3.5 iOS APP control

1. Learning goals

In this lesson, we will learn to use the APP control the building blocks balance car.

2.Programming method

Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: **http://microbit.org/** to enter the programming interface. Add the Yahboom package https://github.com/lzty634158/SuperBit to program.

Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】, add Yahboom package: https://github.com/lzty634158/SuperBit, you can program.

3.Assembly steps

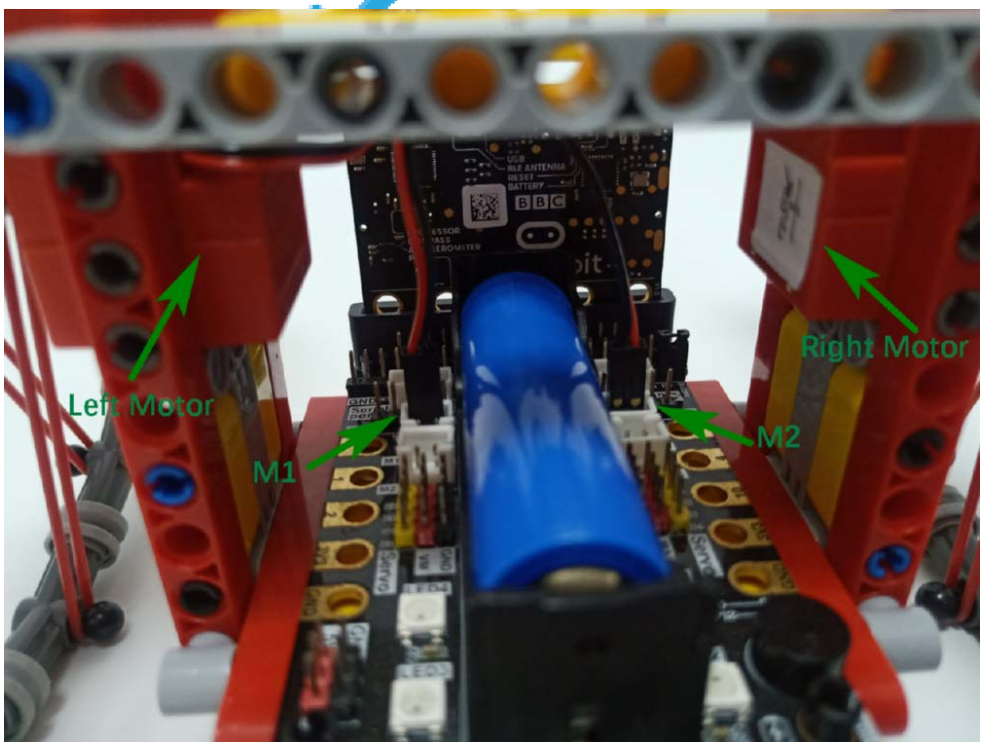
Please refer to the **[Tumblebit Assembly Steps]**

4.About wiring

The motor wiring on the left side of the building block balance car is connected to the Super:bit M1 interface, and the black wire is on the battery side.

The motor wiring on the right side of the building block balance car is connected to the Super:bit M3 interface, and the black wire is on the battery side.

As shown below:

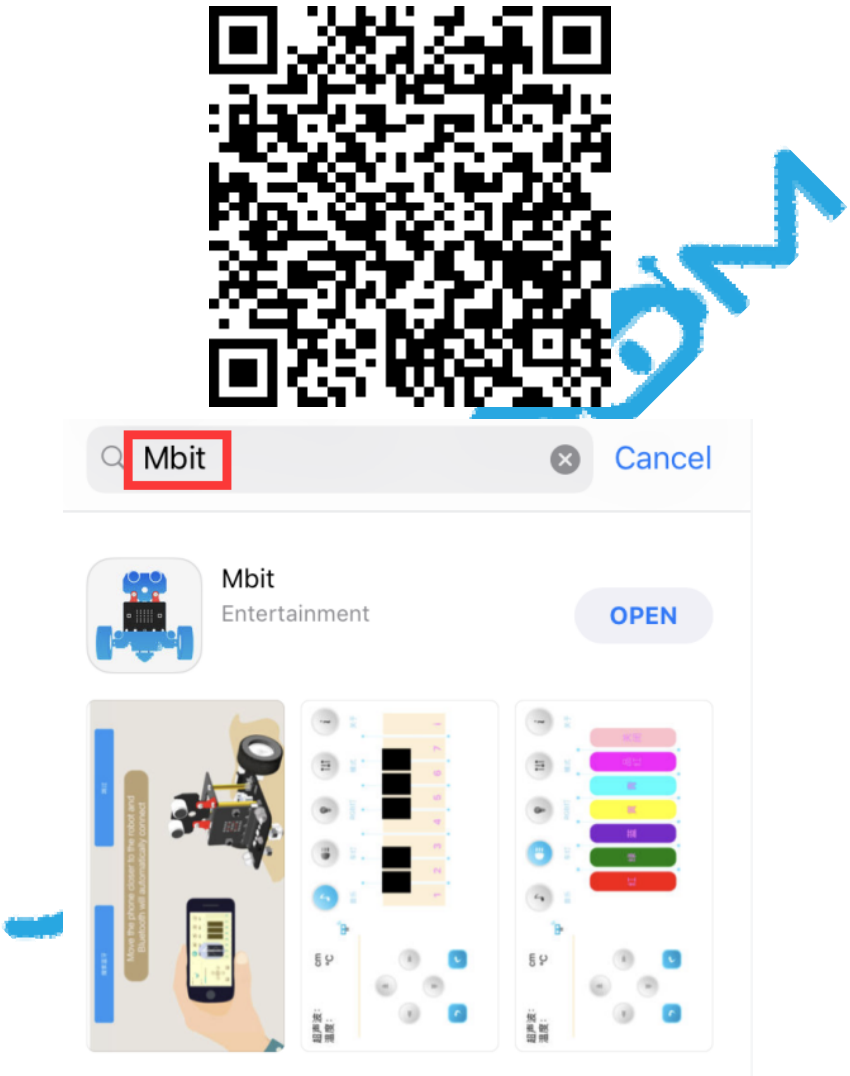


5.About code

Please refer to the **microbit-Tumblebit-APP-control.hex** file of this experiment.

6.Download APP

Apple please use camera to scan the QR code to enter the APP Store to download and install or search for "**Mbit**" or "**Yahboom**" in the APP Store. As shown in figure below.



Note:

1)If there are any prompts on the phone during installation, please select "Yes".

2)open all permissions in App management, otherwise Bluetooth will not be c onnected.

7. Connect Bluetooth

7.1 After we download code into micro:bit, we can see micro:bit LED matrix will display a “S” pattern. As shown in Figure 1.1. This is a state where Bluetooth is

not connected.

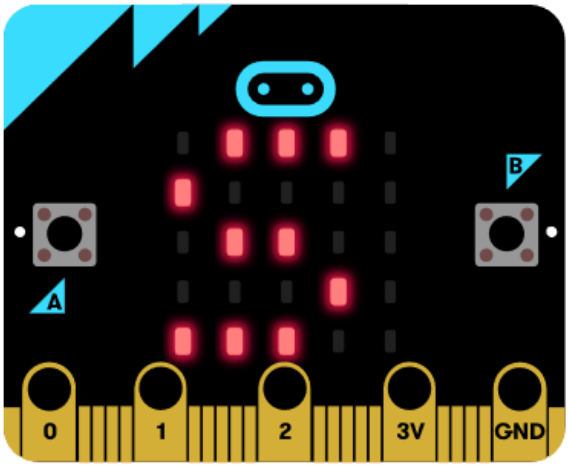


Figure 1.1

7.2 Open the Bluetooth of your phone, and open the APP. You will see the Bluetooth APP interface, as shown in Figure 1.2.

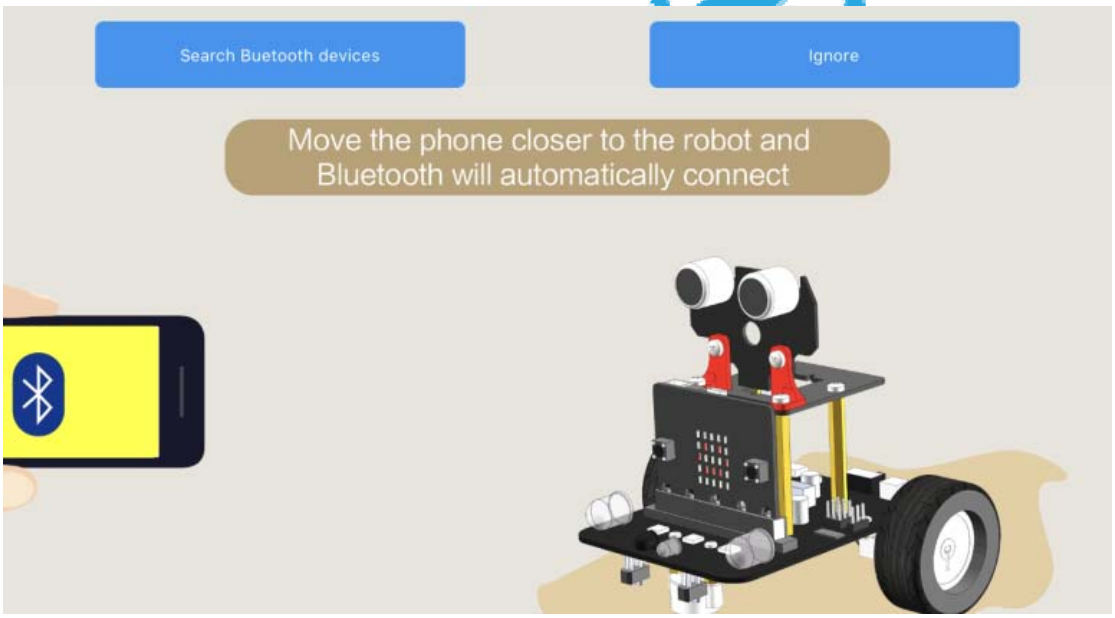


Figure 1.2

7.3 The phone will automatically connect to the Bluetooth near the car. If there is no automatic connection, you need to click **【Search Bluetooth devices】** on the APP interface. As shown in Figure 1.3. Then, Bluetooth can be successfully connected, and the APP will enter the interface as shown below. As shown in Figure 1.4.

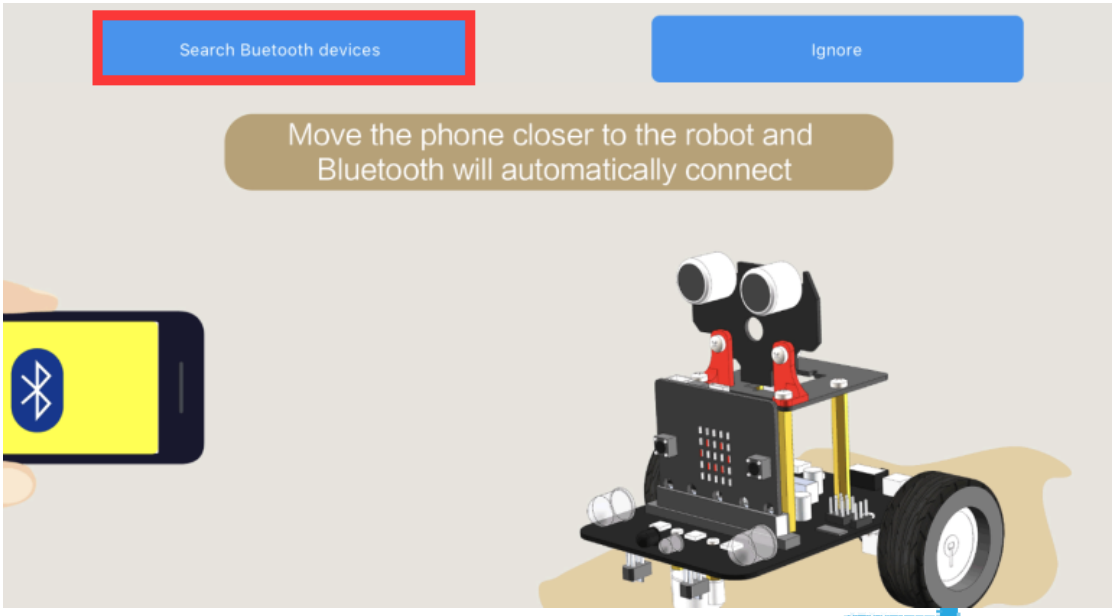


Figure 1.3

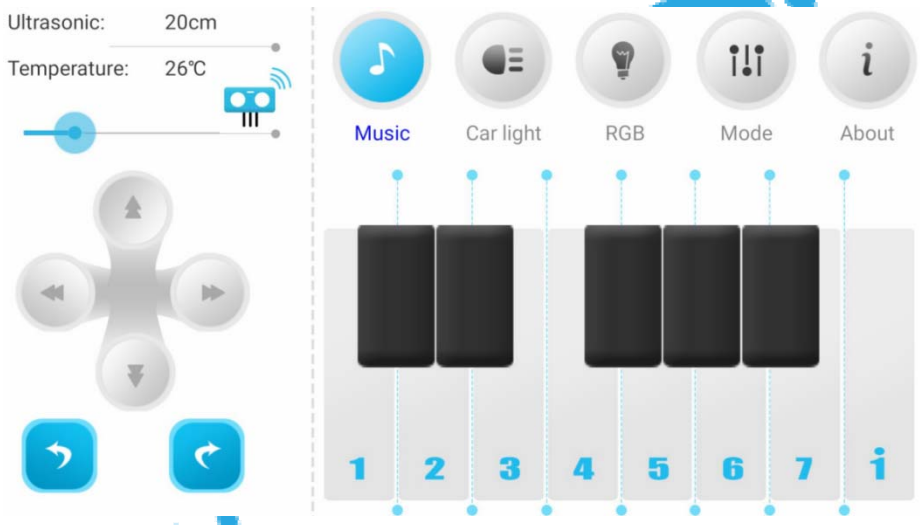


Figure 1.4

7.4 After the Bluetooth is connected successfully, the “smile”pattern shown in Figure 1.5 will be displayed on the dot matrix.

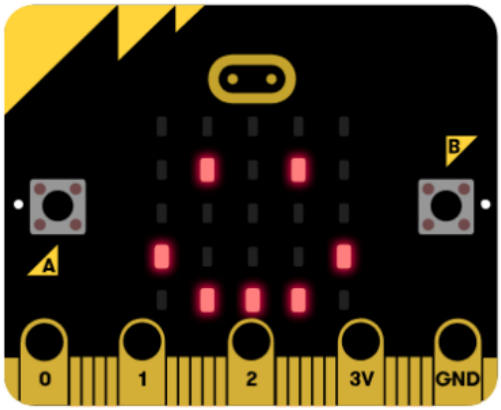


Figure 1.5

If the Bluetooth is disconnected, a pattern of “crying” will appear on the dot matrix. As shown in Figure 1.6.

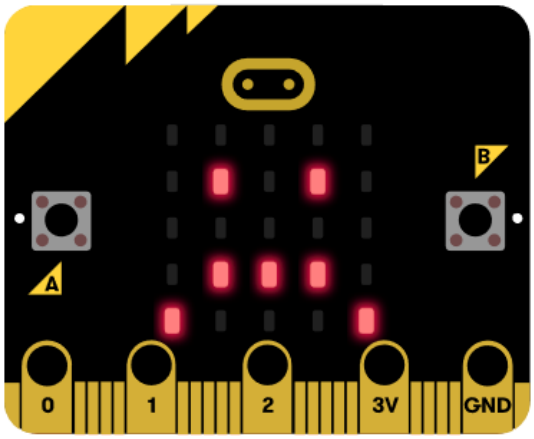
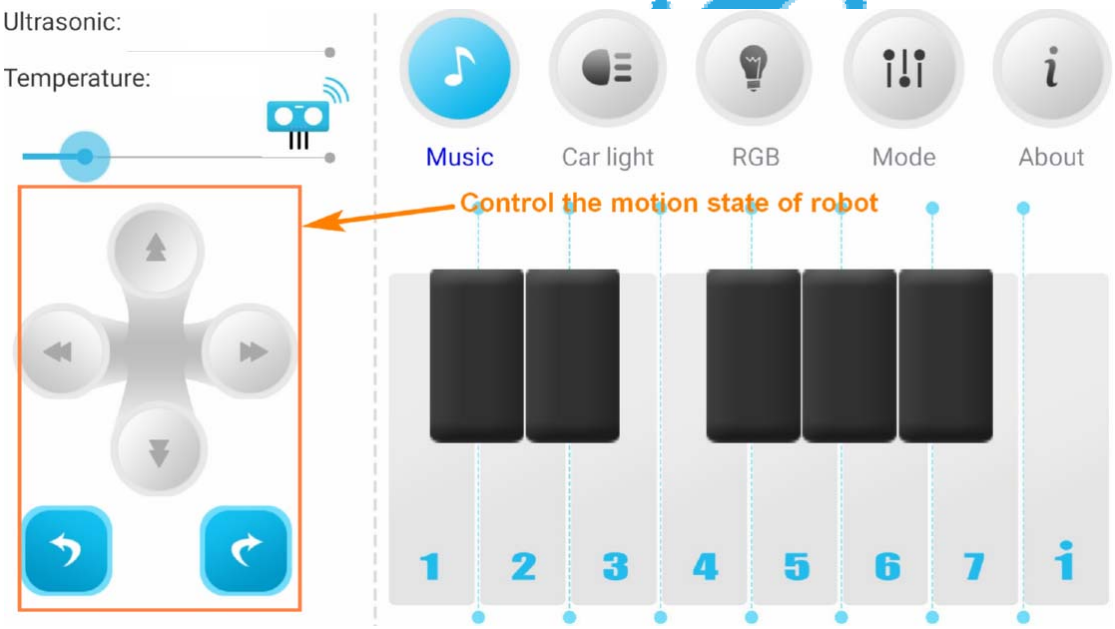


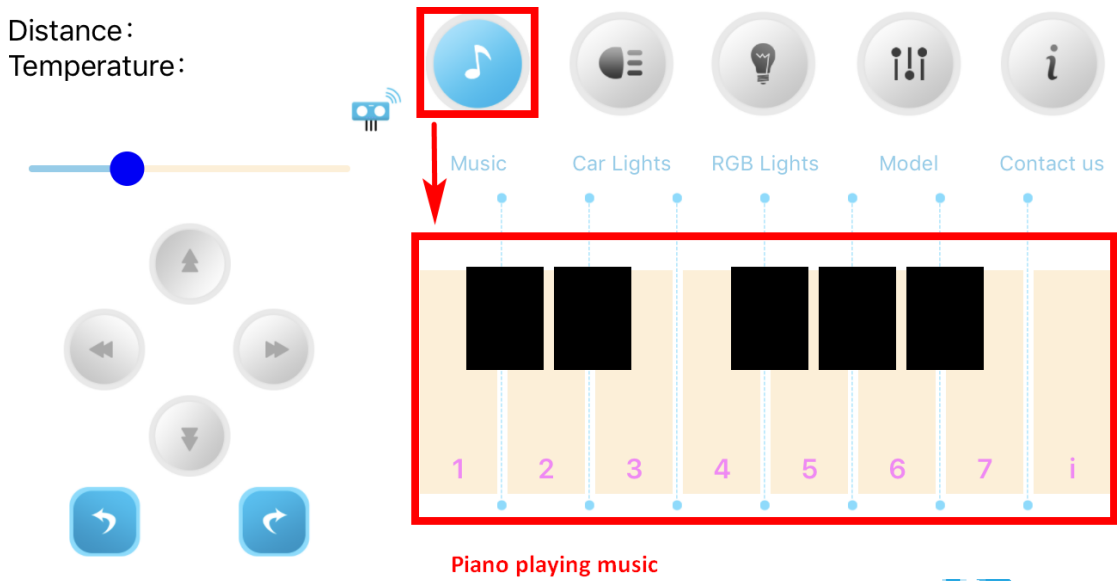
Figure 1.6

8. About APP

8.1 Basic :



8.2 Music

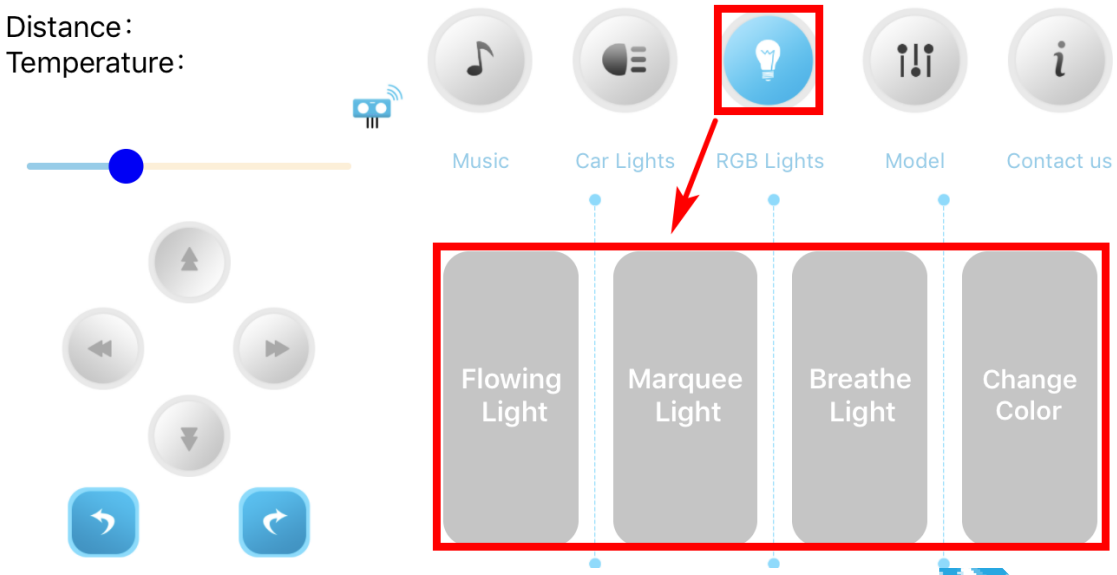


Piano playing music

8.3 Car Lights

Change the color of the lights

8.4 RGB lights



!!!Note: Mode option is unavailable. Distance and Temperature display is unavailable.