BLIND STICK

Project Title: Blind Stick

Project Lead: Rutuja Shinde

Learning Objective:

- Simulate LDR and Thermistor workings.
- Use Tinkercad for electronics and Arduino projects.

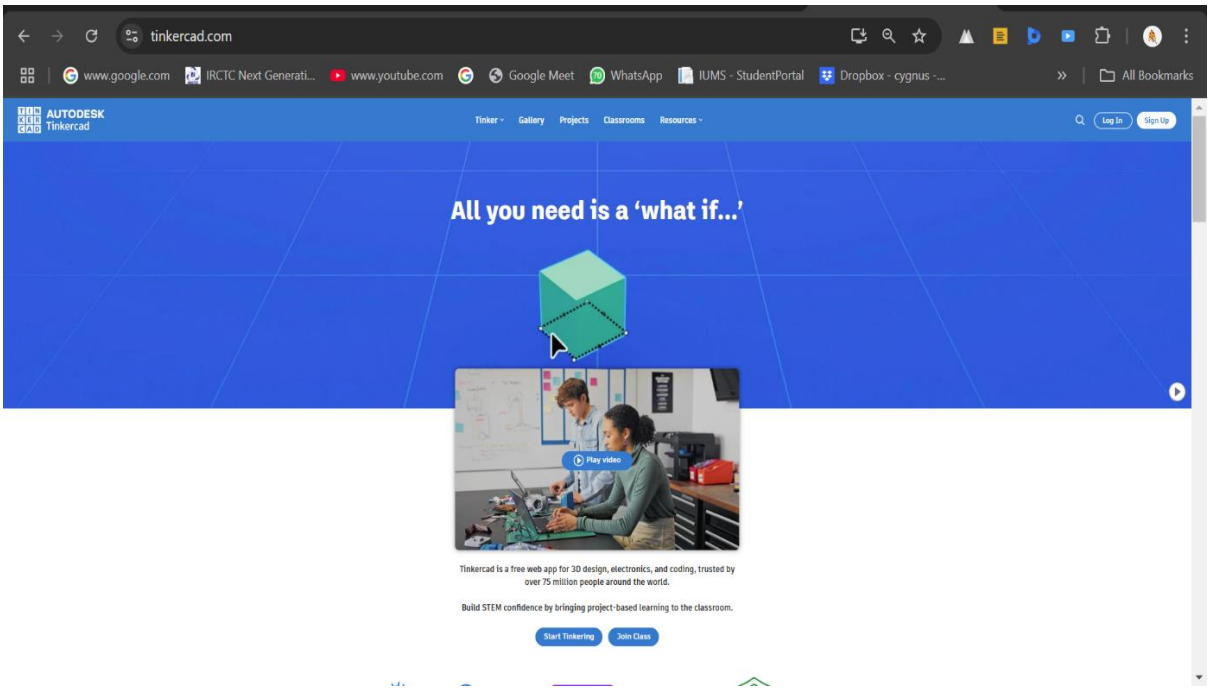
Required Components:

1. Arduino nano (virtual, in Tinkercad)
2. Breadboard (virtual)
3. Connecting Wires
4. Buzzer
5. Ultrasonic sensor (HC-SR04)

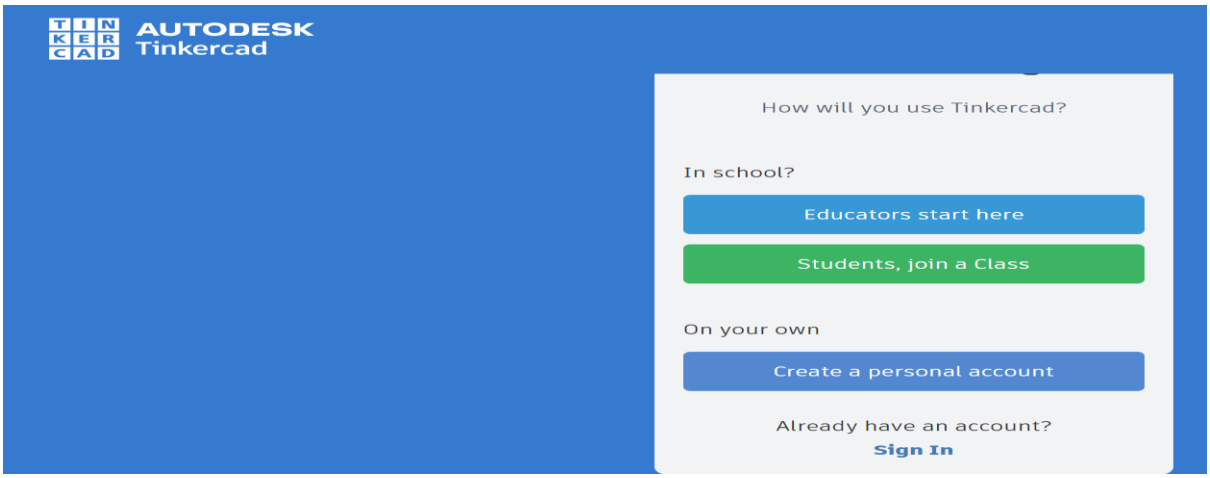
Step-by-Step Guide

Step 1: Set up Your Tinkercad Project

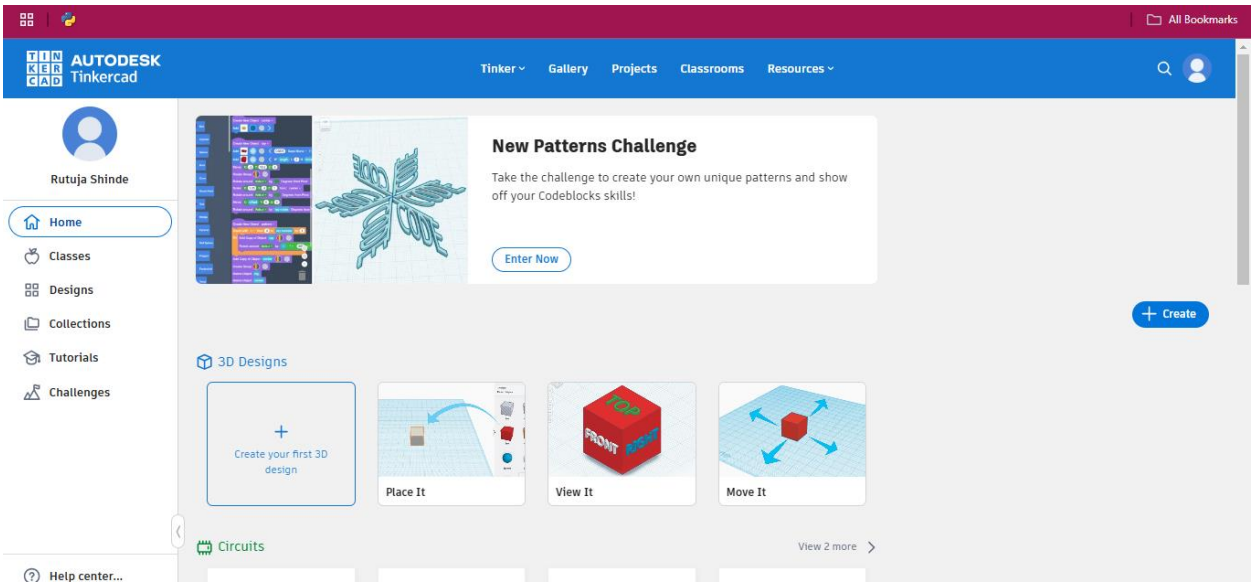
1. Open Tinkercad in your web browser. (www.tinkercad.com)



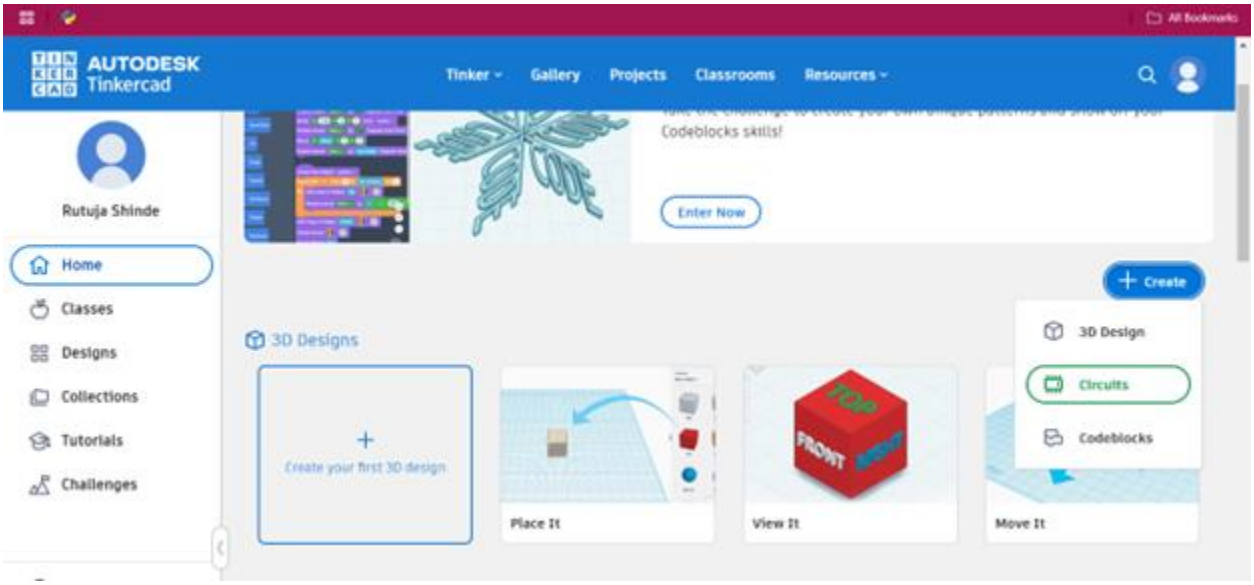
2.Create a free account or log in if you already have one.

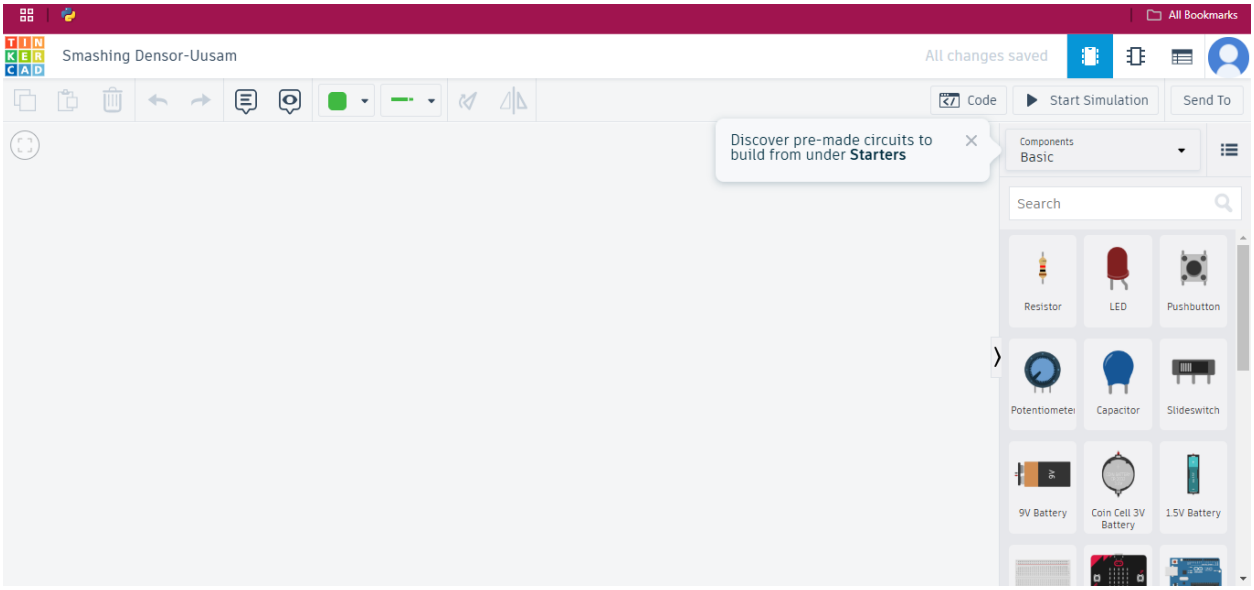


3.Select **"Circuits"** from the Tinkercad dashboard.

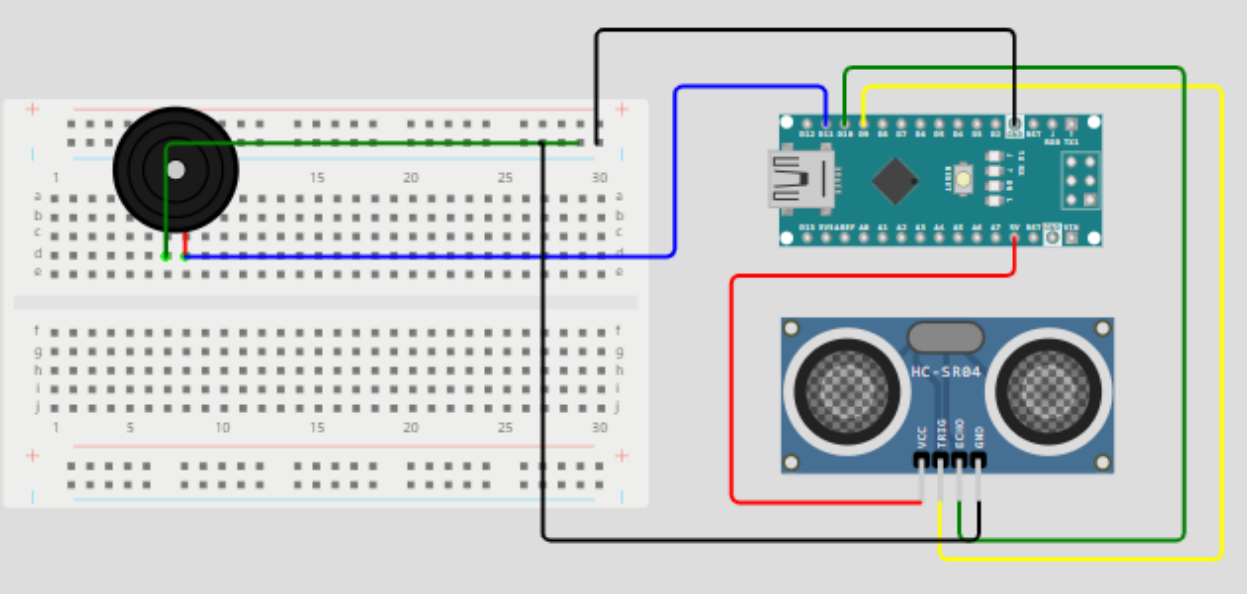


4.Click **"Create New Circuit"** to start a new project.




All Bookmarks
Smashing Densor-Uusam
All changes saved
Code
Start Simulation
Send To
Discover pre-made circuits to build from under Starters
Components
Basic
Search
Resistor
LED
Pushbutton
Potentiometer
Capacitor
Slideswitch
9V Battery
Coin Cell 3V Battery
1.5V Battery

Circuit Diagram:

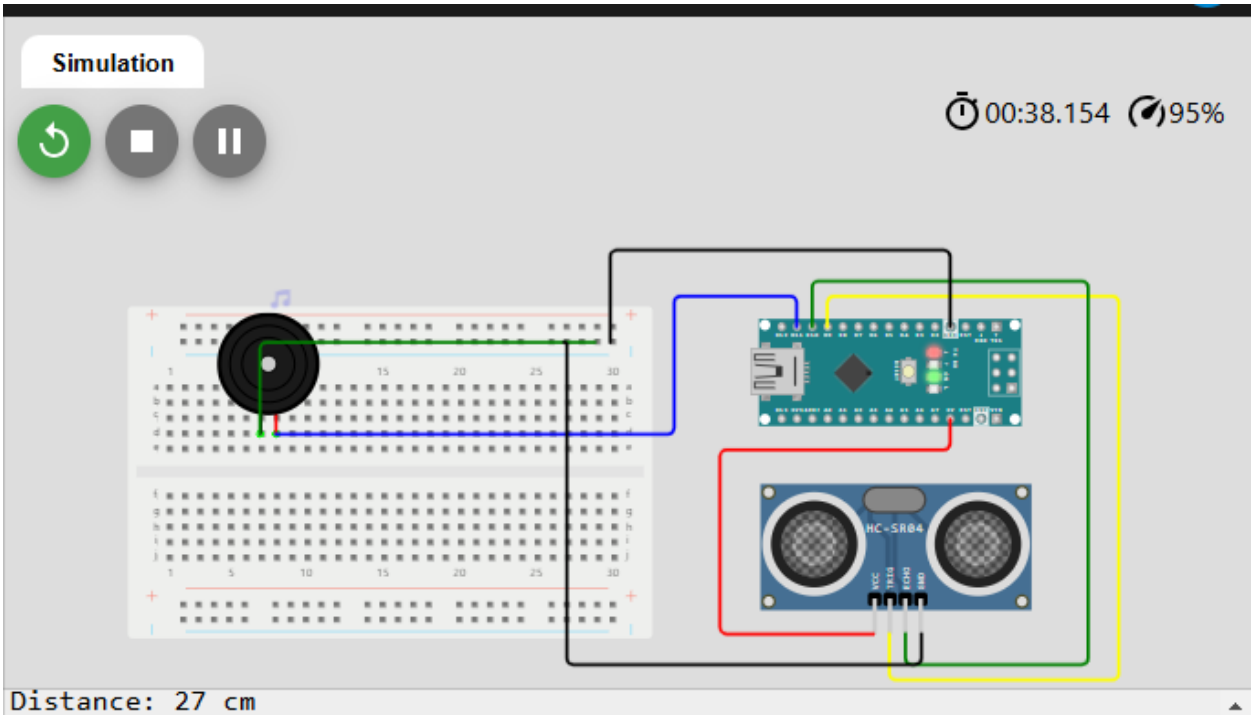


CODE:

```
const int trigPin = 9;
const int echoPin = 10;
const int buzzerPin = 11;
void setup()
{
  Serial.begin(9600);
  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);
  pinMode(buzzerPin, OUTPUT);
```

```
  Serial.println("Blind Stick is Ready");
}
void loop()
{
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);
  long duration = pulseIn(echoPin, HIGH);
  long distance = duration * 0.034 / 2;
  Serial.print("Distance: ");
  Serial.print(distance);
  Serial.println(" cm");
  if (distance > 0 && distance <= 50)
{
    tone(buzzerPin, 1000);
  } else
{
    noTone(buzzerPin);
  }
  delay(100);
}
```

OUTPUT:




```
Distance: 27 cm
Distance: 27 cm
Distance: 27 cm
Distance: 27 cm
Distance: 27 cm
Distance: 27 cm
Distance: 27 cm
```