CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
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Project Number
J0702

Project Title
Robotic Control: Wireless Control of a Robotic Claw using Bend Sensors

Abstract

Objectives/Goals
The purpose of this project is to create a bend sensor glove that can control a robot over a long distance without wires connected between the two.

Methods/Materials
A Power Glove (with bend sensors in it), Wires and Shrink tubing (for re-wiring the power glove), Lego Mindstorms programming system, 2 Lego RCX bricks (miniature computers with infra-red sensors built into them), 2 motors, Lego bricks, Lego rods & gears, and tape.

Results
I was able to create this robot by using the two RCX bricks to communicate by sending and receiving infra-red messages. The messages were sent when the electrical resistance from the gloves bend sensors reached a certain level. These messages were converted to commands used to control the robot.

Conclusions/Discussion
My invention could be expanded to create robots controlled from one location, for use on the other side of the world. A bend sensor glove controller, like the one I built, would be useful when rescue workers need to search a collapsed building or when workers need to investigate in sewers and other places that are not easily accessible.

Summary Statement
To make a claw robot that can be controlled by a bend sensor glove, using infra-red signals instead of wires running between the two.

Help Received
Mom helped me buy needed materials. Dad taught me how to solder wire connections.