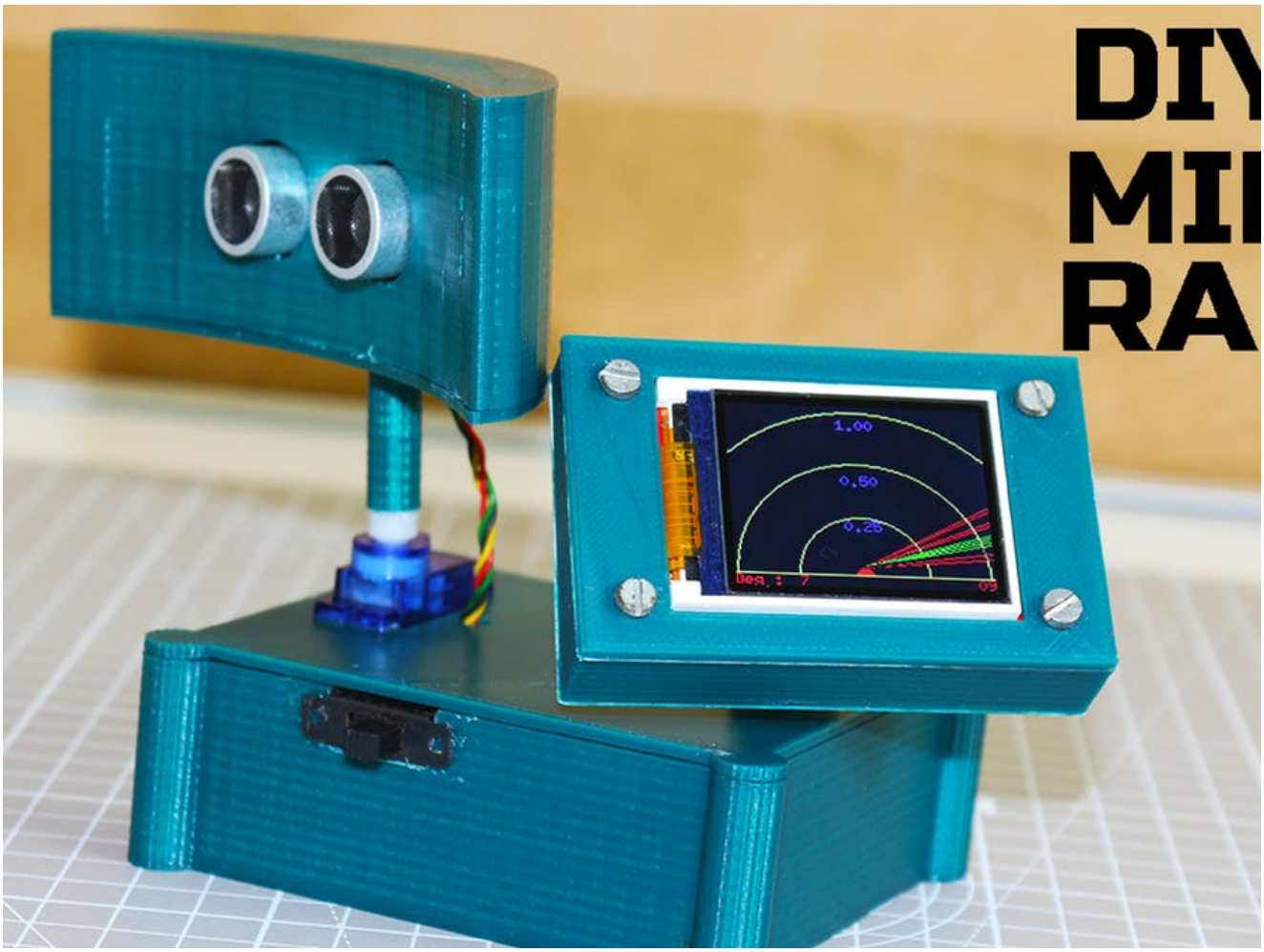
Mini Radar with Arduino

hackster.io/user421848217/mini-radar-with-arduino-7309ca

Sandeep Sharma



Story

$2 for 10 PCBs (24-hour fast build): https://jlcpcb.com

Video

Hello friends, in this video I have made a mini, compact radar with display. For that, I have used an HC-SR04 ultrasonic sensor, a sensor which emits ultrasonic sound and comes back to sensor after reflecting from an object.

All the data visualization is shown on a 1.8" ST7735 display. If any object is detected by the radar, it'll show in display in red line.

For this project, I have developed a custom PCB and got it manufactured from JLCPCB.com

JLCPCB is one of the top leader in PCB manufacturing.

There are four main components of this project

- Arduino Nano is used as the brains. https://amzn.to/2Eq3tSK
- HC-SR04 is an ultrasonic sensor that emits ultrasonic sound waves that humans can't hear. This sensor generates . some value in proportion to the reflected ultrasonic sound waves from the object. From this, we can also tell the distance of object from the sensor. https://amzn.to/2SEU4vQ
- SG90 micro servo is used to rotate ultrasonic sensor in 180 degrees. https://amzn.to/2NG807N
- ST77535 display is our monitor to visualize all data on screen. https://amzn.to/2NG807N

Complete 3D files will be available on Thingiverse:

https://www.thingiverse.com/thing:3465440

I have a Tevo Tarantula printer that I printed all the parts with using dark green PLA at 50% infill

After printing all the parts or you can design your own model. If you don't have access to a 3D printer, then you can use material like acrylic sheet or cardboard sheet.

Complete the wiring as shown in the circuit drawing and load the code to Arduino.

You radar is ready to work if you face any problem please feel free to comment below.

Custom parts and enclosures

3D Files

Schematics

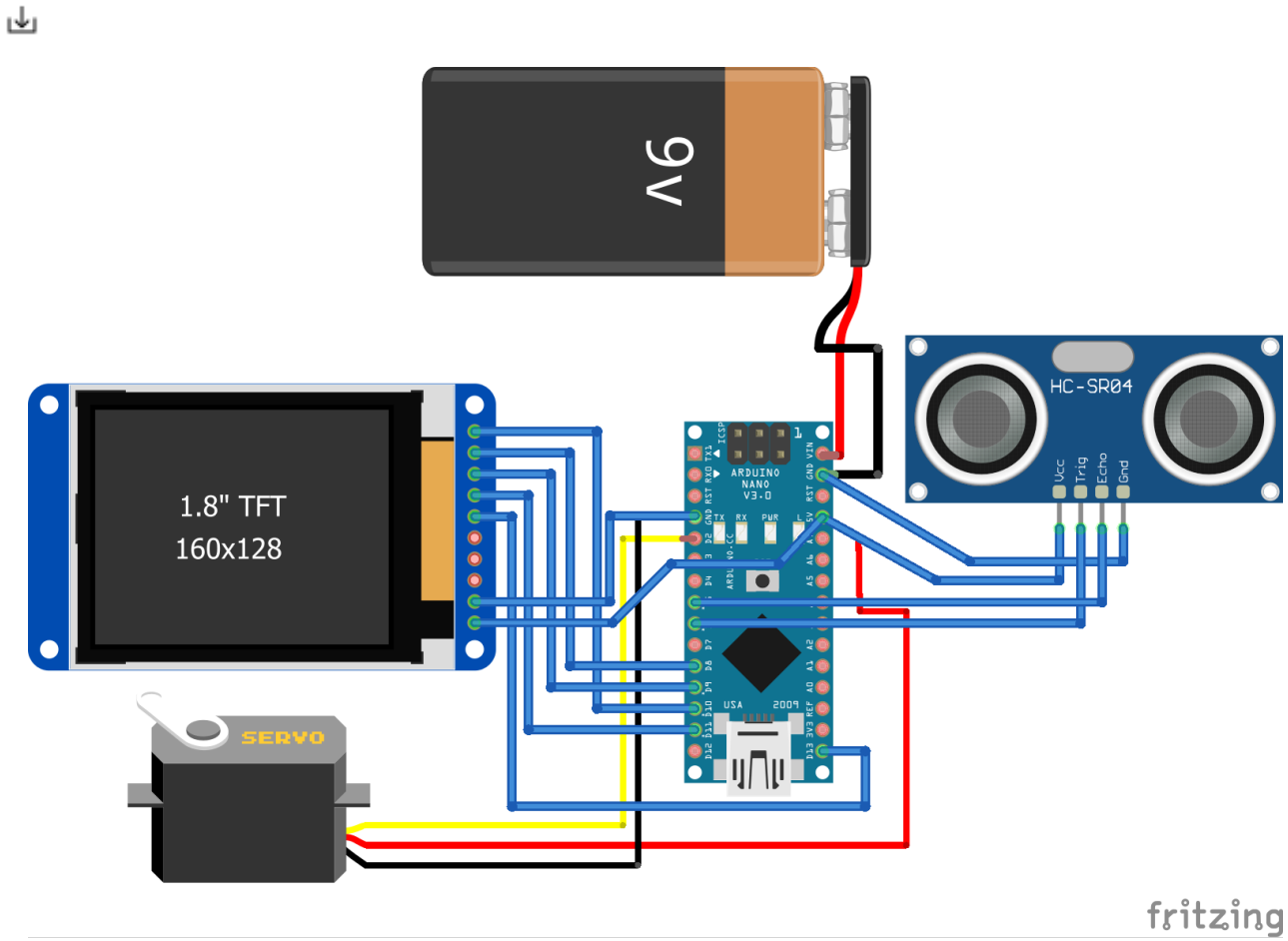
sandy9159 / Arduino-based-Mini-radar-HC-SR04-ST7735-Display

10 2
I have made a Mini compact Radar with display for that I have used HC-SR04 ultrasonic sensor, this sensor emit ultrasonic sound which came back to sensor after reflecting from an object, all the data visualization is displayed on 1.8" ST7735 display, if any object detect by radar it'll show in display in red line. — Read More

Latest commit to the **master** branch on 3-3-2019

Download as zip

Circuit drawing



Code

sandy9159 / Arduino-based-Mini-radar-HC-SR04-ST7735-Display

10 2

I have made a Mini compact Radar with display for that I have used HC-SR04 ultrasonic sensor, this sensor emit ultrasonic sound which came back to sensor after reflecting from an object, all the data visualization is displayed on 1.8" ST7735 display, if any object detect by radar it'll show in display in red line. — Read More

Latest commit to the **master** branch on 3-3-2019

Download as zip

Credits