

INNOVATE YOUR WAY TO THE FUTURE

Smart Dustbin using Arduino

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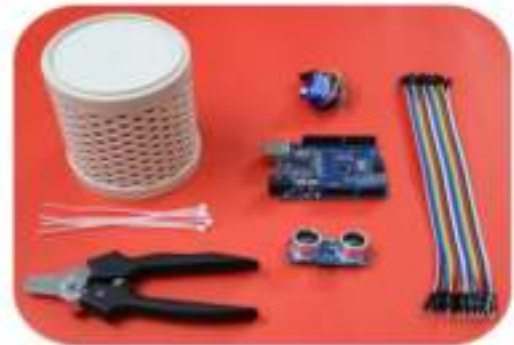
Smart Dustbin Using Arduino

In this project, I will show you How to Make a Smart Dustbin using Arduino, where the lid of the dustbin will automatically open when you throw the garbage.. where the lid of the dustbin will automatically open itself upon detection of the human hand.

Guide Manual Steps

Step 1: Materials and Tools

- Ultrasonic Sensor
- Arduino
- Servo Motor S9
- Jumper Wire
- Dustbin
- Battery
- Battery Clipper



Step 2: Arduino Connect to Ultrasonic Sensor

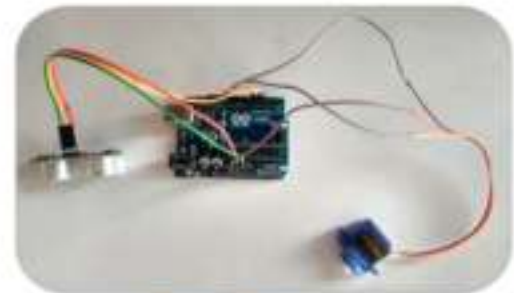
First, take ultrasonic Sensor to Connect it With Arduino

- VCC → 5V
- Trig → Pin 5
- Echo → Pin 6
- GND → GND



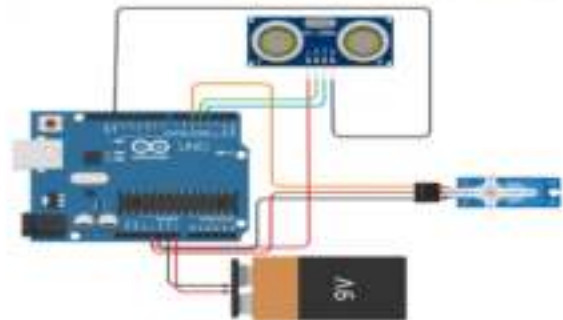
Step 3: Arduino Connect to Servo Motor-S9

- Servo Motor to Connect it With Arduino
- OUTPUT → Pin 7
- VCC → 5V
- GND → GND



Step 4: Fix Material

- First, took a box and then fix the ultrasonic sensor with the help of the Screwdriver.
- Second, then fix the Arduino Uno
- After that, the Servo motor fitted.



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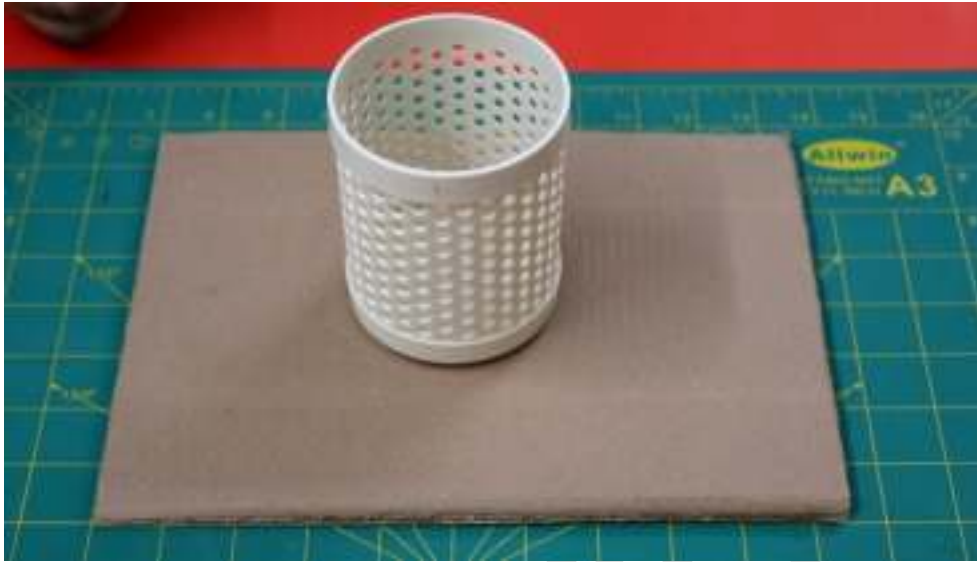


Figure 1: Dustbin & Cardboard



Figure 2: Draw circle around the dustbin

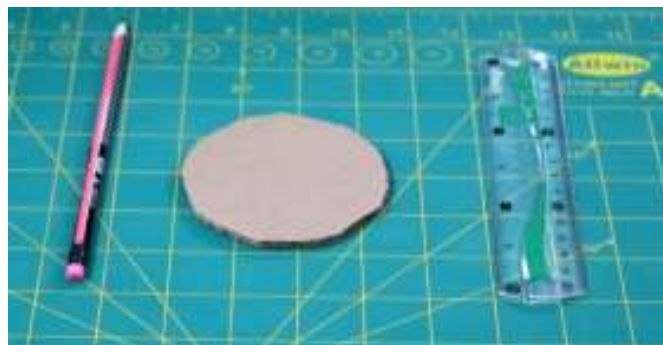


Figure 3: Lead pencil, Dustbin cover & Scale



Figure 4: Cut dustbin cover in two-part A & B



Figure 5: Connect part A and B of cardboard using paper tape



Figure 6: Apply the glue gun on the boundary of cardboard (part a) and place it on the top of the dustbin (do not apply glue gun on part b)

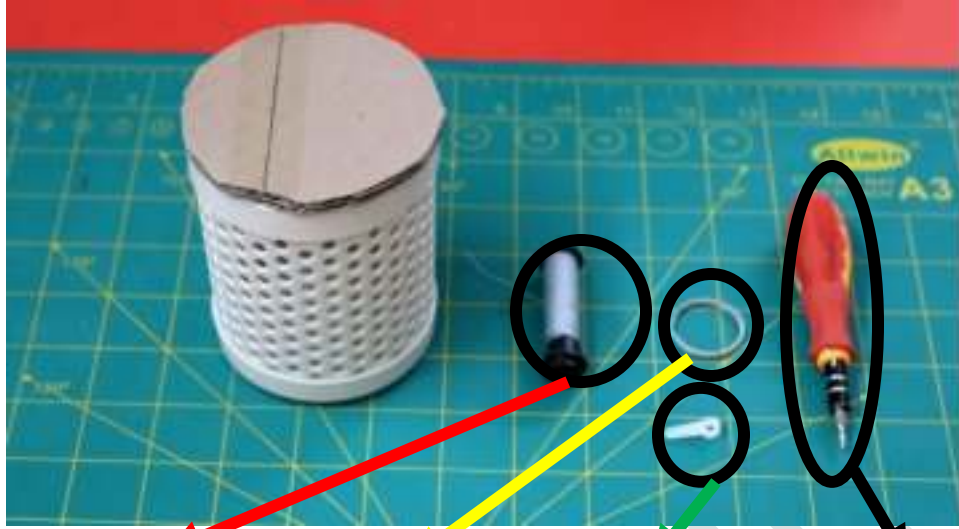


Figure 7: Thread, Metallic screw, Servo motor clip & Screwdriver



Figure 8: Attach a metallic screw with servo motor clip using thread



Figure 9: Attach the ultrasonic sensor with dustbin

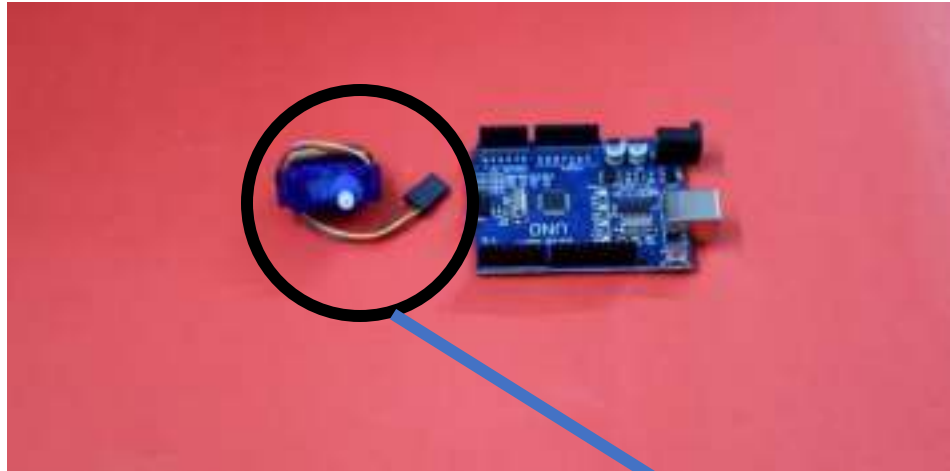


Figure10: Arduino-Uno
(right-side → digital pins & left-side → analog pins) & servo motor

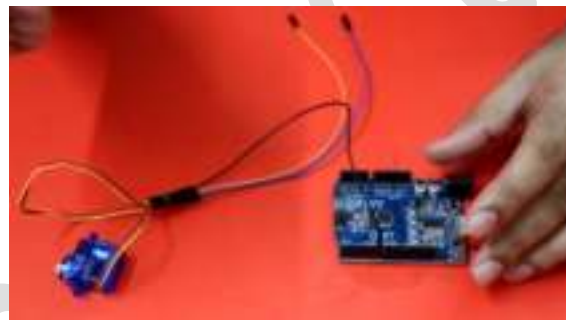


Figure 11: Connect one end of black wire with pin “D#7” on Arduino and another end with servo motor “output” Pin

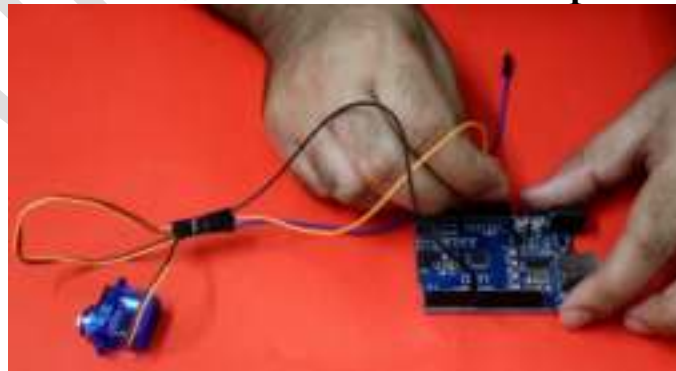


Figure 12: Connect one end of the orange wire with pin “5v” on Arduino and another end with servo motor “Vcc” Pin

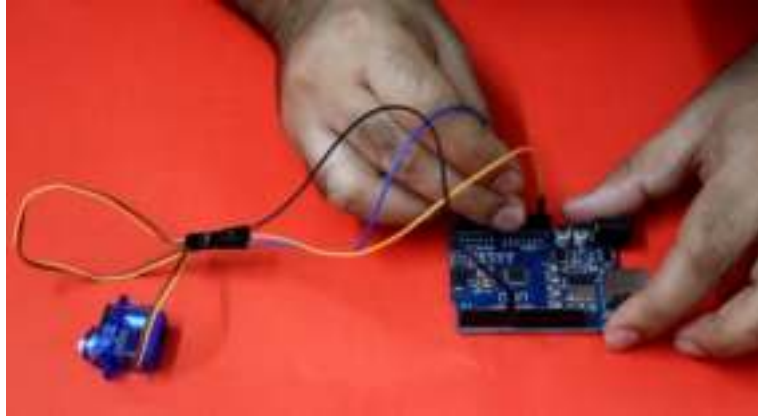


Figure 13: Connect one end of the blue wire with pin “GND” on Arduino and another end with servo motor “GND” Pin

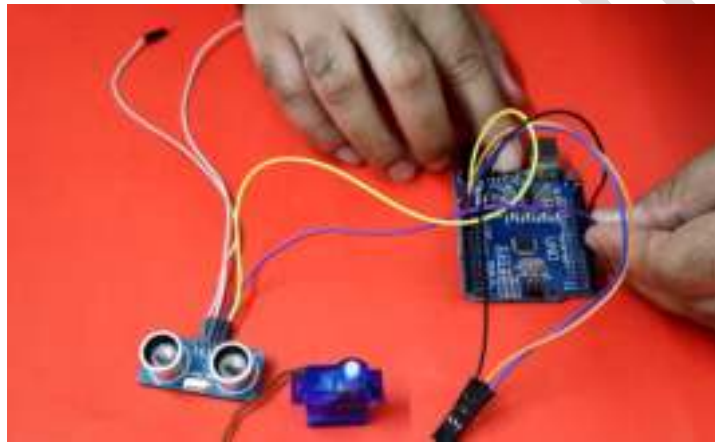


Figure14: Connect one end of the purple wire with pin “D#5” on Arduino and another end with pin “Trig” on ultrasonic sensor



Figure15: Connect one end of the white wire with pin “D#6” on Arduino and another end with pin “Echo” on ultrasonic sensor

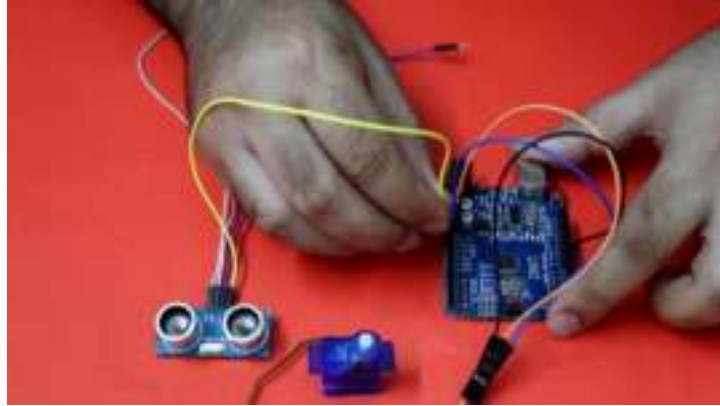


Figure 16: Connect one end of the yellow wire with pin “5v” on Arduino and another end with pin “VCC” on ultrasonic sensor

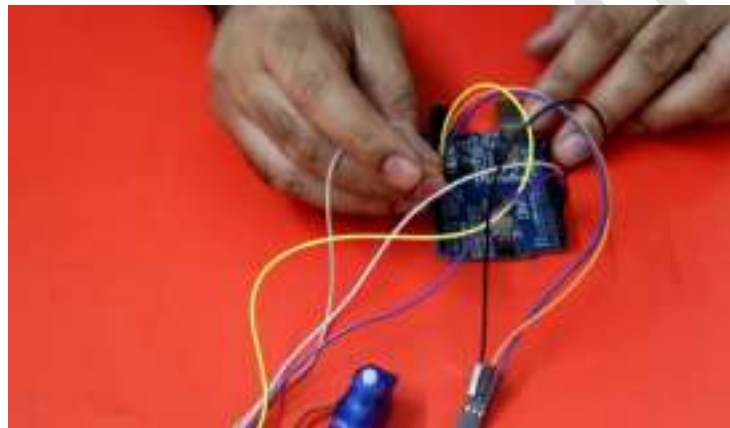


Figure 17: Connect one end of the white wire with pin “GND” on Arduino and another end with pin “GND” on ultrasonic sensor



Figure 18: Upload code used Arduino IDE application



Figure 19: Load file



Figure 20: Verify code

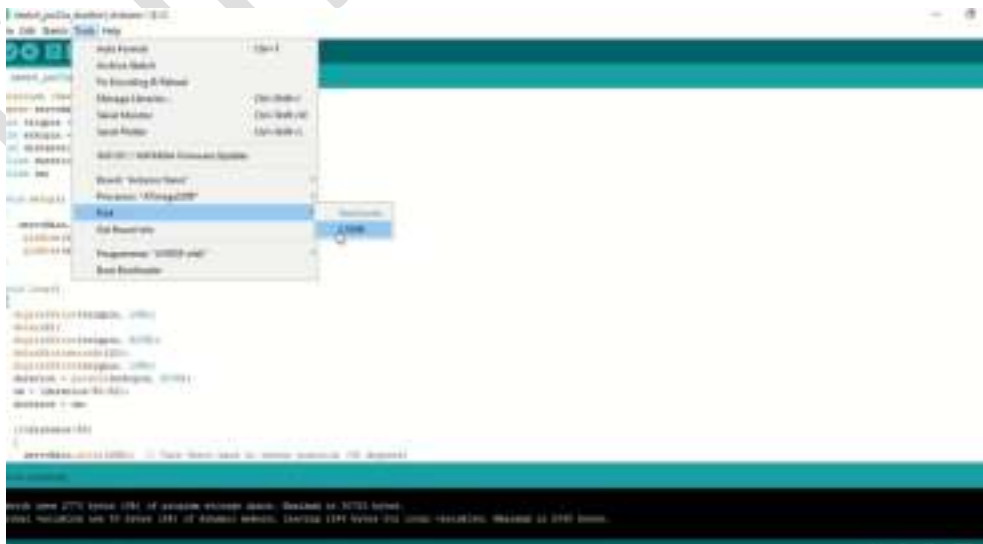


Figure 21: Tool → set Arduino type → set port



Figure 22: Upload-code

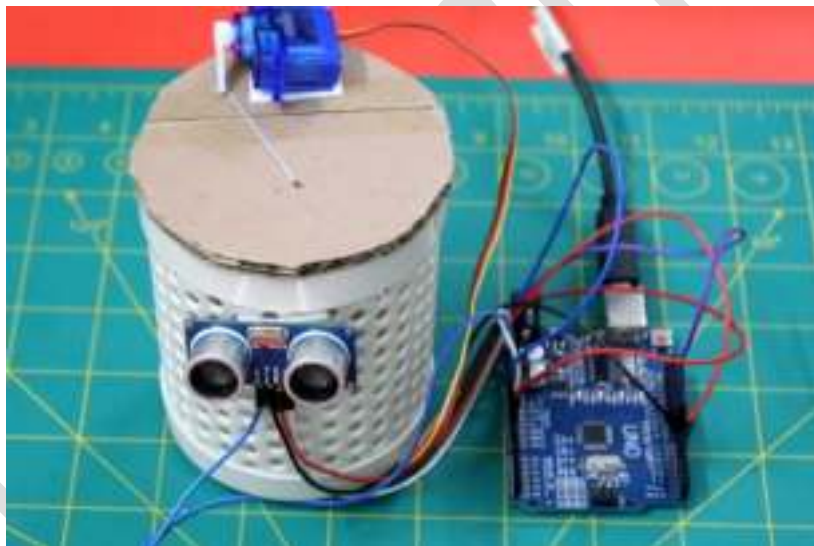


Figure 23: Project Demo