Abstract :

OBJECT FOLLOWING BOT

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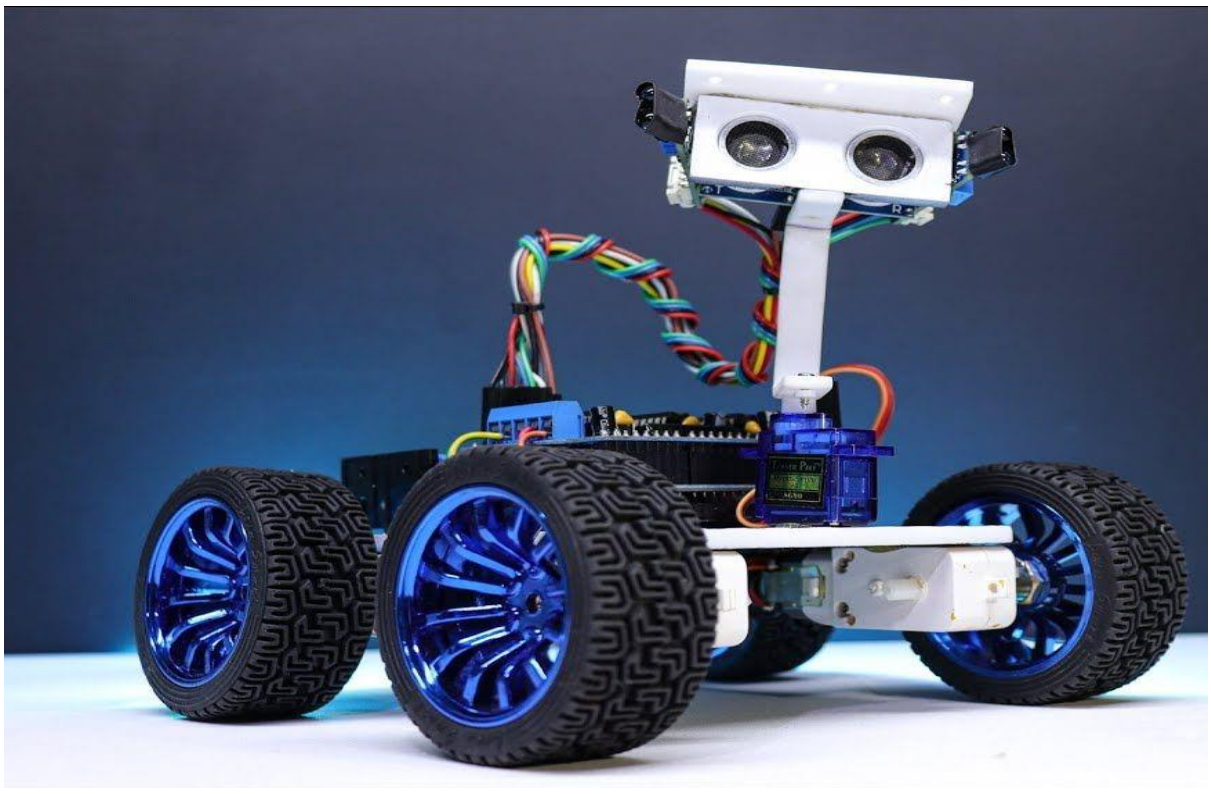
Introduction :

Thinking of making robots, you might come up with ideas such as line tracking, obstacle avoider, anti-drop Robot, environment monitoring Robots, etc. But what we are going to make today, is a robot that follows an object, relentlessly. The basic function of this robot is simple: it follows you. It goes forward as you go forward; when you stop moving, it stops as well.

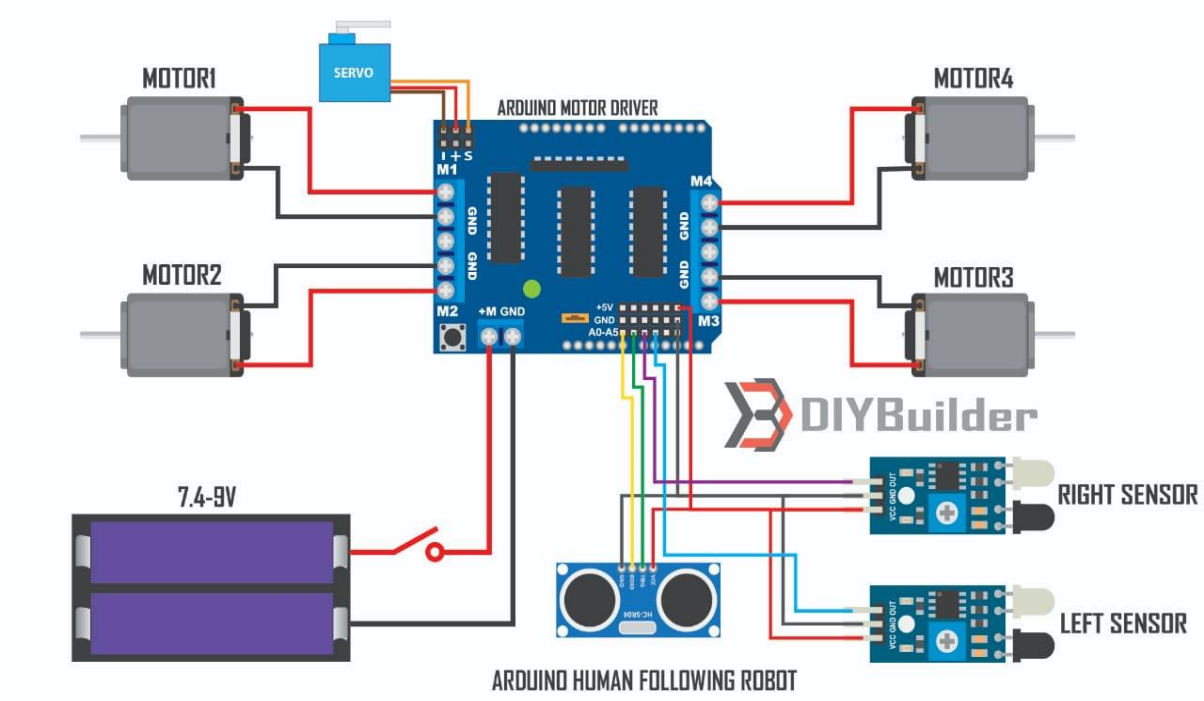


OBJECT FOLLOWING ROBOT

Technology used :

1) Arduino Uno
2) Motor Driver Shield
3) TT Gear Motor and wheels set
4) Servo Motor
5) Ultrasonic Sensor
6) Battery
7) Infrared sensor
8) Male and Female Jumper wires
9) Chassal Board
10) Buzzer
11) LED's
12) Resistors

Circuit Diagram :



Working :

We used an Ultrasonic range sensor to identify the moving direction of the object. You can also add more number. The minimum number that will do the job is one. Here by measuring the pulse width of the echo pulse from ultrasonic sensor we can get the range of the object in front of the robot. Here we created an algorithm which will move the robot forward when the object is moving forward within the programmed range and backwards in the same manner. Here we will implement Software Pulse Width Modulation which can convert normal digital outputs to the PWM output pins of the Arduino.

Innovation & Social aspects :

This Bot can be used in various aspects of daily life activities. One can use it for the security purpose, for example when it is placed at the borders of the jails where there should be no movement of humans. Then, when thieves try to escape from the jail it can easily recognize them and by some modifications such as installing GPS module and HD-Camera with it, we can locate the location of the human (or object) traversed with video coverage. It can be also used for the transporting weights with humans by following them to where ever they move with autonomous instructions, mostly this type of use can be installed at hotels and airports. This is the best example for the collaboration of bots with human kind for generic utilization.

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