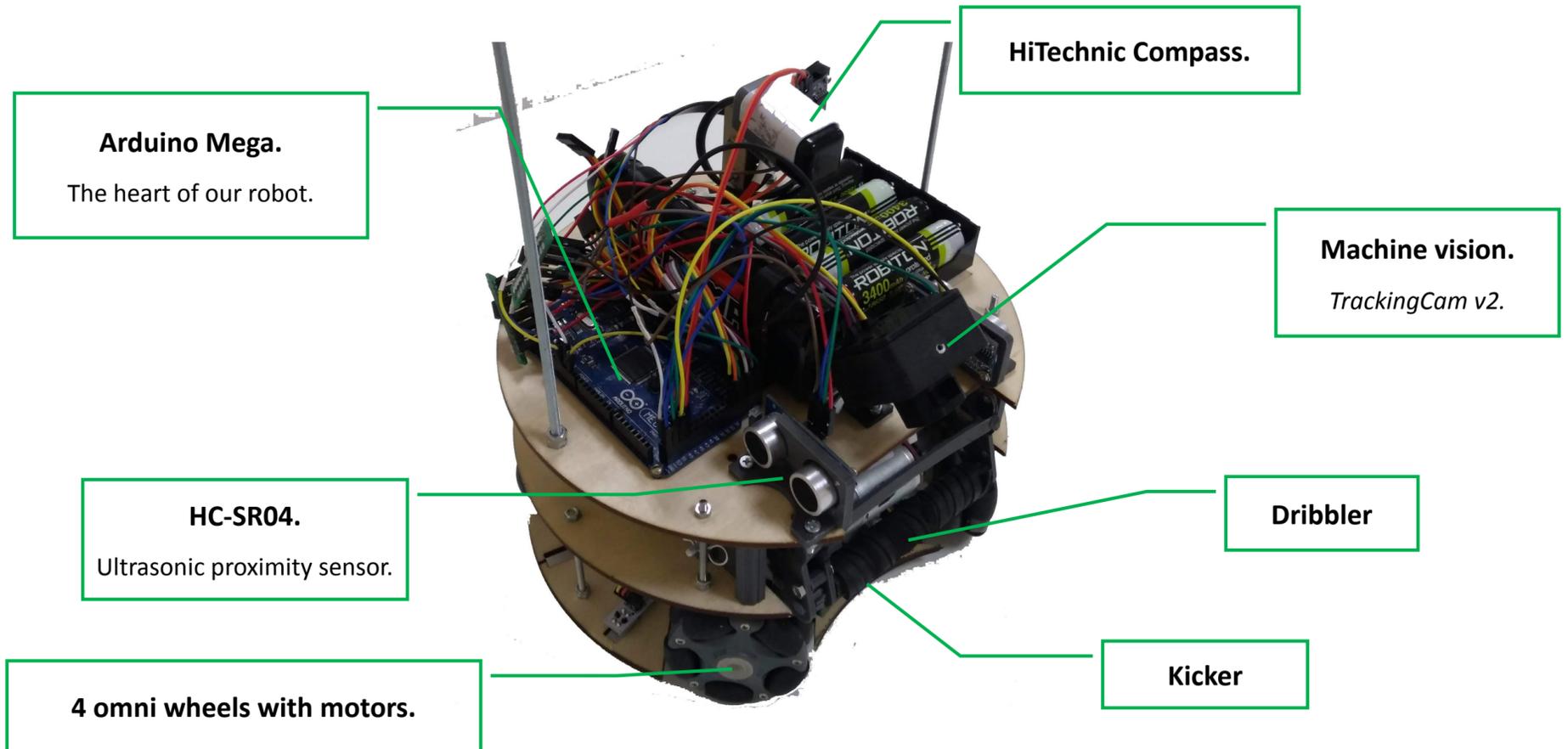


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RoboCup Junior Soccer Open League



Construction and electronic parts.

The robot design is made using a 3D printer and laser CNC machine. The robot has 3 plywood platforms. At the heart of the moving platform are 4 engines with omni wheels.

To control the robot we use the microcontroller Arduino Mega. Using of this controller is justified by the low cost and great opportunities for rapid prototyping.

For orientation in space we use ultrasonic proximity sensors *HC-SR04*. To detection the ball, goals and other marks, we use the Russian development by Applied Robotics Ltd.: machine vision "*TrackingCam v2*". This camera processes the incoming data "on board", so we do not need to use a single-board computer (Raspberry Pi or Orange Pi). And also it is enough power supply coming from Arduino (5V, 40mA).

Algorithms and programming.

For programming, we use the standard Arduino IDE programming environment.

Machine vision algorithms is configured by the computer program for "*TrackingCam v2*".



Our Centre.

In the Center for the third year there are qualified teachers with education in the direction of "Mechatronics and Robotics".

The Center has a place for classes:

- a set of robotics for each student;
- soldering stations with extraction;
- 3D printer;
- drilling, lathes, laser CNC machine;
- media materials, presentations on the interactive white-board.



Our team:

Batalov Artem. E-MAIL: A@batalov.tk;
Loktev Nikita.

Our mentor:

Ivanov Sergey Olegovich, teacher of additional education.
E-MAIL: Ivanov.s.o@cpc.tomsk.ru