

Abbildung 4 : switch position at ramp end

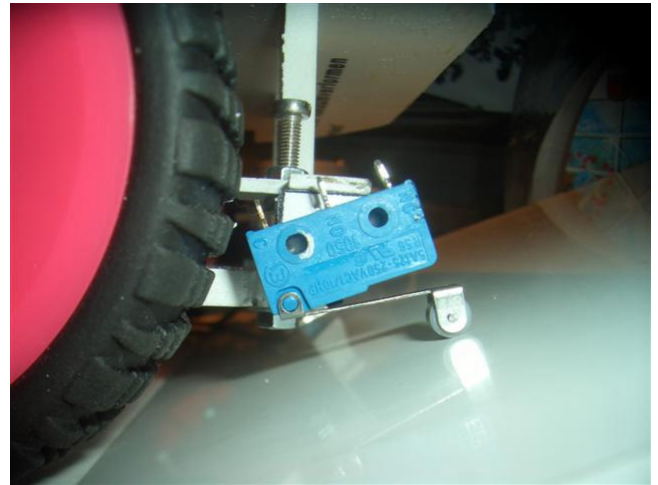


Abbildung 6 : adjusting ramp start switch

BUILDING PHASE

The robot chassis mainly consists out of Forex, which is a lightweight polyster and is often used for trade fair constructions.

First of all I use 9 SFH309 instead of 5 in order to increase the percentage of victims being detected. I tried to install a ventilator in to blow the sticks in the Red Zone away, however it did not work perfectly and the robot would be oversized. The wheels are now positioned at the front size leading to the advantage that the sensor module is not laying on the ground anymore which caused trouble with the sticks formerly. There are several bumpers to detect both, the beginning and the end of the ramp and obstacles at the frontside as well as at the backside.

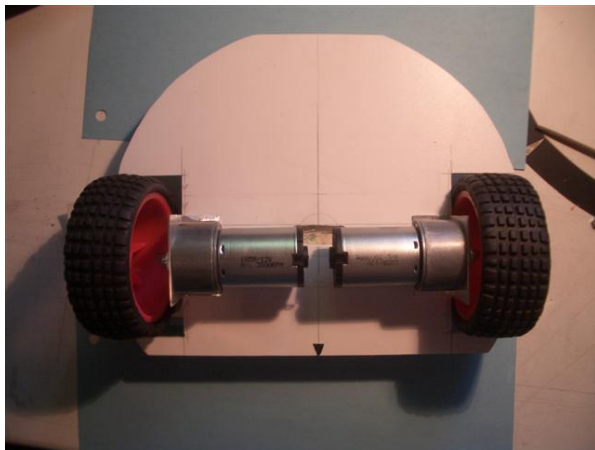


Abbildung 5 : Ground platform

The photos show robot and the ramp sensor. Moreover I added the schematic of the main board and the design drawing. The software is written in Bascom.

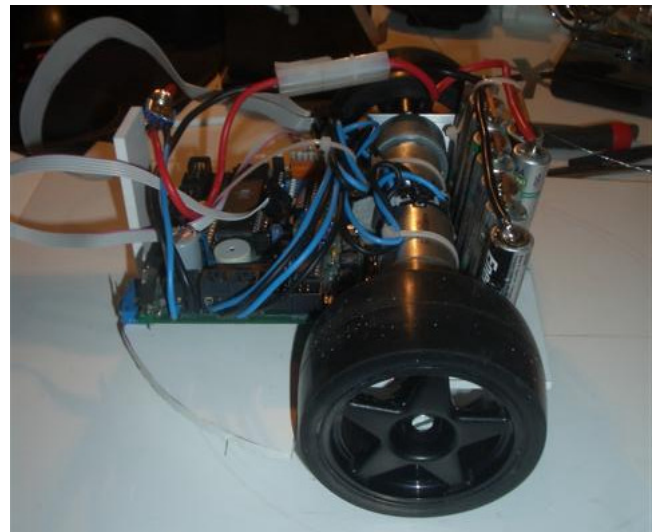


Abbildung 7 : assembled groundplattform with new battery position

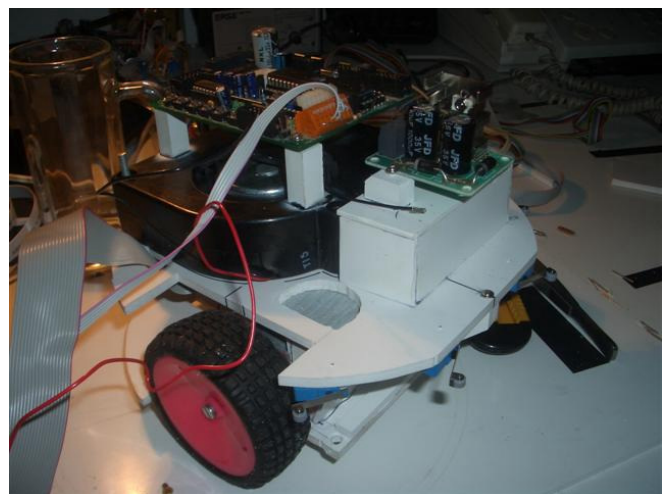


Abbildung 8: Robot with ventilator

ELEKTRONIC

As described earlier I used more IR-sensors for line and victim detection. The mainboard is based on an ATMEL AVR 32 microcontroller. The IR-sensors and the mainboard communicate via an I2C-Bus and a self built interface board.

