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Radar using Ultrasonic Sensor

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Abstract: *Radar is an object detection system which uses radio waves to determine the range, direction of objects. The radar dish or antenna transmits pulses of radio waves or microwaves which bounce off any object in their path. Arduino is a single-board microcontroller to make using electronics in multidisciplinary projects more accessible. This project aims at making a Radar that is efficient, cheaper and reflects all the possible techniques that a radar consists of. The proposed system "ultrasonic radar for the object detection distance and the speed measurement" employs an ultrasonic module that includes an ultrasonic transmitter and receiver. It operated by transmitting 40 kHz frequency pulse which is not audible to the human ear. Module rotate with step angle of the stepper motor with specific angle for a specific time interval and the distance between the object and system is measured by calculating time interval taken by the signal to transmit and the echo reception Whereas the detected signal is shifted toward the module or away from the module which give the information about the speed of that detected object which is shown on PPI Display.*

Keywords: Radar, Ultrasonic Sensor, Arduino, Servo Motor

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