

PROJECT PROPOSAL

GROUP - 5

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Title: Obstacle detection and Avoidance Robot

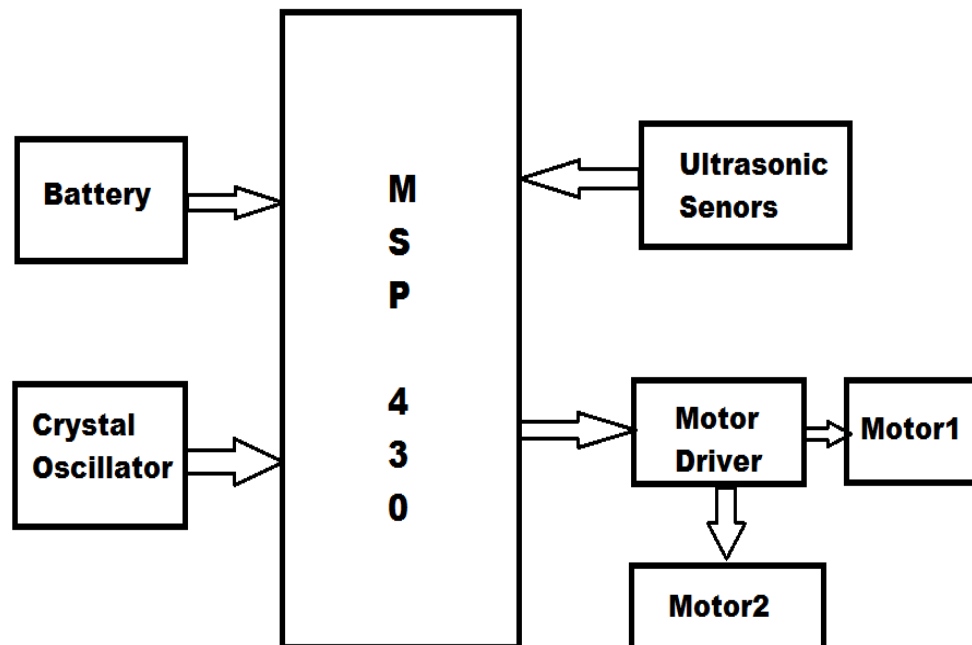
Goals: 1. To detect any obstacle and if found, changes its direction automatically.

2. Maneuvering the robot to stay on course, while correcting the wrong moves using feedback mechanism an effective closed loop system.

Planning:

- The system contains three sensors that can detect the obstacle in any direction.
- If the vehicle encounters the obstacle in the forward direction, the robot changes it direction to left.
- If there is an obstacle even in the left, it moves to right and if the robot detects an obstacle in the right direction, the vehicle stops.

Block Diagram:



Software And Hardware Components:

Software:

1. Keil compiler
2. Code Composer Studio.

Hardware:

1. Microcontroller MSP430.
2. Ultrasonic sensors.
3. DC motors and L293D (Dual H-Bridge Motor Driver).

MSP430 Features:

- Power supply(battery) to Vcc
- External Interrupt to ultrasonic receiver input
- Digital I/O output to motor driver, input to ultrasonic receiver,
- Timer for measuring received ultrasonic signal pulse durations.