

VERZEO IOT PROJECT – HOME AUTOMATION

NAME – SOORYA RAM SHIMGEKAR

Home automation systems are advancement to the mechanization processes wherein human efforts are needed with the machinery equipment to operate various loads in homes. It involves automatic controlling of home appliances using different technologies and controllers over desktops, laptops smart phones or tablets.

It involves automatic controlling of all electrical or electronic devices in homes or even remotely through wireless communication.

MATERIALS REQUIRED:

Battery

Breadboard

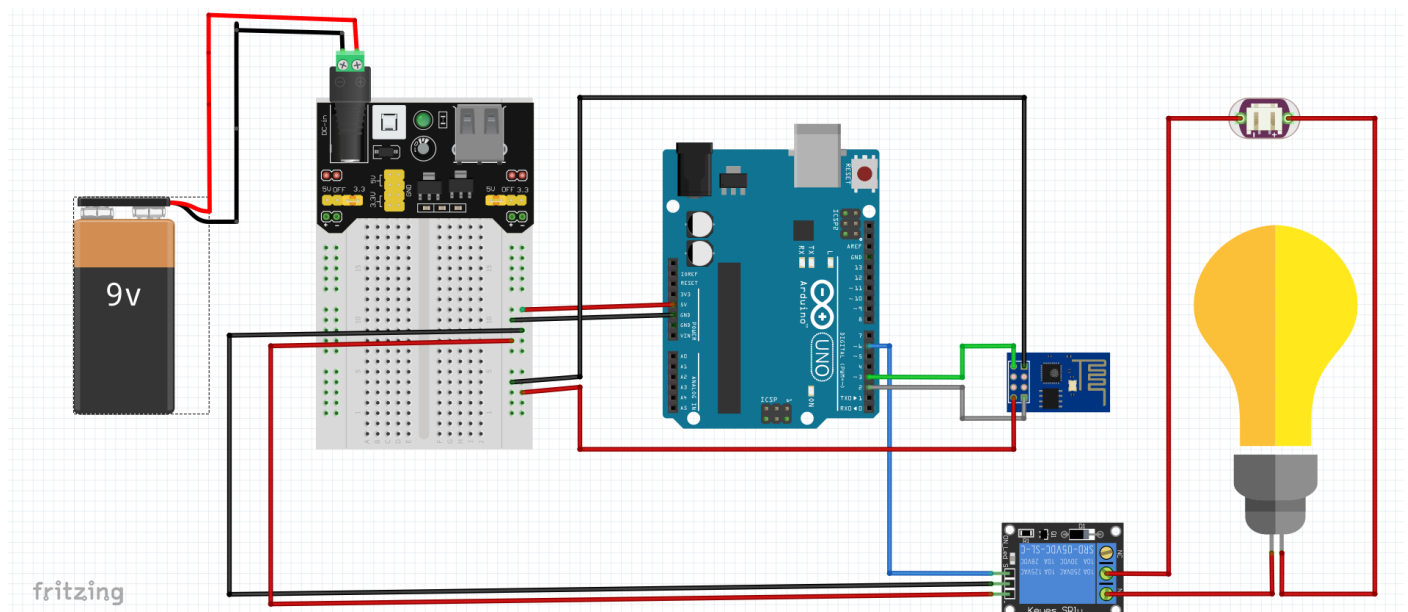
Arduino

Wi-Fi module

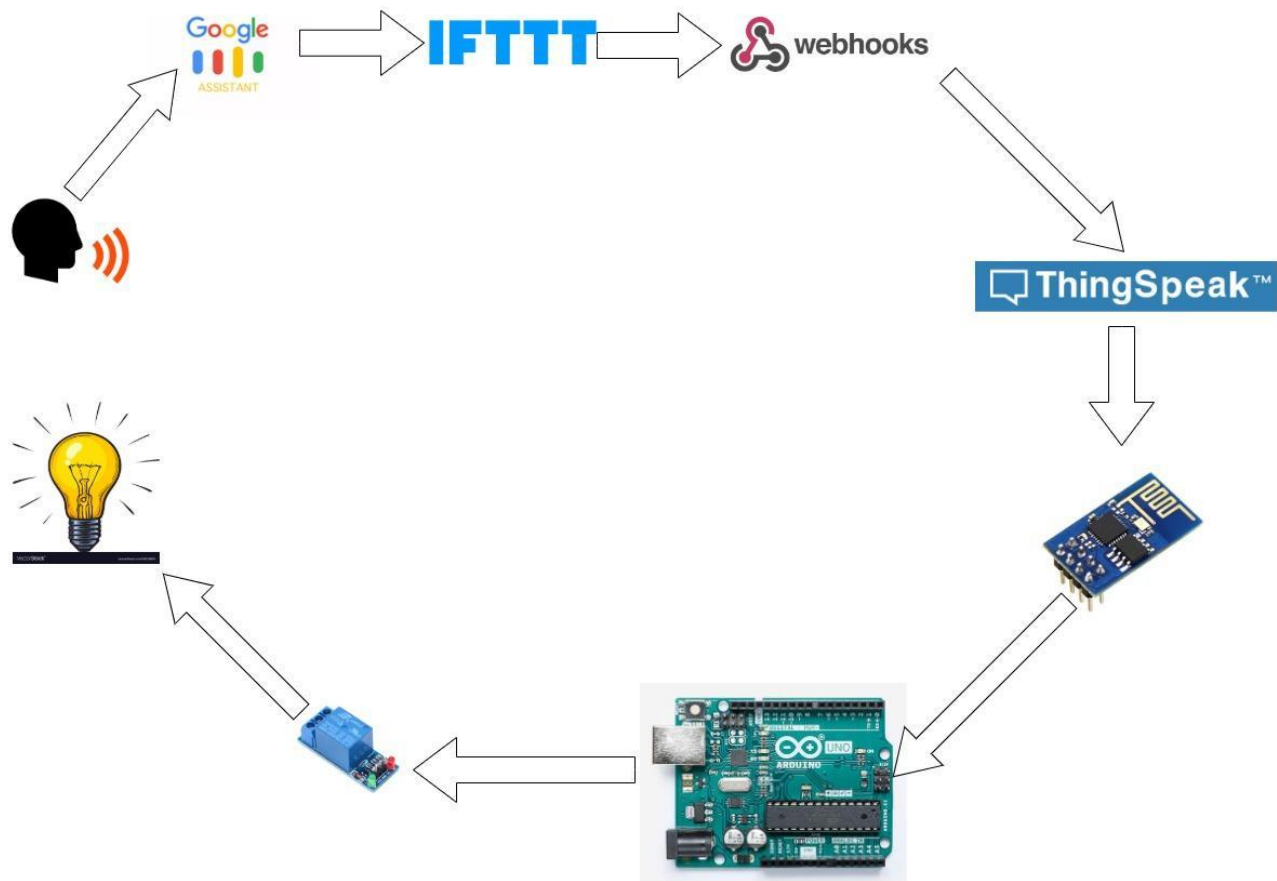
Sensors

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Circuit Diagram :-



Work-Flow Diagram :-



Code :-

```
#include <SoftwareSerial.h>

SoftwareSerial ESP(2,3);

String sendData =
"https://api.thingspeak.com/channels/1077533/feeds.json?api_key=QSR5LPNC0T7QSYRN&results=1"

String output = "";

#define Relay1 6

void setup()
{
  pinMode(Relay1,OUTPUT);
  delay(2000);
  Serial.begin (9600);
  delay(100);
  ESP.begin(9600);
  ESP_talk("AT+RST");
  ESP_talk("AT+CWMODE=1");
```

```

    ESP_talk("AT+CWJAP=\"Soorya\", \"soor1234\"");
    Serial.println("Wifi Connected");
    delay(1000);
}

void loop()
{
    output = "";
    String cmd = "AT+CIPSTART=\"TCP\", \"api.thingspeak.com\",80";
    ESP_talk("AT+CIPMUX=0");
    ESP_talk(cmd);
    delay(100);
    ESP_talk("AT+CIPSEND=91" );
    delay(100);
    ESP_talk(sendData,1000);
    delay(100);
    char incoming_value=output[126];
    Serial.print("incoming_value is : ");
    Serial.println(incoming_value);
    if (incoming_value == '0')
    {
        digitalWrite(Relay1,LOW);
    }
    if (incoming_value == '1')
    {
        digitalWrite(Relay1,HIGH);
    }
}

void ESP_talk(String AT_cmd)
{
    Serial.print("Sent: ");
    Serial.print(AT_cmd);
    ESP.println(AT_cmd);

```

```
Serial.println("");  
output="";  
while (ESP.available())  
{  
    char i = ESP.read();  
    output += i;  
}  
Serial.println("Received: ");  
Serial.print(output);  
}
```