Qtruck

Catalog

Warming tips

1.When the robot moves, please keep yourself at a safe distance from accidental injury.

2.When the robot moves, please keep your fingers away from the range of motion from getting hurt.

3.Please remember to put the robot on a smooth ground if you want to use it.

4.Please remember to turn off the switch to prevent the servo from burning out if there is something wrong with servo, such as shivering or locked-rotor.

5.Please don't forcibly twist the joint when the robot is powered on so as not to cause joint damage caused by that.

6.Please be careful to prevent it from falling from a high place. We will not responsible for the damage caused by that.

7.If you find the robot moving unsteadily, you can check the capacity of battery, please remember to charge it when the battery is running out.

8. If you find the individual servo doesn't work while you are controlling the robot, please check the servo wire whether it is loosing or not.

9. After keeping running for over 15 min, please remember to make our robot take a reset .

10. If you still have any questions, please feel free to contact us at support@lewansoul.com.

1   Introduction

1.1 Product introduction

Qtruck is a programmable robot kit powered by micro:bit. It integrated with many sensors and electronic modules. Qtruck is 4-in-1 Robotic kit, which means it has four differences configurations. It can make your learning process interesting in robotic area.

It is convenient to learn and use, we provide detailed tutorials to users. Each gameplay is matched with detailed course to make programming learning easier.

1.2 Features

1. 4-pin 1Robot Kit

There is 4-pin 1Robot kit, each with a different function. Users can learn micro:bit programming and electronic knowledge through it.

2.micro:bit expansion board

It is integrated with RGB colored light, sound sensor, buzzer and other electronic devices, as well as sensor extended connector, motor output port and servo connector we can create more wonderful projects.

3.Creative gameplay

We provide users with 12 sections to learn about electronics and programming knowledge.

4.Mobile App control

APP built-in two working mode: Joystick mode and Gravity mode

5.Compatible with LOBOT series sensor

Qtruck robot is compatible with multiple sensors so that it can achieve lots of functions.

6.PC online programming

7.Detailed tutorial

2　Main assembly

2.1 Product list

Robot bracket kit	1set	Rubber track	2pc	Micro:bit board	1pc
Micro:bit expansion board	1pc	18650 Lithium battery	1pc	Line sensor	1pc
Ultrasonic sensor	1pc	4PIN sensor wire	2pc	Current motor	2pc
Anti-blocking servo(metal shaft)	1pc	Anti-blocking servo(plastic shaft)	2pc	USB cable	1pc
Ultrasonic acrylic bracket	1pc	Acrylic cover plastic	1pc	M3 spanner	1pc
Screwdriver	1pc	Screws and copper column	1set	Winding wire	1pc

2.2 Assemble of Qtruck

We provide detailed video to user and show how to assemble the Qtruck.

Link	QR code
http://bit.ly/2Ut4Jvc	

2.3 Product parameters

Programming method	micro:bit(JavaScript) Link:https://makecode.microbit.org
Input	Sound sensor, ultrasonic sensor ,line sensor, brightness sensor, electronic compass, accelerometer sensor, temperature sensor.electronic compass
Output	Buzzer, RGB light, 2 motor port, 6 servo port, 5×5 LED dot matrix
Communication Interface	USB , Bluetooth
Running time	About 2 hours
Controller	micro:bit
Power supply	3.7V lithium battery
Product size	250*150*100mm
Product weight	1000g

2.4 Tutorial

We provide detailed video to user. Please refer to the link and QR code.

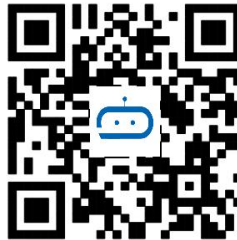| Link	QR code
http://bit.ly/2Ut4Jvc	

3　Mobile phone APP

3.1 Overview

1. We provide Android APP to user. It is convenient for you to control the robotic.

2. The default installation is Bluetooth so that you can use the cell phone control the Qtruck directly.

3. If you want to learn more about Qtruck. Here are the link and QR code about it.

Link	QR code
http://bit.ly/2HqrXyj	

3.2 Download Mobile APP

Here are the link and QR code concerning mobile phone app of Qtruck

Types	Android System
http://bit.ly/2HqrXyj	

3.3 The introduction of mobile APP

(1) First make sure to import the Bluetooth Hex file in the Bluetooth control program of the package to the micro:bit.
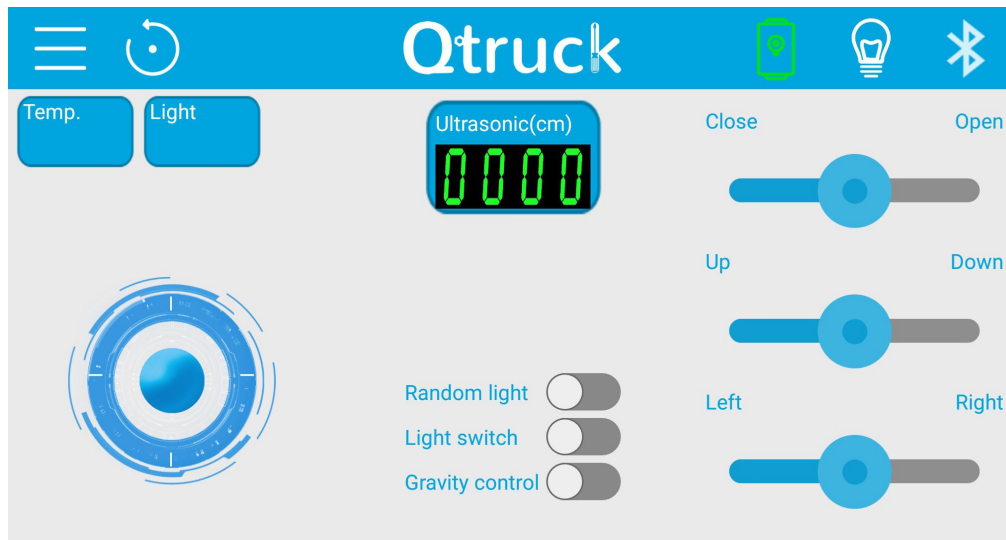
Download process:

1. Connect micro:bit to the computer by the USB cable, and the USB flash drive icon will appear in the computer interface:
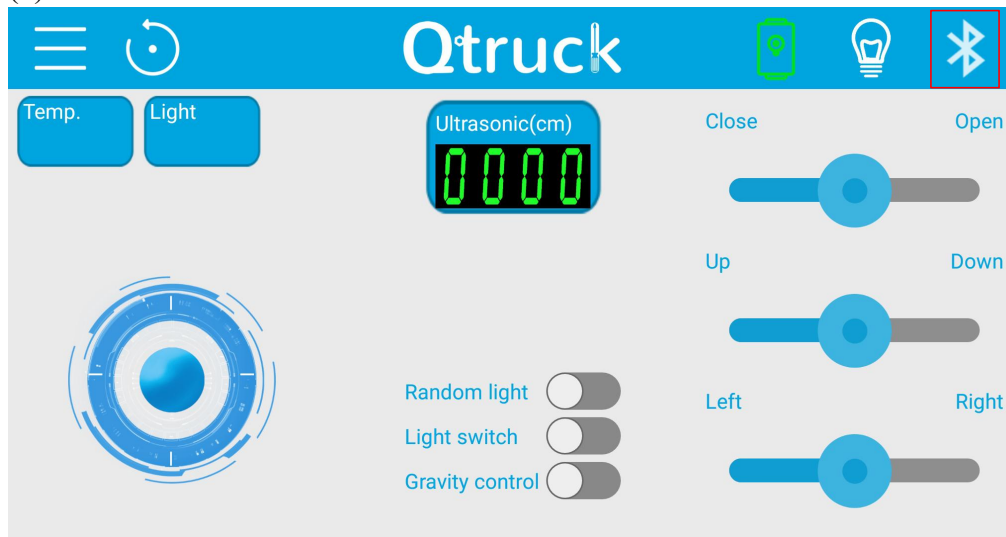
MICROBIT (F:)

8.03 MB 可用，共 8.05 MB

2.Then open micro:bit disk and drag the microbit-Bluetooth.hex files in disk.
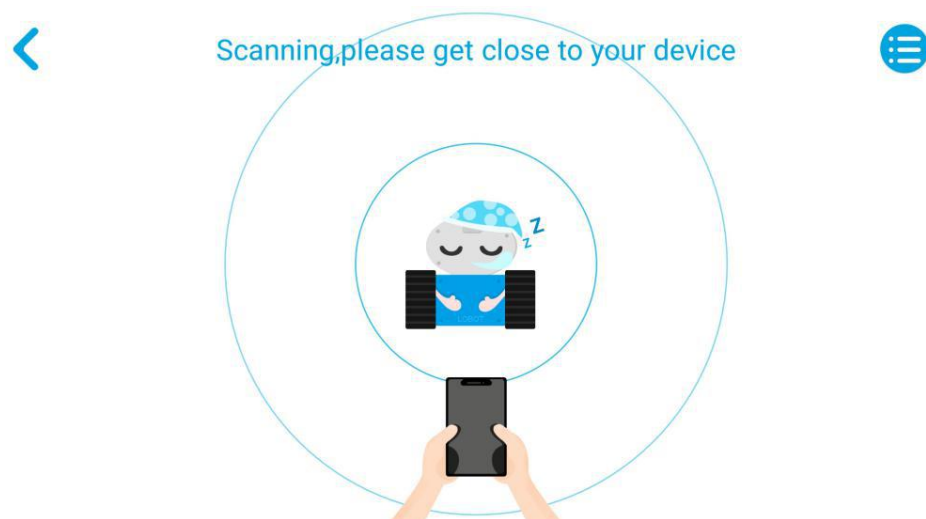
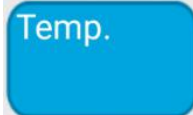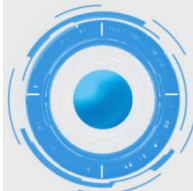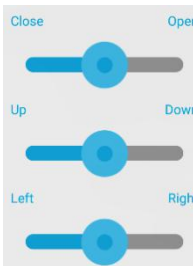(2) Double click LOBOT:bit on your phone and open the interface

(3) This is the Bluetooth icon

(4)Please turn on the switch on the expansion board. Then click it we can see this page, then get close to your Qtruck to connect.(Please remember using the bluetooth inside our phone app rather than using the one of the system.)


(5)Here is a introduction of the APP:

Temp.	The temperature of the surroundings of the Qtruck.
Light	The light intensity of the surroundings of the Qtruck.
	You can control the control the Qtruck forward,backward,turn left and turn right.
Ultrasonic(cm) 0000	It is ultrasonic sensor, measuring the distance from the ultrasonic sensor to the object in front of it. The length of the object can be visually seen on the phone.
Random light	Random light switch
Gravity control	Gravity controlled switch
Light switch	Colored light switch
	Click the icon, you can decide any color that you want.
Close / Open, Up / Down, Left / Right	Here are four mini-bubbles. They are used to control the conditions of four corresponding micro servos. For instance, drag the slider to the interface to adjust the position. The rudder of the servo will forward/backward/close/open with the control.

(6) There are two control model: servo model and colored model. You can click this icon to switch.
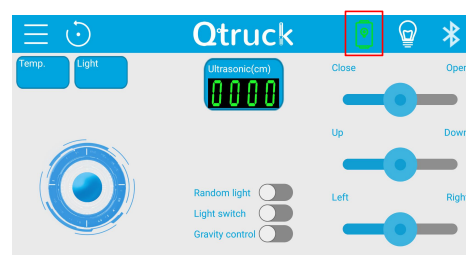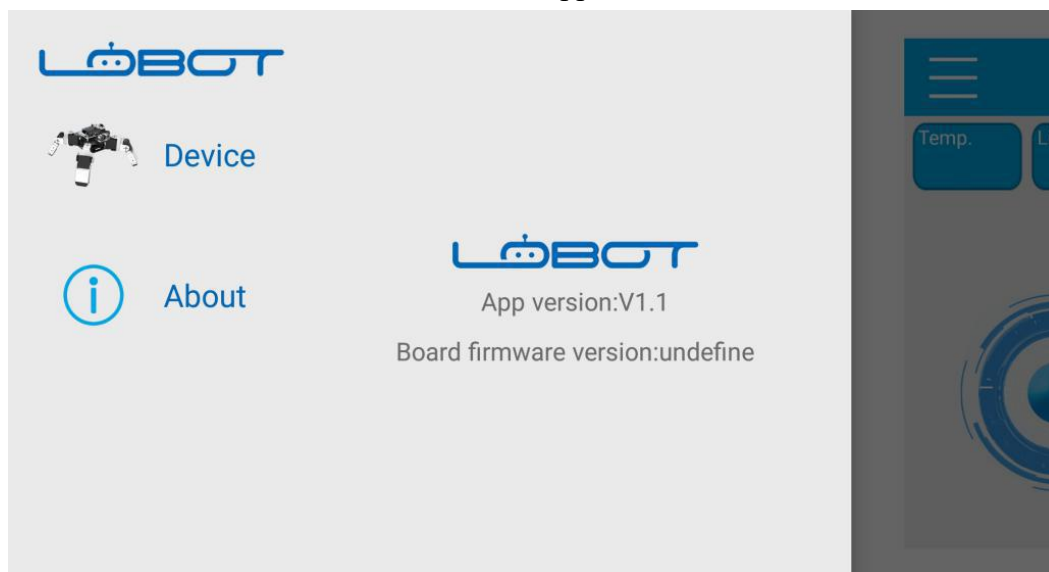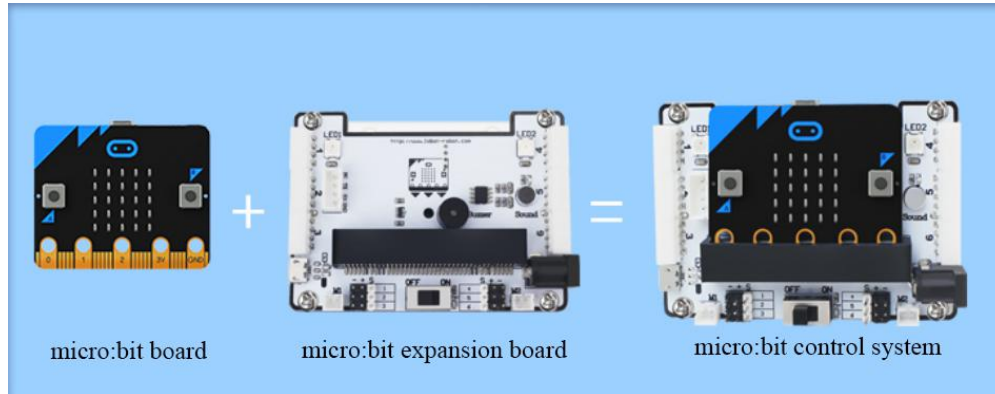
(7)If you click , you will see the screen shown below:
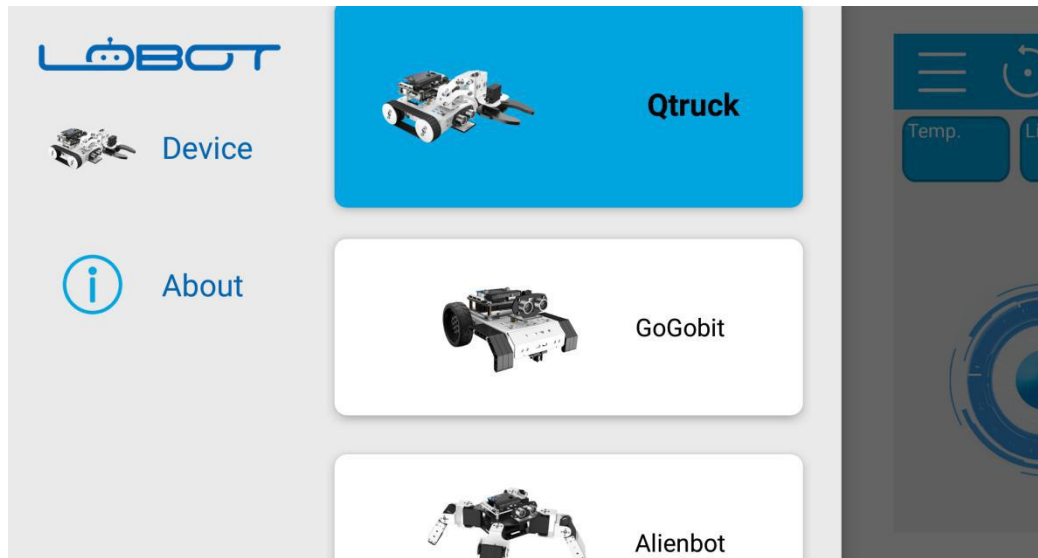
Device: you can control other product by this app
About: it will show the version about the App

4   Control system

Qtruck control system: micro:bit + micro:bit expansion board

micro:bit board   micro:bit expansion board   micro:bit control system

4.1 Micro:bit introduction

micro:bit is a Microcomputer development board designed by BBC for teenagers' programming education, which also developed by Samsung, ARM, Lancaster University and etc. Currently, it is operated and promoted by Micro:bit Foundation around the globe.
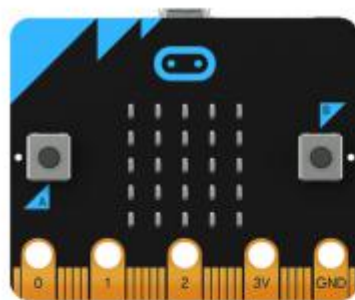
Front

Back

Easy Operation

From primary school to university, easy to learn, with infinite possibilities.

Change Your Life

About 90% students who used Micro:bit said that it makes them realized that everyone can program.

Unique Charm

About 86% students recognized that Micro:bit makes computer science more fun

4.2 Micro:bit expansion kit

In order to make good use of the micro:bit board, we have developed the

expansion board. It is integrated with RGB colored light, sound sensor, buzzer and other electronic devices, as well as sensor extended connector, motor output port and servo connector. These 6 sensor connectors are compatible with all LOBOT series sensors. The four holes on the expansion board are compatible with LEGO bricks so that we can create more wonderful projects.
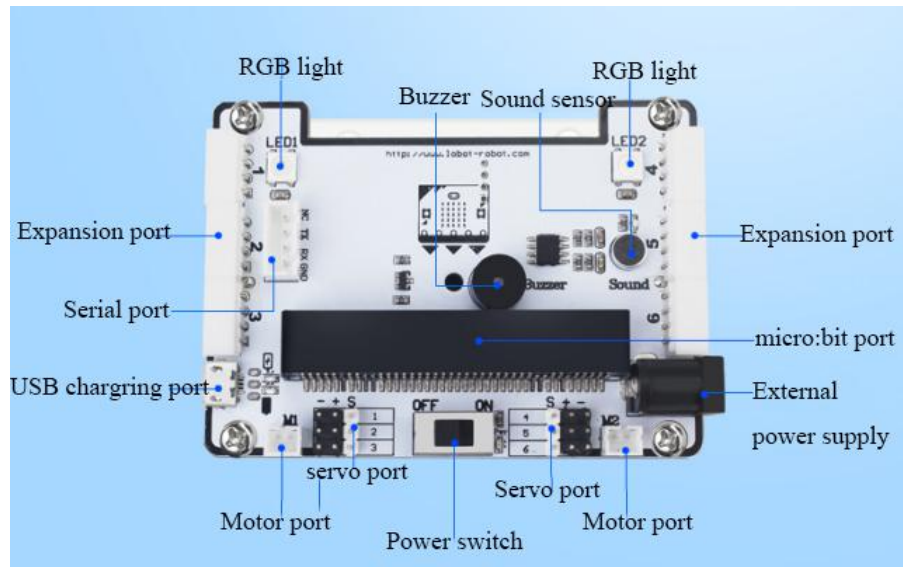
Note:

1 The power switch can only control the on/off of the battery power, and can not be controlled to external power supply. When connecting an external power supply the controller will be powered whether the switch is turned on or off.

2 When the power is turned on, the Power light is on. When the voltage is below a certain value, your robot will be very inflexible or the Bluetooth connection is often disconnected and the brightness of the LEDs is also weak.

5   Contact us

1. We hope that you can carefully read the instructions and watch the video instruction so that you can have a good command of Qtruck
2. Thank you for your support and purchasing our products. If there is anything that you do not understand, please feel free to contact us.
3. Website: www.lewansoul.com
4. Forum: www.lewansoul.com/forum
5. Email: support@lewansoul.com

6   Troubleshooting

1.Click the Bluetooth button to search for no Bluetooth devices.

Solution: First, please make sure your Qtruck work well. And to allow location permission during installation or go to Permissions Management to set location permissions, and restart the Qtruck and reconnect the APP.

2. Why can't Mobile Phone APP control Qtruck?
Solution: First, confirm that your micro:bit board has downloaded micro:bit-Bluetooth .hex file, then check if the phone is turned on Bluetooth and does the car open the switch?

3. Why doesn't the LED light come on?
Solution: Please check whether the car is in the power on state first, and then check if the battery is fully charged. Finally check if the program is after set the LED lights, the module for displaying lights is added, because the LED lights cannot be displayed if the order is incorrect.

4.Why is the movement of the car slower/not working?
Solution: First check whether the battery slot is connected to a lithium battery. If not, connect only the USB cable to power the Micro:bit board, it is not enough. If the battery is still ringing after the lithium battery is connected, it indicates that the lithium battery is dead. Please charge the lithium battery for at least 2 hours.

5. Why can't the car clip the object?
(1) If the claws cannot be opened, please check whether the power is sufficient. If the power is sufficient, check the claws again. If the servo connection cable is connected properly, if the connection is good or the claw cannot be opened, loosen the screw at the claw.
(2) If the claws can be opened, check if the claws are too loose and cannot hold the items. If it is too loose then slightly tighten the screws at the claws.

7 The Historical version of the user manual

Version	Modification date	Instructions	Modifier
V1.2	201.3.9	The add information: (1) Troubleshooting	Carey