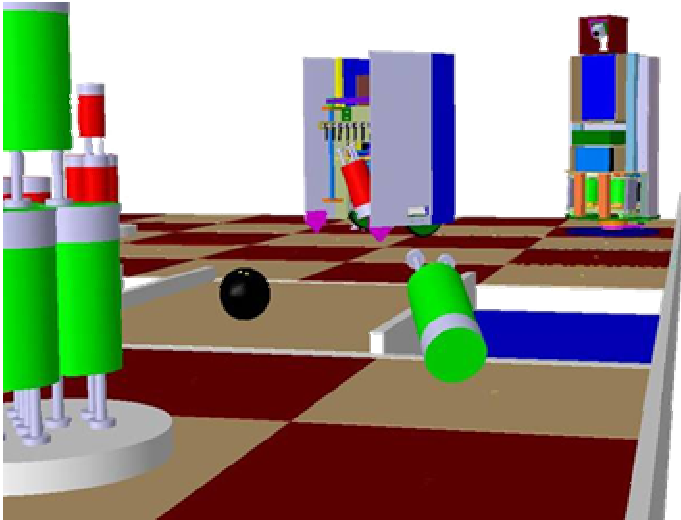


Team-ID



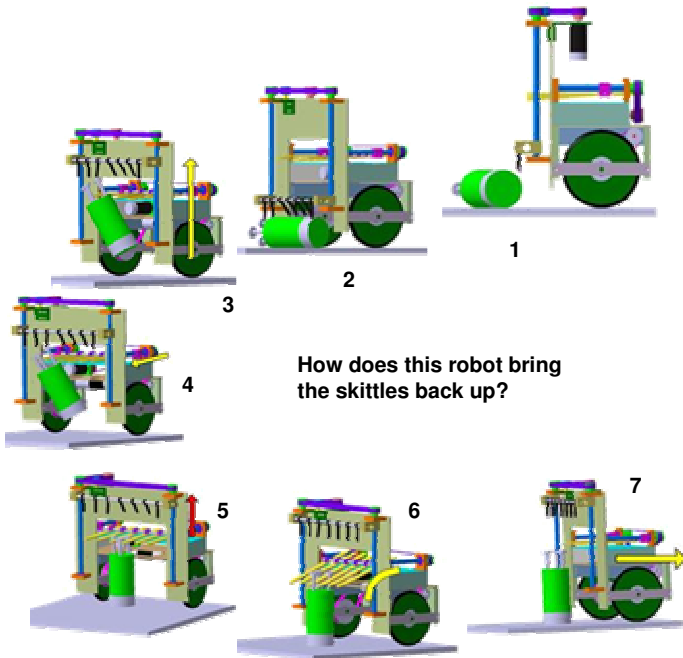
Overview of the robots

The **attacker robot** (right) shoots skittles using a ball launcher. It is not a mobile robot (no wheels or legs). The launcher can pivot horizontally using a turret. The robot can locate skittles (even before the beginning of the match) using a laser telemeter.

The **defense robot** (left) sets upright the skittles the opponent takes down, and releases them in a safer place, (edges and corners of the field). It uses magnets to pick up the skittles and laser sensors for positioning.

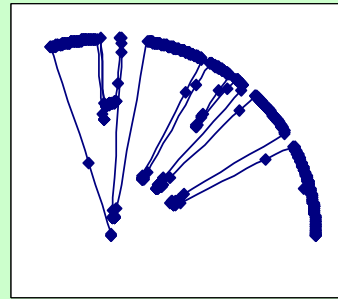
Team-ID 2005 with numbers:

- 9 students
- 10 uP/uC
- 2 robots
- total motor power : 105 Watts
- rollers weight : 2 x 450 g
- speed of balls : 70 km/h
- Wheel diameter : 12 cm
- 17 bearings
- 2548 meters of Scotch tape
- 9 motors
- so far 38 defective fuses



How does this robot bring the skittles back up?

How to locate the skittles?



We use a distance laser sensor

A simple dynamic data processing algorithm tells us where the skittles are.

The laser distance sensor is very precise and we are able to scan the table before the match starts!

The embedded control System

- The brain of the system, the "Rokepxa", which includes an ARM processor and a FPGA. This card is used to calculate the robots strategy and regulation.
- Home made electronic cards to get inputs/outputs, control some motors and take care of the ball launcher.
- An iPaq serves to program the robot via wireless and to view results.

