Obstacle Avoiding Robot Car

UQU-CE-22-205

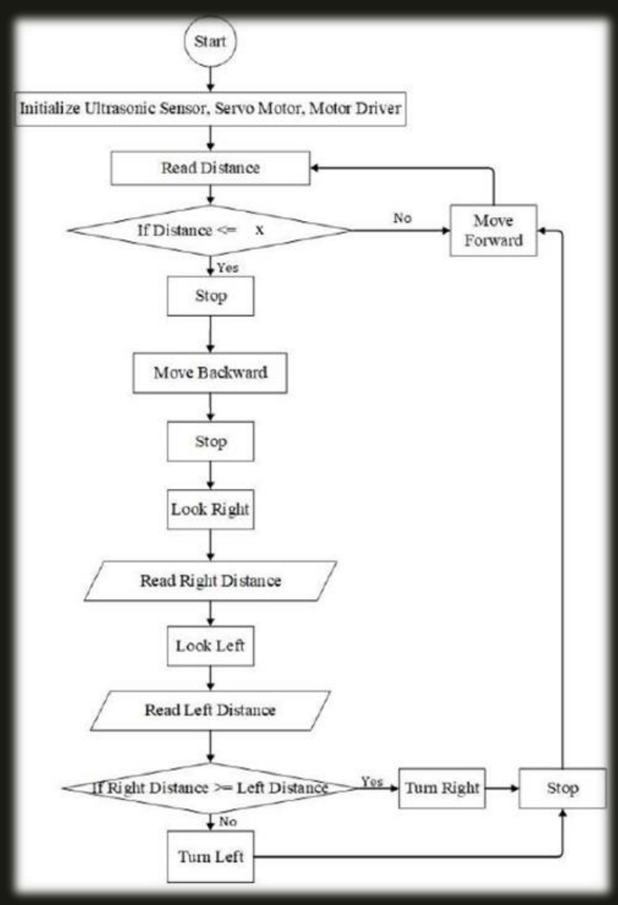
Abstract

This project involves the design of an intelligent obstacle-avoiding robot car and its implementation. The objective of this project is to implement a robot car, which while moving should have the ability to detect obstacles in its path and change direction where obstacles are present without any form of external influence. The new direction to be taken to avoid collision is the direction that has the most distance between the obstacle and the sensor and this is determined by the robot based on sensor inputs.

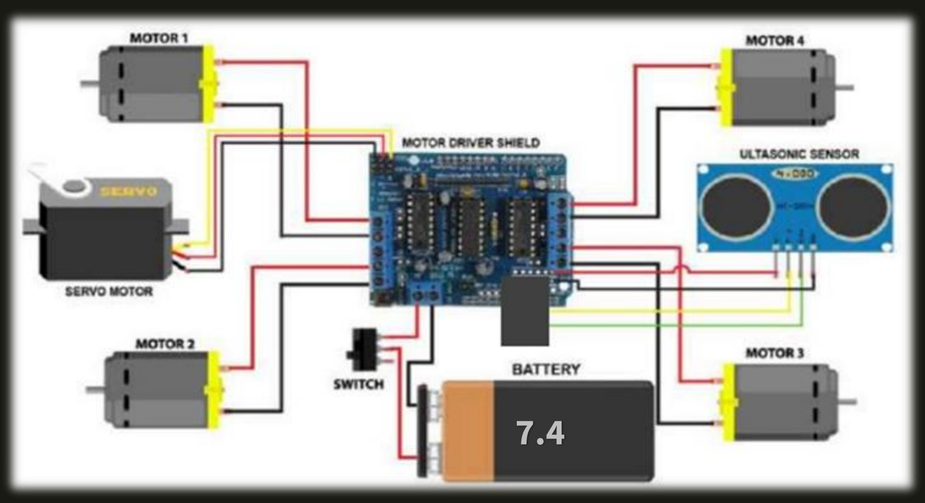
Objectives

The Aim of this project is to design and implement a robot car that is able to move around without running into obstacles in its path.

Flow Chart

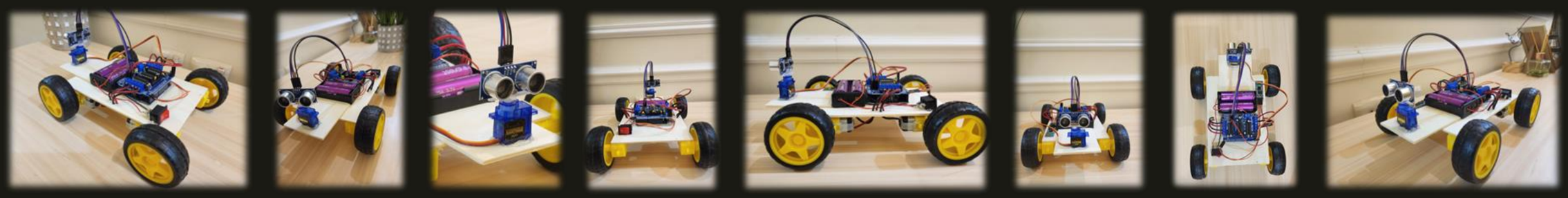


Block Diagram



The Servo Motor is responsible for moving the Ultrasonic Sensor which is the main part of this project, then comes the four DC Motors which is responsible for moving the Robot Car, then we have the Power Source (7.4) which is provided by two li-ion batteries of (3.7) which is connected to a Switch to control the power Motor Driver Shield connects all the parts together with the Arduino UNO and its main object is to control the movement of the motors.

Prototype



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