

## Soccer

### Software

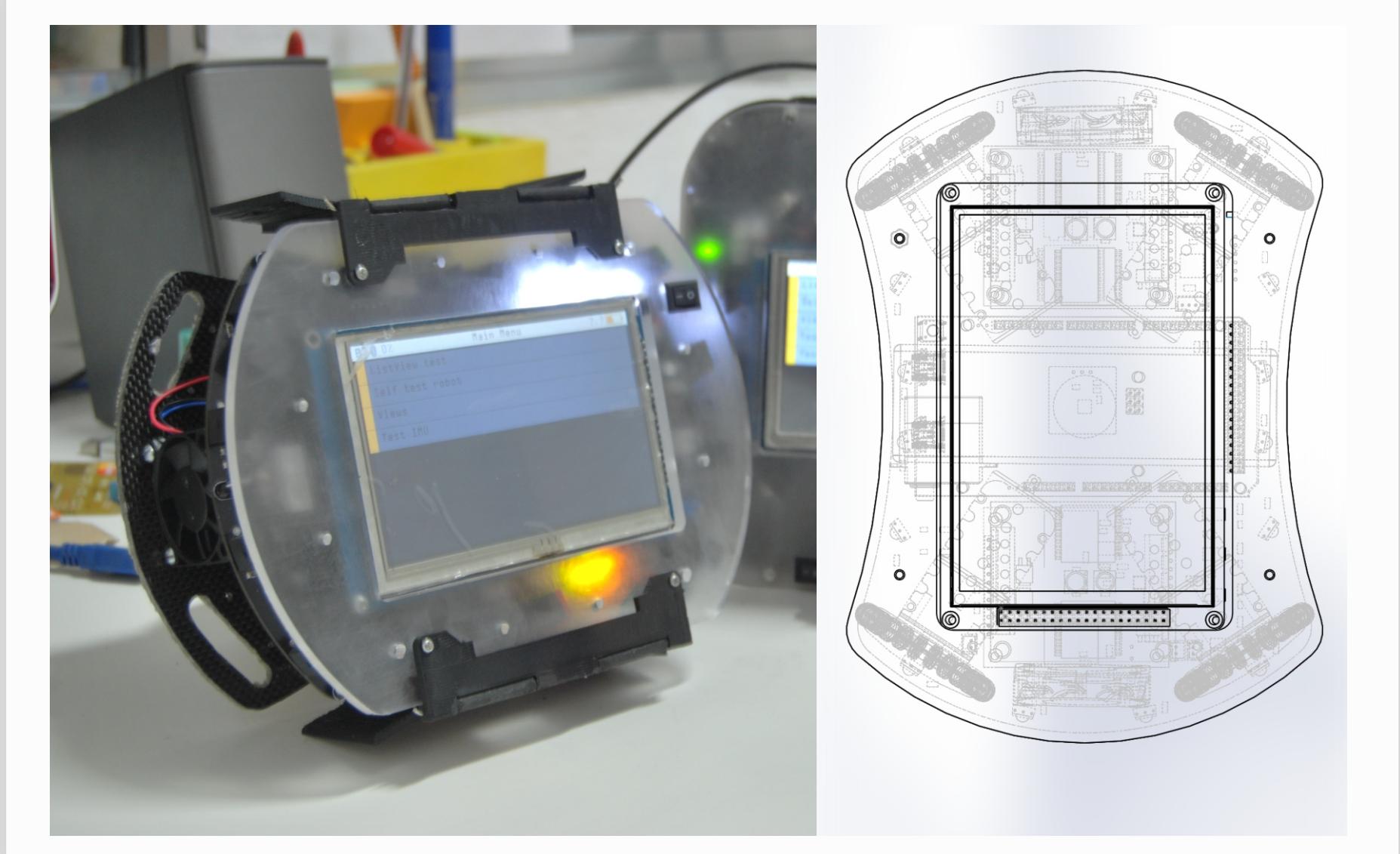
- Custom Operational System for ARM Cortex
- Complete Object Oriented software
- 2D Simulator
- Custom, simple particle filter and Kalman Filter
- Vector based Ball detection

### Pictures



### Electronics

- 4 Infra-red Distance Sensor
- 4 Ultrasonic Distance Sensor
- 8 IR Analog Sensor + Active Bandpass Filter
- 16 IR Digital Sensor
- 1 9 axis IMU with Sensor Fusion, Quaternion output
- 1 5" TFT LCD 800x480 with Touch screen
- 1 Serial Bluetooth
- 2 ARM Cortex M3 - 100Mhz
- 1 Atmega328 - 16Mhz



### Mechanics

- 100% Developed and simulated in SolidWorks
- 4 Self Designed Omni-directional wheels
- 4 High torque, fast, 2500 ticks per revolution motor
- 2 High Torque servos
- 4 mm Carbon fiber with Triaxial Kevlar Chassis

