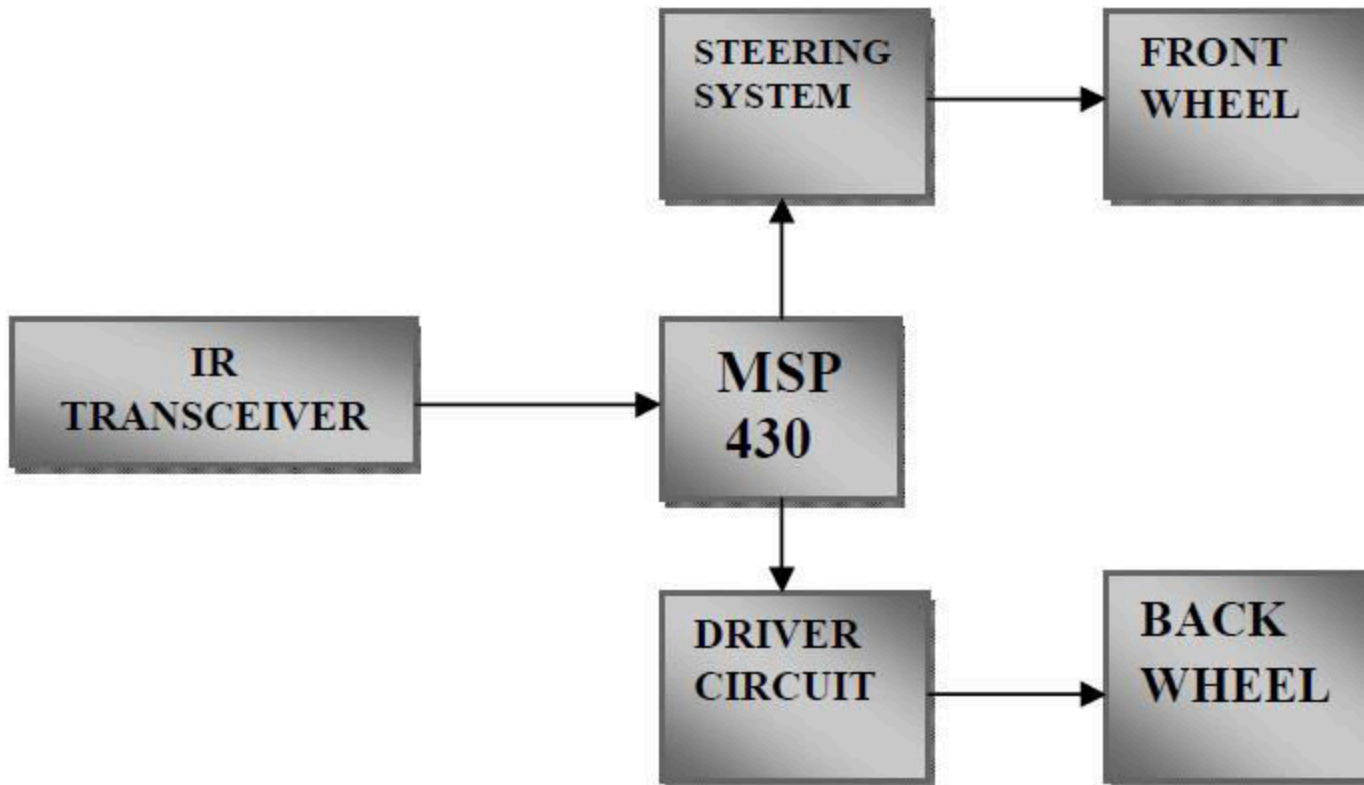


Obstacle Avoidance Car

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Project Progress Report 1
Fall 2013
George Mason University

Block Diagram



Components

- Servo Motor
- H Bridge – L293D
- DC Motor
- Transceiver pair
 1. IR LED
 2. TSOP 1738

IR transceiver pair

IR LED sends IR pulses which reflect back if the obstacle is present

Receiver detects the reflected pulses and alerts the MSP430

TSOP1738

- Photo-detector & preamplifier in one package
- Active Low operation
- High immunity against ambient light

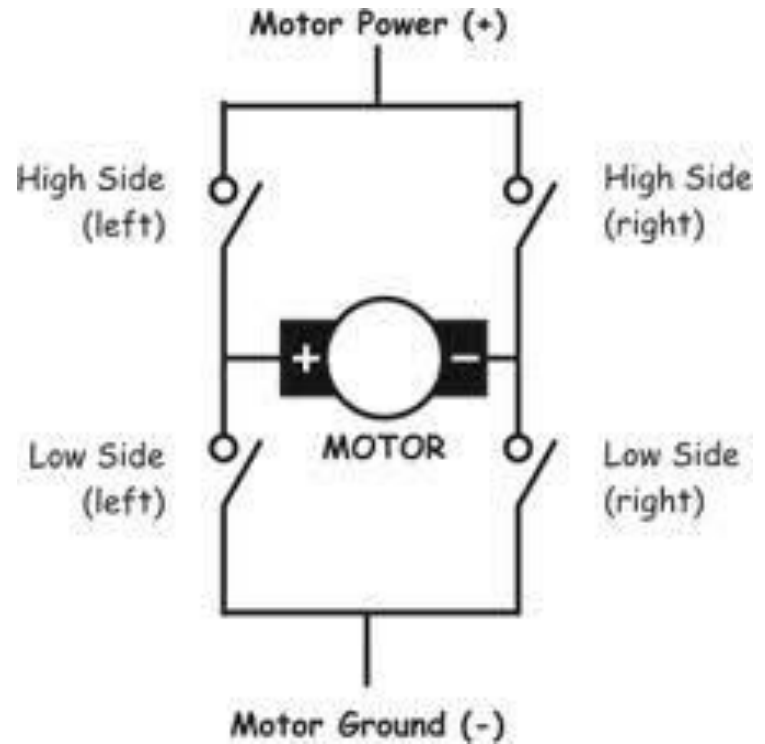


H-Bridge L293D

Used for clockwise & counter-clockwise
Rotation of DC motor

Boot current to drive motor

IC L293D provides H Bridge
functionality



DC Motor

Interfaced with MSP430 through H-bridge IC L293D

Used as rear wheel drive



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Servo Motor

Used for steering purpose

Interfaced with MSP430 through GPIO



Challenge

- Steering Mechanism
- PWM controlled servo motor

Progress with Components

Ordered :

- TSOP 1738
- L293D H-Bridge

Task Division

- Anish : Coding & Debugging,
- Pushkar: PCB designing, Hardware Assembly
- Omkar: Microcontroller initialization routines
- Hannan: Sensor testing, interfacing.

Alternative plan

- To opt for caster wheel in case steering mechanism/servo motor fails.

Thank You!