HOME AUTOMATION

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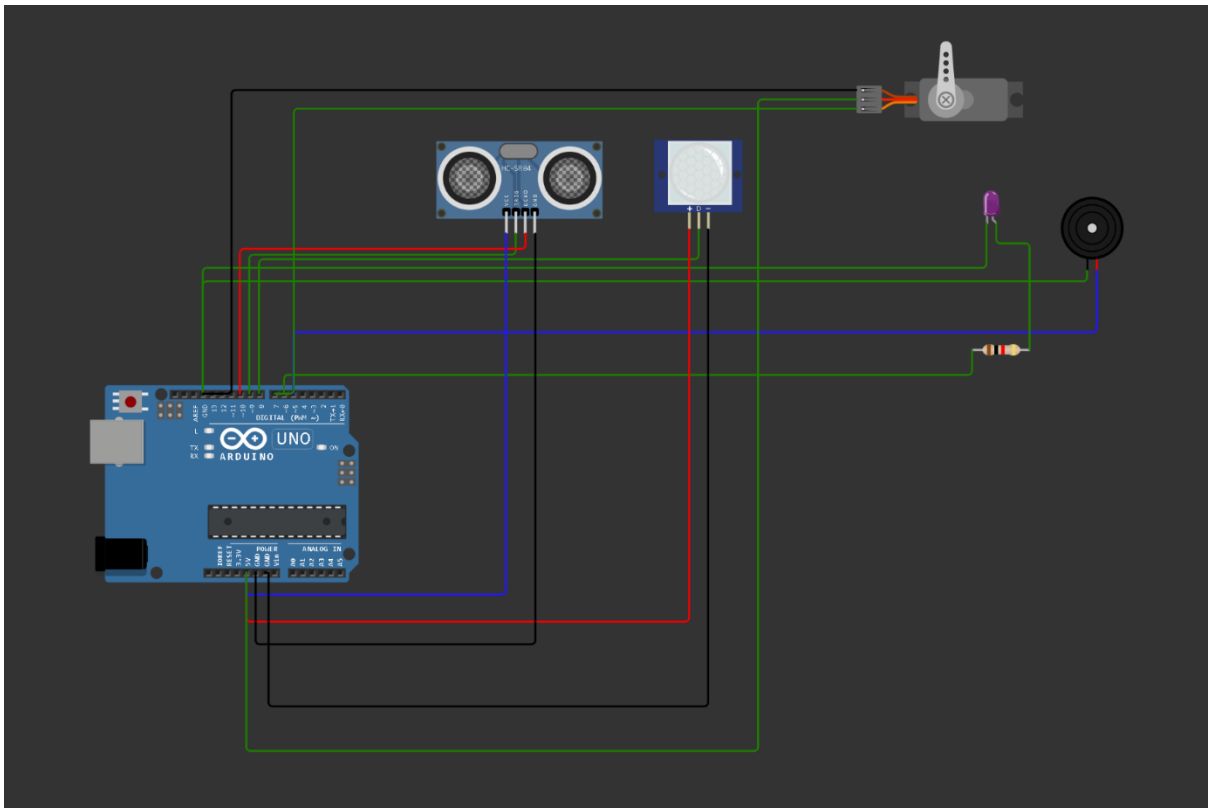

Sketch.ino

```
#include <Servo.h>

const int ultrasonicTrigPin = 9;
const int ultrasonicEchoPin = 10;
const int pirPin = 8;
const int servoPin = 7;
const int ledPin = 6;
const int buzzerPin = 5;

Servo myservo;

long duration;
int distance;

void setup() {
  pinMode(ultrasonicTrigPin, OUTPUT);
  pinMode(ultrasonicEchoPin, INPUT);
  pinMode(pirPin, INPUT);
  pinMode(ledPin, OUTPUT);
  pinMode(buzzerPin, OUTPUT);
  myservo.attach(servoPin);
  Serial.begin(9600);
}

void loop() {
  // Read distance from ultrasonic sensor
  digitalWrite(ultrasonicTrigPin, LOW);
  delayMicroseconds(2);
  digitalWrite(ultrasonicTrigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(ultrasonicTrigPin, LOW);
  duration = pulseIn(ultrasonicEchoPin, HIGH);
  distance = duration * 0.034 / 2;
  Serial.print("Distance: ");
  Serial.print(distance);
  Serial.println(" cm");

  // Move the servo motor to lock/unlock the door
  if (distance < 10) {
    myservo.write(90); // Unlock the door
  } else {
    myservo.write(0); // Lock the door
  }

  // Read motion from PIR sensor
  int pirValue = digitalRead(pirPin);
```

```
  // Turn on/off the light based on the motion value
  if (pirValue == HIGH) {
    digitalWrite(ledPin, HIGH);
  } else {
    digitalWrite(ledPin, LOW);
  }

  // Sound the buzzer if there is motion detected and the door is
closed
  if (pirValue == HIGH && distance < 10) {
    digitalWrite(buzzerPin, HIGH);
    delay(500);
    digitalWrite(buzzerPin, LOW);
    delay(500);
  }

  delay(500);
}
```

Diagram.json

```
{
  "version": 1,
  "author": "sandra grace",
  "editor": "wokwi",
  "parts": [
    { "type": "wokwi-arduino-uno", "id": "uno", "top": 49.54,
"left": -324.25, "attrs": {} },
    {
      "type": "wokwi-led",
      "id": "led1",
      "top": -157.2,
      "left": 577.11,
      "attrs": { "color": "purple" }
    },
    {
      "type": "wokwi-hc-sr04",
```

```
      "id": "ultrasonic1",
      "top": -199.41,
      "left": 29.77,
      "attrs": { "distance": "400" }
    },
    {
      "type": "wokwi-pir-motion-sensor",
      "id": "pir1",
      "top": -200.9,
      "left": 252.03,
      "attrs": {}
    },
    {
      "type": "wokwi-buzzer",
      "id": "bz1",
      "top": -150.73,
      "left": 667.98,
      "attrs": { "volume": "0.1" }
    },
    {
      "type": "wokwi-resistor",
      "id": "r1",
      "top": 8.12,
      "left": 577.42,
      "attrs": { "value": "1000" }
    },
    { "type": "wokwi-servo", "id": "servo1", "top": -301.13, "left":
459.27, "attrs": {} }
  ],
  "connections": [
```

```
    [ "ultrasonic1:TRIG", "uno:9", "green", [ "v21.78", "h-206.87" ]
],

    [ "ultrasonic1:ECHO", "uno:10", "red", [ "v15.79", "h-221.86" ]
],

    [ "pir1:OUT", "uno:8", "green", [ "v30.44", "h-375.18" ] ],

    [ "r1:1", "uno:6", "green", [ "v25.67", "h-546.95" ] ],

    [ "led1:C", "uno:GND.1", "green", [ "v37.44", "h-0.11", "v7.98",
"h-655.55" ] ],

    [ "bz1:2", "uno:5", "blue", [ "v62.65", "h-639.89" ] ],

    [ "bz1:1", "uno:GND.1", "green", [ "v10.77", "h-721.69" ] ],

    [ "led1:A", "r1:2", "green", [ "v20.48", "h27.8" ] ],

    [ "pir1:VCC", "uno:5V", "red", [ "v400.23", "h-58.92" ] ],

    [ "ultrasonic1:VCC", "uno:5V", "blue", [ "v368.61", "h-32.97" ]
],

    [ "ultrasonic1:GND", "uno:GND.2", "black", [ "v419.27", "h-
290.96" ] ],

    [ "pir1:GND", "uno:GND.3", "black", [ "v486.59", "h-449.13",
"v9.21" ] ],

    [ "servo1:GND", "uno:GND.1", "black", [ "h-638.65", "v312.86" ]
],

    [ "servo1:PWM", "uno:7", "green", [ "h-574.96", "v297.04" ] ],

    [ "servo1:V+", "uno:5V", "green", [ "h-100.46", "v664.8", "h-
495.2" ] ]

  ],

  "dependencies": {}

}
```