NXT Hackathon

Learning about robots with lego

Patrick Nagel Tim Metzler

Autonomous Systems
Bonn-Rhein-Sieg University
of Applied Science

14. März 2016

Table of contents

Line Follower - Problem

Problem: Follow a black line with the NXT using only light sensors.

Solution: Use two light sensors at each side of the line. Each sensor should see the bright surface next to the line.
Light sensor values are read every 10ms. If the right sensor is dark we go to the right. If the left sensor is dark we got to the left.
If both sensors are dark we have passed the finish line.

Line Follower - P Controller

P Controller: Measure the error from the sensors. Adjust the motor speeds by adding / subtracting a correction value.
Correction value $= K_p$ * error, error $\in \{-1, 0, 1\}$

LineFollower - Sourcecode

```
1 public class TestClass {
2         public static void main(String[] args) {
3                 System.out.println(``Hello World'');
4         }
5 }
```

Thank you!
Any questions?