

Crash Avoidance System

Team Members

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Abstract

Our project is going to be a proof of concept model of a crash avoidance system for road vehicles. In order to accomplish this we will use a infrared controlled toy car equipped with several XBee transmitters and distance sensors. When the car senses that it is going to crash it avoids the crash by either stopping or swerving out of the way. The transmitters will send sensor data to the FPGA, and the FPGA will process that data, decide whether it needs to intervene, and generate an IR signal to control the car.

This project allows for increasing levels of complexity in the car's behavior. For example, it may at first only react to one sensor in the front and stop. Later, it can react to sensors on the sides as well, and swerve out of the way. Furthermore, the car could exhibit this functionality for both stationary and moving objects.

Additional Hardware

- IR car
- distance sensors
- transmitter and receiver
- IR LED and IR receiver