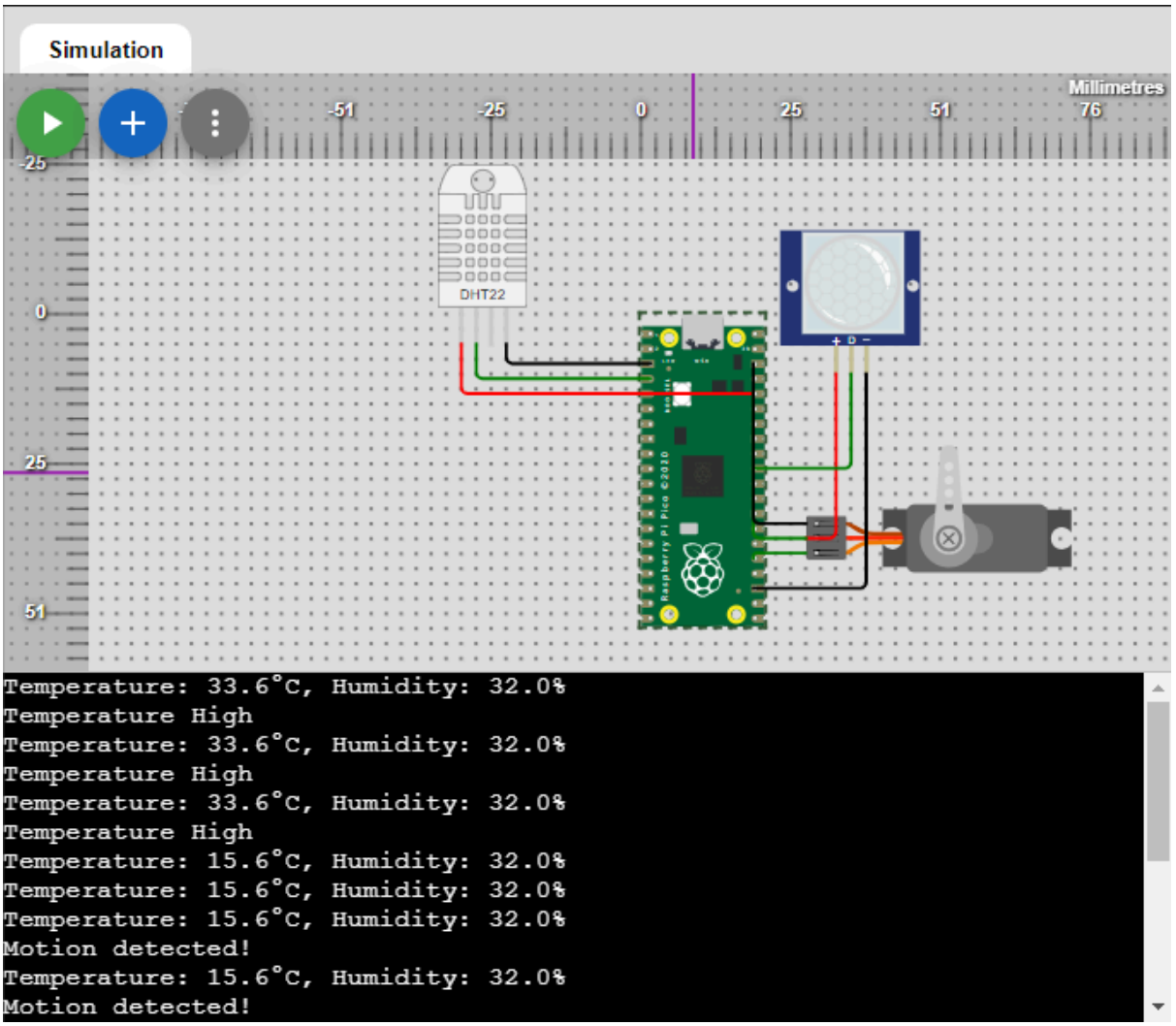
AUTOMATIC FAN CONTROLLER IN BATHROOM



MicroPython Code

```
from machine import Pin, PWM
import time
import dht

# Initialize PIR sensor
pir = Pin(26, Pin.IN)

# Initialize DHT22 sensor
dht_sensor = dht.DHT22(Pin(2))
```

```
# Initialize Servo motor
servo = PWM(Pin(19))
servo.freq(50)  # Typical servo frequency

# Function to set servo angle
def set_servo_angle(angle):
    # Servo expects pulse width between 0.5ms to 2.5ms
    pulse_width = int((angle / 180) * 2000 + 500)
    duty = pulse_width * (65535 // 20000)
    servo.duty_u16(duty)

try:
    while True:
        # Check for motion
        if pir.value() == 1:
            print("Motion detected!")
            # Turn servo to 90 degrees
            set_servo_angle(90)



        # Read temperature and humidity from DHT22
        dht_sensor.measure()
        temp = dht_sensor.temperature()
        hum = dht_sensor.humidity()
        print(f"Temperature: {temp}°C, Humidity: {hum}%")

        if temp>30 or hum>60:
            print("Temperature High")
            # Turn servo to 90 degrees
            set_servo_angle(90)

        else:
            # Turn servo back to 0 degrees
            set_servo_angle(0)



        # Wait a bit before the next read
        time.sleep(2)
except KeyboardInterrupt:
    print("Program stopped by user")
```