OBSTRACLE AVOIDING ROBOT

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Obstacle Avoiding Robot is built on Arduino that uses ultrasonic sensors to avoid collisions with objects. This is an autonomous type robot with objective of moving in the environment based on the sensor information.

Obstacle avoiding robot can be used in the all mobile robot navigation systems. It can also use for household work like automatic vacuum cleaning.

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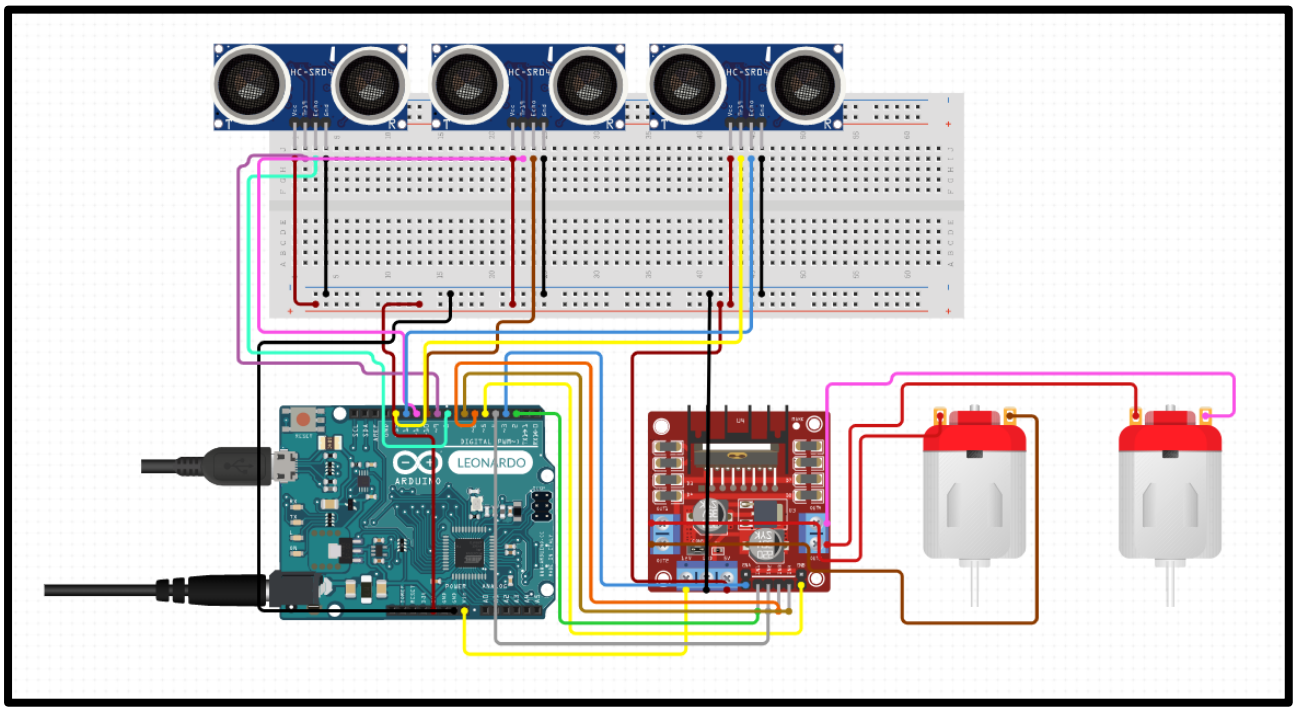
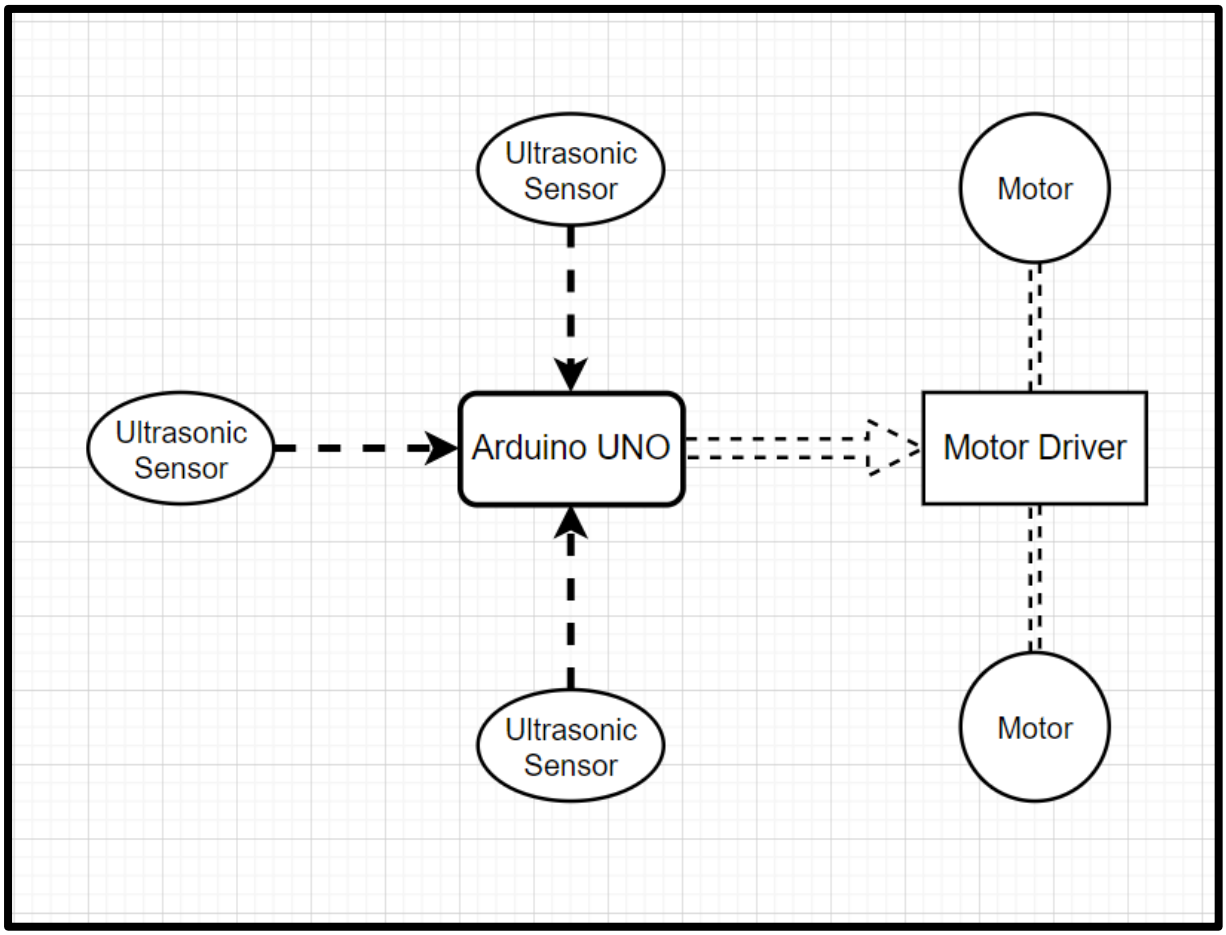
Circuit Diagram



Hardware Required

- Arduino UNO
- Ultrasonic Sensors
- Motor Drive
- DC Motors

Block Diagram



Arduino UNO

Arduino Microcontroller is used to achieve the desired operation from the robot. Arduino can controlled the motor on the ultrasonic sensors data.

Ultrasonic Sensors

Whenever the robot is going to start moving the ultrasonic sensor transmits the ultrasonic waves continuously from its sensor and whenever obstacle come in front of it the ultrasonic waves are reflected back from object and data send it to the arduino.

Working

The arduino control the motions of robot, the robot move in left, right, and front based on the ultrasonic signals. When the obstacle come in the way of arduino the signal send to the arduino and according to that motor will rotate to take turn.

The robot will turn in the left or right direction will dices on the compare the distance of the both side, where will be the more distance to travel robot will take turn in that direction. And again move in the forward direction continuously.
