

Project Proposal group 12

Team members:

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Title: Bluetooth controlled Toy car with Android app.

Goals:

1. Detection and moving away from child by interfacing an IR/Ultrasonic sensor.
2. Interfacing a bluetooth module and controlling the car via Android app.
3. Interfacing a Buzzer and LED's.

Functionality:

With the world moving into smartphones this application makes use of Android for ease of use to interact with a toy car. The user initially connects to the bluetooth on the car, then is provided with a keypad wherein each key is programmed to perform a specific function. On the press of key:

1. The car starts in child mode wherein it detects a child following the car and moves away from the child.
2. The car starts in a bluetooth control mode wherein the user is allowed to move the car around using arrow keys.
3. The car blinks various LED's and sounds buzzer to attract any children in the vicinity.

Hardware Components:

- MSP 430 launch pad
- Bluetooth module HC 06
- Ultrasonic / IR sensor
- LED's
- Buzzer
- Motor and motor driver
- DC Power supply

MSP430 Features :

- **Digital IO**
Input from IR/Ultrasonic receiver
Input from bluetooth module
Output to Motor using motor driver
Remaining GPIO used to drive output to LEDs
- **UART** communication with bluetooth module
- **External interrupt**-Driven from IR/Ultrasonic receiver input
- **Timer**-Used for measurement of received IR signal pulse durations

Block Diagram:

