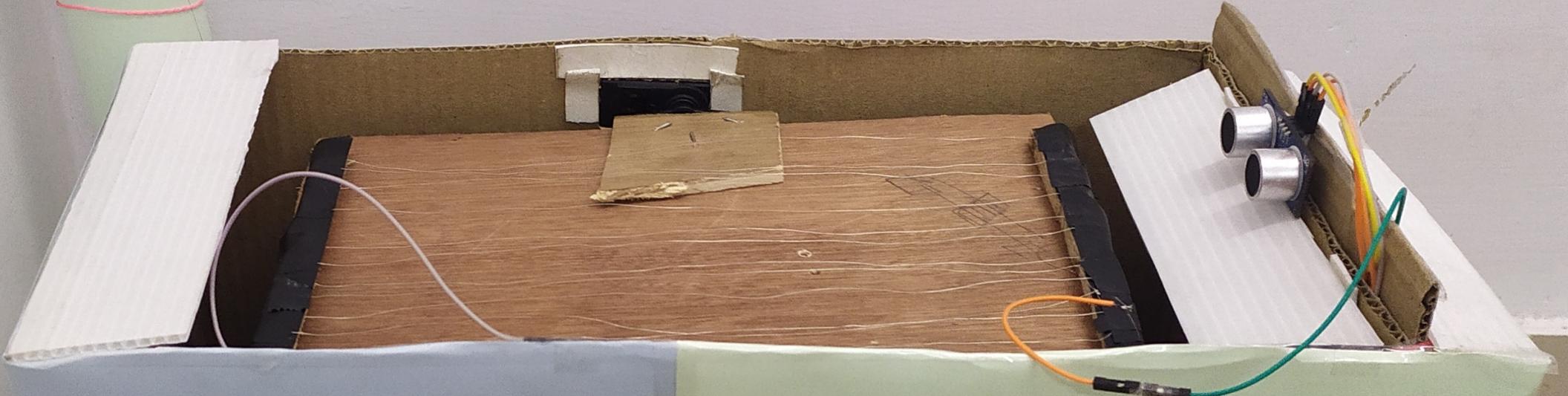


# ***SMART DUSTBIN***

smart dustbin

wet

dry



# *Project Description*

Technology always help mankind in making life easier. Now presenting an innovative way which revolutionize the trash management system through this we are taking a step towards clean India.

Smart dustbin is easy and simple solution of segregation of two types of wastes dry and wet. It is designed to sort the trash into wet waste and dry waste ready to be processed separately for the next process of operation for this. Using Embedded technology to continuous monitoring the dustbin in order to check whether dustbin is full or not. Wireless sensors sense the amount of waste in the containers if it reached the maximum container capacity, sends instant messages to the waste management department.

# How it works?

- The component used in the Smart Dustbin System is Power Supply, IR Sensor, motor and Moisture Sensor. IR Sensor is connected in dustbin, it is used to detect the level of dustbin where dustbin is full or empty. With the Help of Sensors, the system can segregate the waste collected in collection point. In turn Controller initiates the arm to collect the waste and segregate accordingly.
- Two Separate storage based dustbin is designed for automatic waste collection and segregation. As soon as the IR sensor senses that garbage container reached its maximum capacity the message is sent through nodemcu module to the trash management personnel that trash box is filled completely, so that they schedule the trash collection based on this information. The sensor senses the content of the dustbin and sends the signals or the data to the ARM microcontroller then the microcontroller reads the data from the sensor and process the data received from sensor, and the same data will be sent to Dashboard section and this section send mail/message to respective authority person

# Components used

- Nodemcu
  - Aurdino uno
  - Servo motor
  - IR sensor
  - Ultrasonic sensor
  - Moisture sensor

# *Components description*

- Ultrasonic Sensor: The ultrasonic sensor is used for obstacle detection. Ultrasonic sensor transmits the ultrasonic waves from its sensor head and again receives the ultrasonic waves reflected from an object.
- Arduino UNO : It is a microcontroller board based on the Microchip ATmega328. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz quartz crystal, a USB connection, a power jack, an ICSP header and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started.
- IR Sensor:IR detectors are little microchips with a photocell that are tuned to listen to infrared light.

# Future applications

- 1. Easy Collection of Waste and Automatic segregation of Waste as dry and wet.
- 2. Minimal time .
- 3. Optimizes Resources.
- 4. Clean Environment.