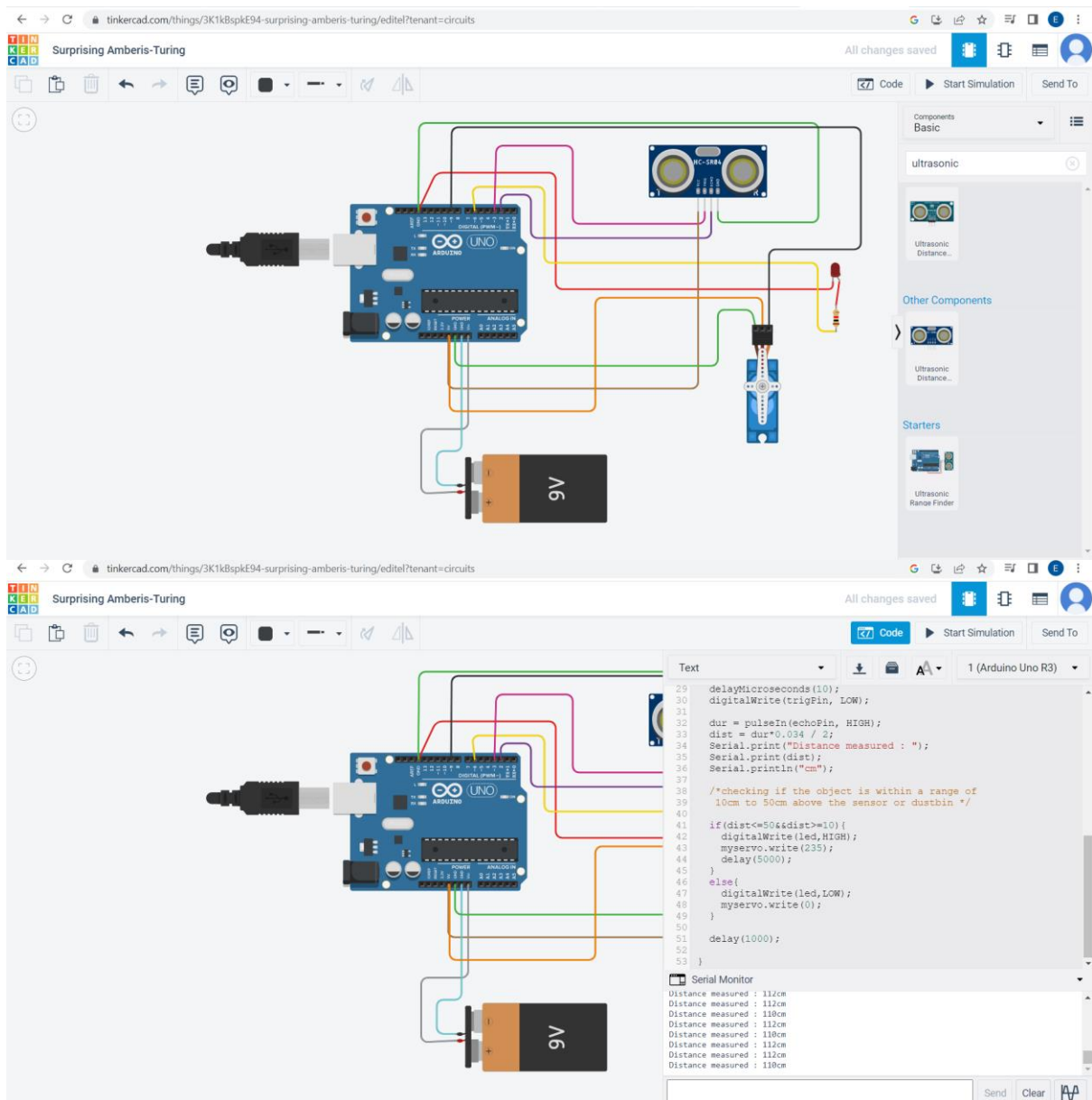


Delivery of Sprint 2

Date	5 th November 2022
Team ID	PNT2022TMID30256
Project name	Smart waste management system for metropolitan cities
Marks	



The image displays two screenshots of the Tinkercad web interface, showing a circuit diagram and the corresponding code for a smart waste management system.

Circuit Diagram: The circuit features an Arduino Uno R3 connected to a 9V battery. It includes an HC-SR04 ultrasonic sensor and a servo motor. The sensor's VCC is connected to the 5V pin, GND to GND, and Trig to digital pin 2. The Echo pin is connected to digital pin 3. The servo's VCC is connected to the 5V pin, GND to GND, and the signal wire to digital pin 4.

Code: The code is written in the Text editor and includes the following logic:

```

29 delayMicroseconds(10);
30 digitalWrite(trigPin, LOW);
31
32 dur = pulseIn(echoPin, HIGH);
33 dist = dur*0.034 / 2;
34 Serial.print("Distance measured : ");
35 Serial.print(dist);
36 Serial.println("cm");
37
38 /*checking if the object is within a range of
39 10cm to 50cm above the sensor or dustbin */
40
41 if(dist<=50&&dist>=10){
42   digitalWrite(led,HIGH);
43   myservo.write(235);
44   delay(5000);
45 }
46 else{
47   digitalWrite(led,LOW);
48   myservo.write(0);
49 }
50
51 delay(1000);
52
53 }

```

Serial Monitor: The Serial Monitor shows the following output:

```

Distance measured : 112cm
Distance measured : 112cm
Distance measured : 118cm
Distance measured : 112cm
Distance measured : 118cm
Distance measured : 112cm
Distance measured : 112cm
Distance measured : 118cm

```

Code:

```
#include <Servo.h>

Servo myservo;

// defining the pins and variables
int led=6;
#define echoPin 2
#define trigPin 3
long dur; // duration for the echo to reach
int dist; // distance of the object

void setup()
{
  pinMode(trigPin,OUTPUT); // trigger as output
  pinMode(led,OUTPUT);    // led as indication
  pinMode(echoPin,INPUT); // echo as input
  myservo.attach(9);      // giving commands to servo
  Serial.begin(9600);
}

// constantly checking for objects
void loop()
{

  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);

  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
```

```
digitalWrite(trigPin, LOW);
```

```
dur = pulseIn(echoPin, HIGH);
```

```
dist = dur*0.034 / 2;
```

```
Serial.print("Distance measured : ");
```

```
Serial.print(dist);
```

```
Serial.println("cm");
```

```
/*checking if the object is within a range of  
10cm to 50cm above the sensor or dustbin */
```

```
if(dist<=50&&dist>=10){
```

```
    digitalWrite(led,HIGH);
```

```
    myservo.write(235);
```

```
    delay(5000);
```

```
}
```

```
else{
```

```
    digitalWrite(led,LOW);
```

```
    myservo.write(0);
```

```
}
```

```
delay(1000);
```

```
}
```

