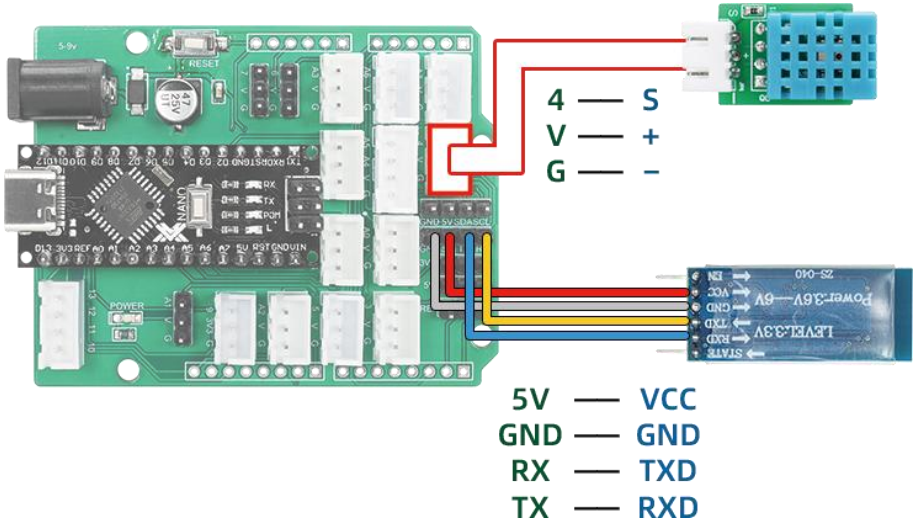
Project 26 - Bluetooth acquisition of temperature and humidity

1. project description

Through this project, you can learn how to use ZY -type-c Nano combined with a temperature and humidity sensor to obtain temperature and humidity . The function of this program is to obtain real-time temperature and humidity through Bluetooth device connection and display it on the APP .

2. Project wiring diagram



3. Download Arduino code

Please confirm that the dht.zip library has been installed. If not, please return to "Project 10" to see how to install the library.

Open the project Arduino code file (path: Project 26 Bluetooth Get Temperature and Humidity\project26\project26.ino)

Connect the main control board to the computer using USB, select the board type as Nano, select the newly displayed COM number, click "Download" to start compiling and downloading the program to the main control board. (At the same time, you should unplug the Bluetooth before downloading, and then plug the Bluetooth back in after the download is successful.)

Code analysis:

```
#include <dht.h>        //添加温湿度库    Add temperature and humidity library
#define DHT11_PIN 4     //定义温湿度传感器引脚4   Define temperature and humidity sensor pin4

dht DHT;                //实例化温湿度对象为DHT   Instantiate the temperature and humidity obj
struct SensorData {     //定义温湿度结构体变量    Define the temperature and humidity structur
    float temperature;
    float humidity;
};
```

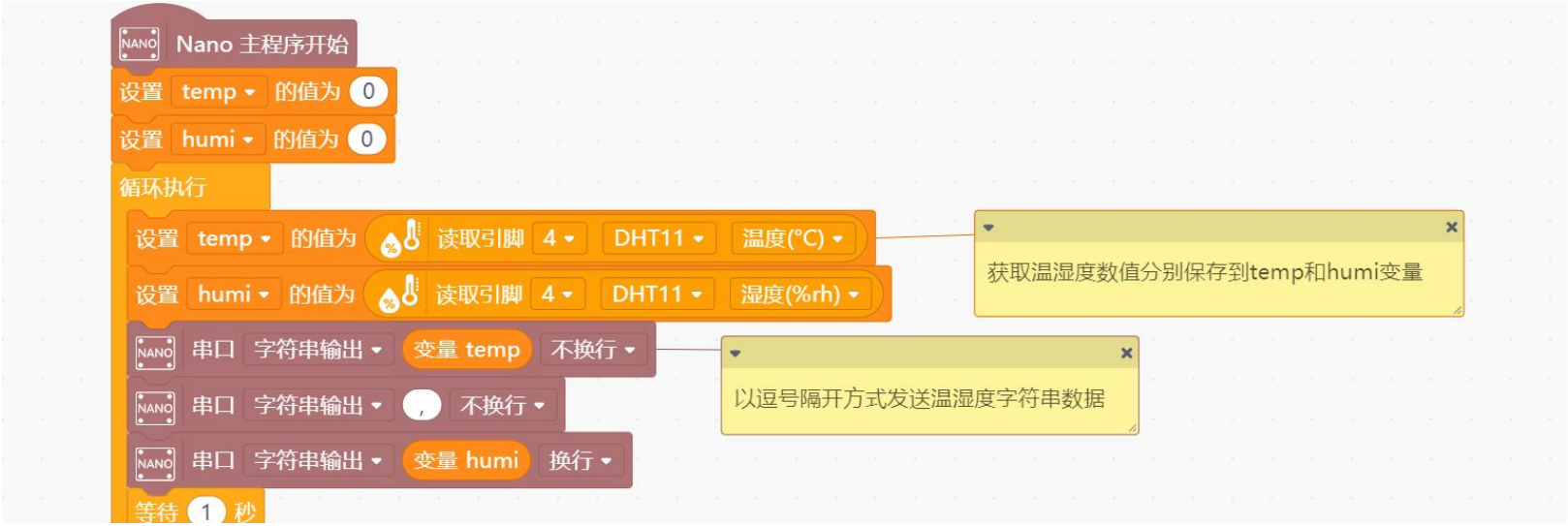
```
void setup()
{
  pinMode(DHT11_PIN, INPUT);
  Serial.begin(9600);
}

void loop()
{
  sendSensorData();     //调用温湿度显示函数    Call the temperature and humidity display function
  delay(1000);
}
/*
*蓝牙串口发送温湿度数据函数 sendSensorData()
*以字节方式发送
*/
void sendSensorData() {
    int chk = DHT.read11(DHT11_PIN);
    SensorData data = { DHT.temperature, DHT.humidity };    //采样温度和湿度数据   Sample temperatu
    String dataString = String(data.temperature, 1) + "," + String(data.humidity, 1);   //保留一位
    Serial.println(dataString);       //发送温湿度数据     Send the data string
}
```

4. Download Mind+ graphical code

Open the project Mind+code file (path: Project 26 Bluetooth acquisition of temperature and humidity\Bluetooth control temperature_humidity.mp)

Connect the main control board to the computer with a USB cable and select the newly appeared CH340 serial port COM number. Click "Upload to Device" to complete the code upload.

Complete code:



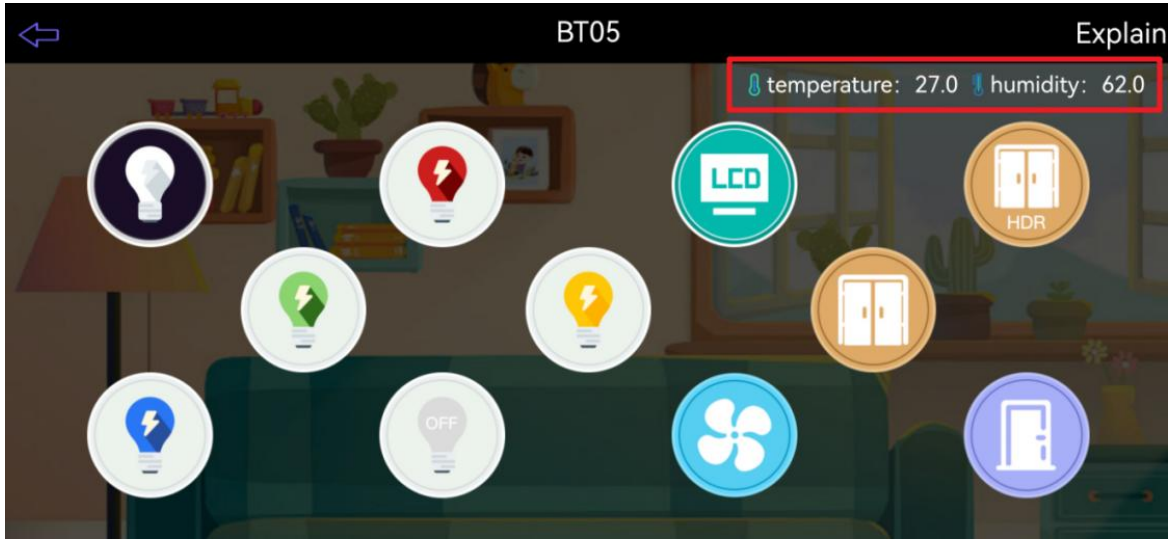
5. Operation on APP

5.1 Please confirm that TSCIBUNY.apk APP has been installed. If not, please go back to item 23 to see how to install the APP. Android users send "TSCINBUNY.apk" to their mobile phones and install it. There may be a newer version of the software when you see this tutorial. When prompted to upgrade, please allow the upgrade and keep your phone connected to the network.

For ios device users, please open the App Store, search and install TSCIBUNY

5.2 TSCINBUNY remote control APP enters the project interface

successfully connecting to Bluetooth , enter the project. This project is 26, so please select the third column. (How to search and connect Bluetooth? Please see item 23)



Project effect: The ambient temperature and humidity are updated every second and displayed in the upper right corner of the APP.