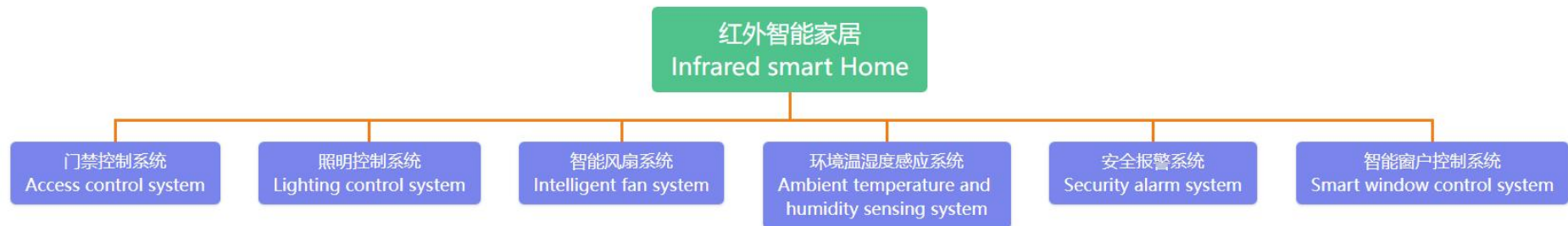


Project 30-Infrared remote control smart home system

1. project description

After studying the previous projects, I have mastered the use of various devices. This project uses infrared receivers, remote controls and corresponding devices to create a smart infrared remote control home system.

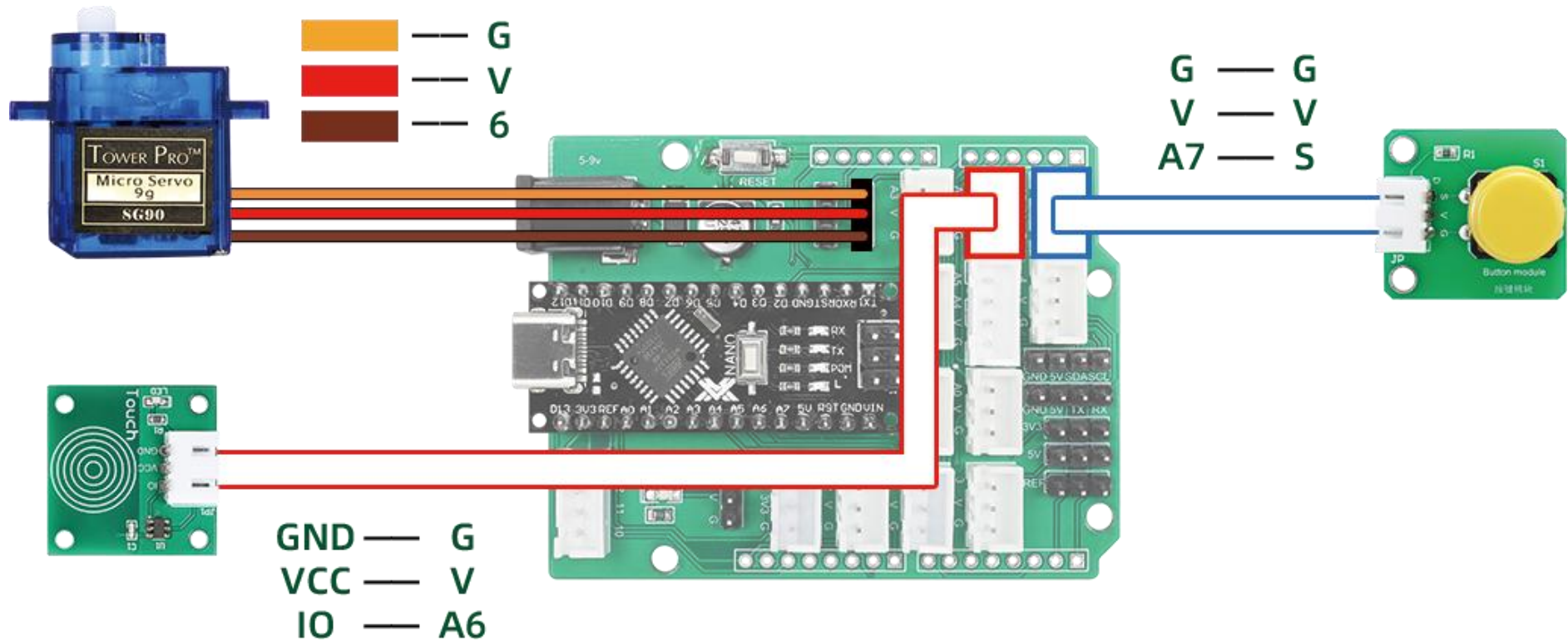
2. Features





3. Project wiring diagram

The wiring diagram of this project does not need to connect other devices except Bluetooth, which is the same as the wiring in the assembly manual. Remove the Bluetooth wiring as shown below.

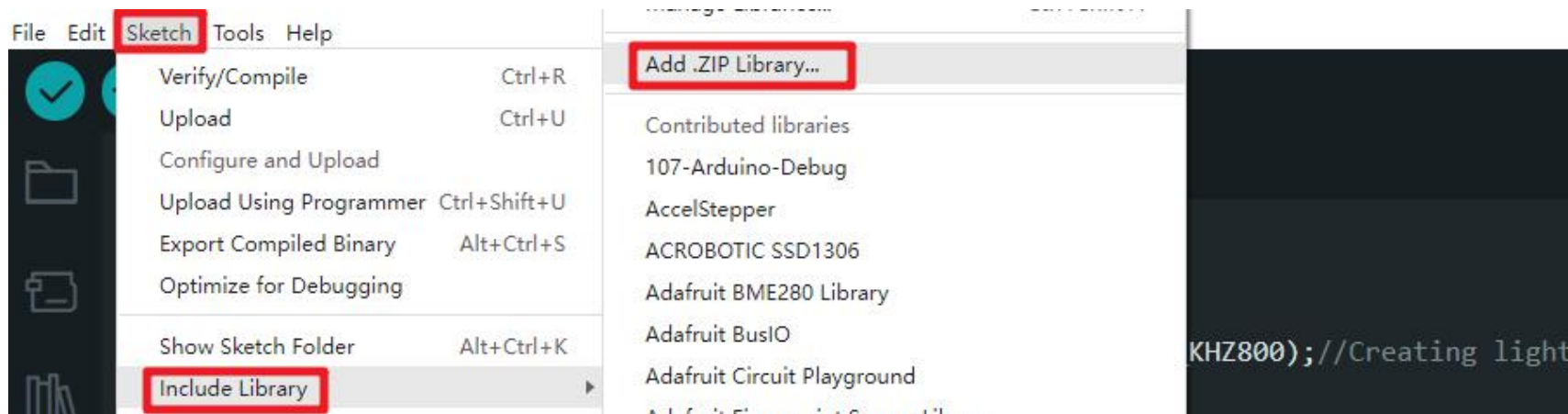


4. Download Arduino code

Make sure that all library files have been added, otherwise the program will fail to compile. If the corresponding library has been added in the previous project, there is no need to add it here.

When an error occurs and a library file is missing, please follow the steps below to add the corresponding library.

In the Arduino IDE, navigate to Sketch > Include Library > Add .ZIP Library and at the top of the drop-down list, select the "Add .ZIP Library" option.



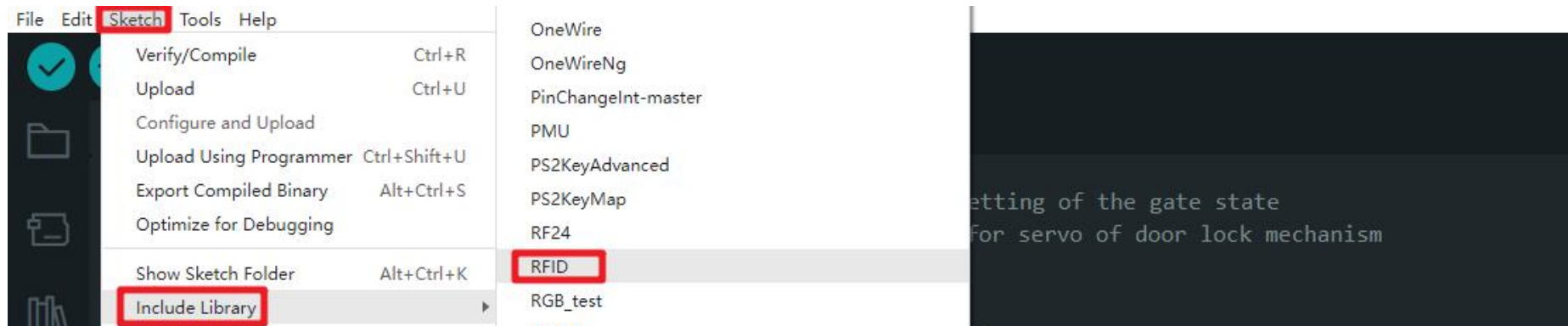
The system will prompt you to select the library to be added. Navigate to the path folder "Libraries-Library" on your computer where the library file is saved (here, we take the installation of the RFID.zip library as an example. The same

applies to other library installations), and select and open it to add.

YA0209-CN

名称	修改日期	类型	大小
 Libraries-库	2023/10/13 9:18	文件夹	
 项目 1 创建开发环境	2023/10/13 9:30	文件夹	
 项目 2 LED 闪烁	2023/10/13 9:15	文件夹	
 项目 3 按键控制 LED	2023/10/13 9:19	文件夹	
 Adafruit_NeoPixel-1.4.0.zip	2023/4/27 14:13	WinRAR ZIP 压缩...	69 KB
 dht.zip	2023/4/27 13:47	WinRAR ZIP 压缩...	24 KB
 IRremote.zip	2023/8/1 16:31	WinRAR ZIP 压缩...	922 KB
 LiquidCrystal_I2C.zip	2023/4/27 13:47	WinRAR ZIP 压缩...	22 KB
 RFID.zip	2023/4/13 17:47	WinRAR ZIP 压缩...	9 KB
 Servo.zip	2023/10/9 17:58	WinRAR ZIP 压缩...	120 KB

After the addition is completed, you can see the library in the library list.



Add all libraries in the same way, and then download the project program. (This project does not support Bluetooth, you should unplug Bluetooth before downloading)

Then open the project Arduino code file (path: Project 30 Infrared Smart Home System\project30\project30.ino)

project30	2023/10/12 16:50	文件夹	
Infrared smart home system.mp3	2023/10/12 17:42	MP 文件	2,446 KB
项目 30 红外智能家居系统.docx	2023/10/13 11:37	DOCX 文档	1,274 KB

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. (Sometimes because there are many sensors, using only USB power supply will cause insufficient power supply to the control board and cause burning failure. In this case, please keep the battery box powered before burning. At the same time, you should unplug

Bluetooth before downloading, and then restart after the download is successful. Plug it back in.)

(At the same time, the serial number corresponding to the access card obtained by each person in the code will be different. Please refer to Project 21 How to modify the serial number)

```
11 unsigned char str[MAX_LEN];    //MAX_LEN is 16: size of the array
12
13 String accessGranted [2] = {"210101368113", "96111131033"}; //Rfid serial number authorized access
14 int accessGrantedSize = 2;    //Number of serial numbers
15 Servo lockServo;             //Locking mechanism servo
16 int lockPos = 10;            //Lock position limitation
17 int unlockPos =90;           //Limit of unlock position
18 boolean locked = true;
```

Infrared remote control operation:

①打开LCD屏/Open the LCD screen

②关闭LCD屏/Turn off the LCD screen

⑦打开门锁/Open the door

⑧锁门/Turn off the door

0 : 自动窗户开关
Automatic window switch

OK : 关闭RGB灯
Turn off RGB lights



③打开风扇/Open the window

④关闭风扇/Close the window

⑤打开窗户/Open the window

⑥关闭窗户/Close the window

▲ 白色灯/White light

▼ 红色灯/Red light

◀ 绿色灯/Green light

▶ 蓝色灯/Blue light

5. Download Mind+ graphical code

Open the project Mind+ code file (path: Project 30 Infrared smart home system\Infrared smart home system.mp)

 project30	2023/10/13 14:01	文件夹	
 Infrared smart home system.mp	2023/10/13 18:06	MP 文件	2,446 KB
 项目 30 红外智能家居系统.docx	2023/10/13 18:09	DOCX 文档	1,322 KB

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.

Programming analysis:

Similarly, the attached code of this project has integrated the required library files and can be used directly after burning. If you want to create a new file by yourself, program it from scratch and then burn it, you need to re-add the necessary library files. For example, this comprehensive project still uses the access control card reader RFID.zip library (please refer to Project 21 for how to add this library). At the same time, click "Expand" and select various major libraries to add the required libraries.



When the library is successfully added, you can see all building block module categories displayed on the left:



The code contains a total of 10 functions, which perform different functions according to the infrared remote control signal.

