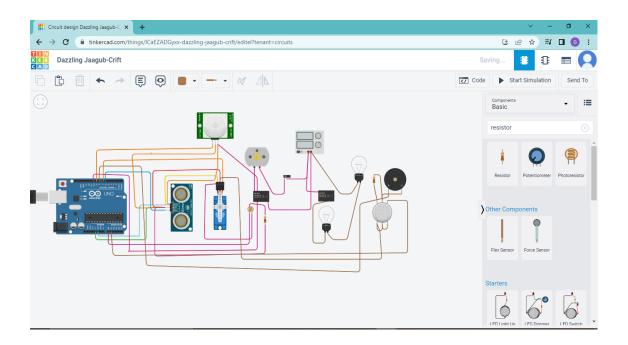
## SMART HOME AUTOMATION USING SENSORS



- As here intensity of light decreases bulbs are turns on and vice versa
- If someone enters in home fan will automatically turned on also we can control it manually with switch
- In home if LPG gas is leakage, the alarm circuit is activated and buzzer makes sound.

## **CODE**

```
#include <Servo.h>
int output1Value = 0;
int sen1Value = 0;
int sen2Value = 0;
int const gas_sensor = A1;
int const LDR = A0;
int limit = 400;
long readUltrasonicDistance(int triggerPin, int echoPin)
{
```

```
pinMode(triggerPin, OUTPUT); // Clear the trigger
 digitalWrite(triggerPin, LOW);
 delayMicroseconds(2);
// Sets the trigger pin to HIGH state for 10 microseconds
 digitalWrite(triggerPin, HIGH);
 delayMicroseconds(10);
 digitalWrite(triggerPin, LOW);
 pinMode(echoPin, INPUT);
 // Reads the echo pin, and returns the sound wave travel time in
microseconds
 return pulseIn(echoPin, HIGH);
Servo servo 7;
void setup()
 servo 7.attach(7, 500, 2500); //servo motor
 pinMode(8,OUTPUT);
                        //signal to piezo buzzer
 pinMode(8,OUTPUT);
pinMode(9, INPUT);
pinMode(10, OUTPUT);
pinMode(10, OUTPUT);
pinMode(4, OUTPUT);
pinMode(3, OUTPUT);
//Green LED
void loop()
    //----light intensity control----//
//----
   int val1 = analogRead(LDR);
 if (val1 > 500)
     digitalWrite(13, LOW);
   Serial.print("Bulb ON = ");
   Serial.print(val1);
    }
 else
    digitalWrite(13, HIGH);
    Serial.print("Bulb OFF = ");
   Serial.print(val1);
    }
//----
      //---- light & fan control -----//
//----
 sen2Value = digitalRead(9);
 if (sen2Value == 0)
     digitalWrite(10, LOW); //npn as switch OFF
     digitalWrite(4, HIGH); // Red LED ON, indicating no motion
```

```
digitalWrite(3, LOW); //Green LED OFF, since no Motion
detected
  }
 if (sen2Value == 1)
   digitalWrite(10, HIGH);//npn as switch ON
  delay(3000);
   digitalWrite(4, LOW); // RED LED OFF
   digitalWrite(3, HIGH);//GREEN LED ON , indicating motion
detected
   }
 delay(300);
//----
   // ----- Gas Sensor -----//
//----
Serial.print("|| Gas Sensor Value = ");
 Serial.print(val);
                         //Printing in serial
monitor
//val = map(val, 300, 750, 0, 100);
 if (val > limit)
   {
   tone(8, 650);
   delay(300);
   noTone(8);
//----
   //----- servo motor -----//
//-----
 sen1Value = 0.01723 * readUltrasonicDistance(6, 6);
 if (sen1Value < 100)
   servo_7.write(90);
  Serial.print(sen1Value);
 Serial.print("\n");
  }
 else
   {
   servo 7.write(0);
  Serial.print(sen1Value);
  Serial.print("\n");
 delay(10);
```