CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY

Name(s)
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Project Number
J1416

Project Title
Sensors vs. No Sensors

Abstract

Objectives/Goals
My project was to determine if I do not use the light, ultrasonic, or touch sensors then my NXT Lego Mindstorms Robot will run just as consistent as a NXT Lego Mindstorms Robot, with the light, ultrasonic, or touch sensors, because I can create a reliable program for my robot to complete it's mission accurately every time.

Methods/Materials
First, I built a robot using a NXT Lego Mindstorms Education Kit. Second, I programmed the robot for a task using NXT-G Programming Software. Third, the mission must be completed 100 times without equipping a sensor. The mission must also be completed 100 times for each sensor (light, ultrasonic, and touch).

Results
The light sensor had 84 complete missions. The ultrasonic sensor had 93 complete missions. The touch sensor had 81 complete missions. The average complete mission for all sensors was 89. The amount of complete missions without using a sensor was 96.

Conclusions/Discussion
After 400 trials, I am happy to say sensors are not needed when completing a task featuring a NXT Lego Mindstorms Robot.

Summary Statement
To prove that sensors (ultrasonic, light, or touch) are not needed when trying to complete a task featuring a NXT Lego Mindstorms Robot.

Help Received
Thanks to Mountain Oaks for allowing me to use one of their NXT Lego Mindstorms Education Kits. Parents helped organize my board.