# Welcome

Thank you for choosing Freenove products!

## Get Support & Custommer Service

You may find somethings missing or broken, or some difficulty to learn the kit.
Freenove provides free and quick support, including but not limited to:

- Quality problems of products
- Problems in using products
- Questions for learning and technology
- Opinions and suggestions
- Ideas and thoughts

If you have any concerns, please send email to us:

**support@freenove.com**

And suggestions and feedbacks are welcomed. Many customers offered great feedbacks. According to that, we are keeping updating the kit and the tutorial to make it better. Thank you.

## Safety

Pay attention to safety when using and storing this product:

- Do not expose children under 6 years of age to this product. Put it out of their reach.
- Children lack safety ability should use this product under the guardianship of adults.
- This product contains small and sharp parts. Do not swallow, prick and scratch to avoid injury.
- This product contains conductive parts. Do not hold them to touch power supply and other circuits.
- Some parts will rotate or move when it works. Do not touch them to avoid being bruised or scratched.
- The wrong operation may cause overheat. Do not touch and disconnect the power supply immediately.
- Operate in accordance with the requirements of the tutorial. Otherwise, the parts may be damaged.
- Store the product in a dry place and avoid direct sunlight.
- Turn off the power of the circuit before leaving.

# About

Freenove provides open source electronic products and services.

Freenove is committed to helping customers learn programming and electronic knowledge, quickly realize their creative ideas and product prototypes and launching innovative products. Our services include:

- Kits of robots, smart cars and drones
- Kits for learning Arduino, Raspberry Pi and micro:bit
- Electronic components and modules, tools
- **Product customization service**

You can learn more about us or get our latest information through our website:

http://www.freenove.com

# Copyright



FREENOVE®

FREE YOUR INNOVATION

# Contents

# Preface

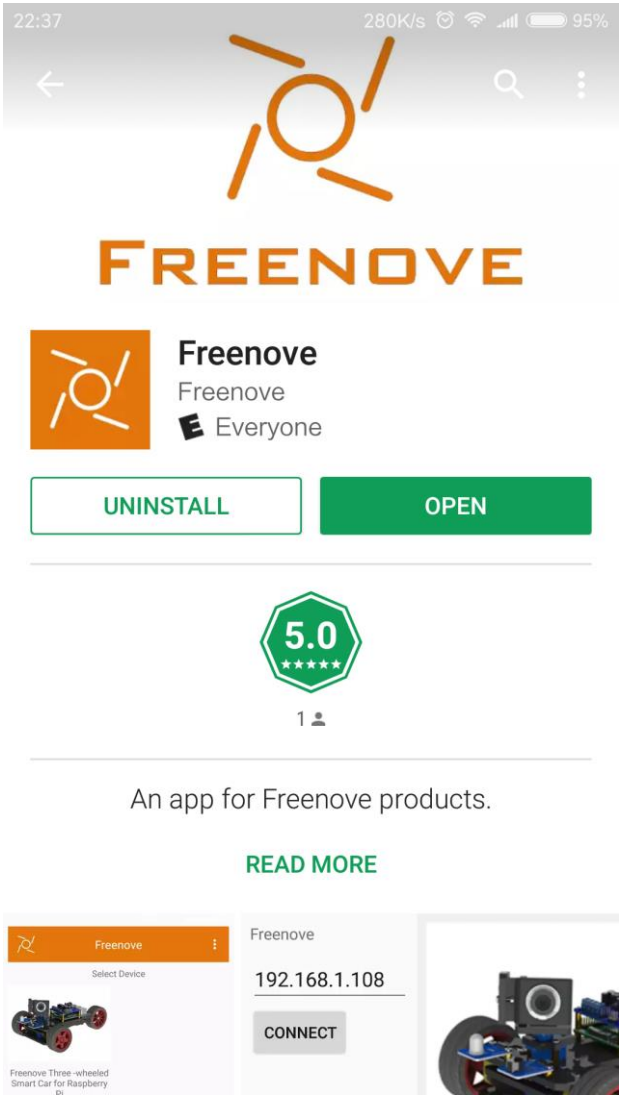
Welcome to use Freenove products. Freenove app for Freenove is the controller of Freenove official device (robot /car/aircraft, etc.), which will make you to enjoy using Android devices to control the the robot device.

## Install Freenove app

There are three ways to install app, you can choose any one.

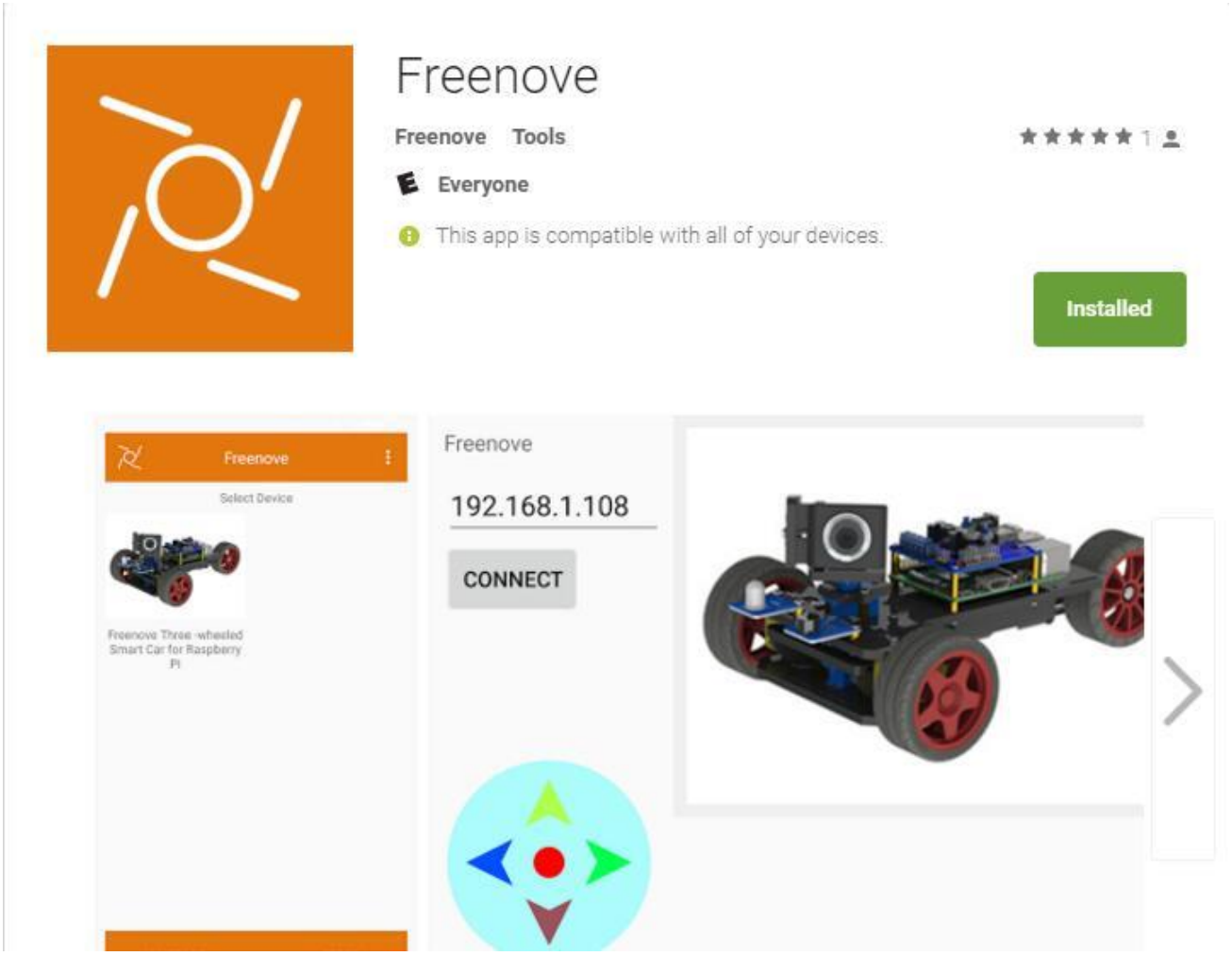
### Method 1

Use Google play to search “freenove”, download and install.



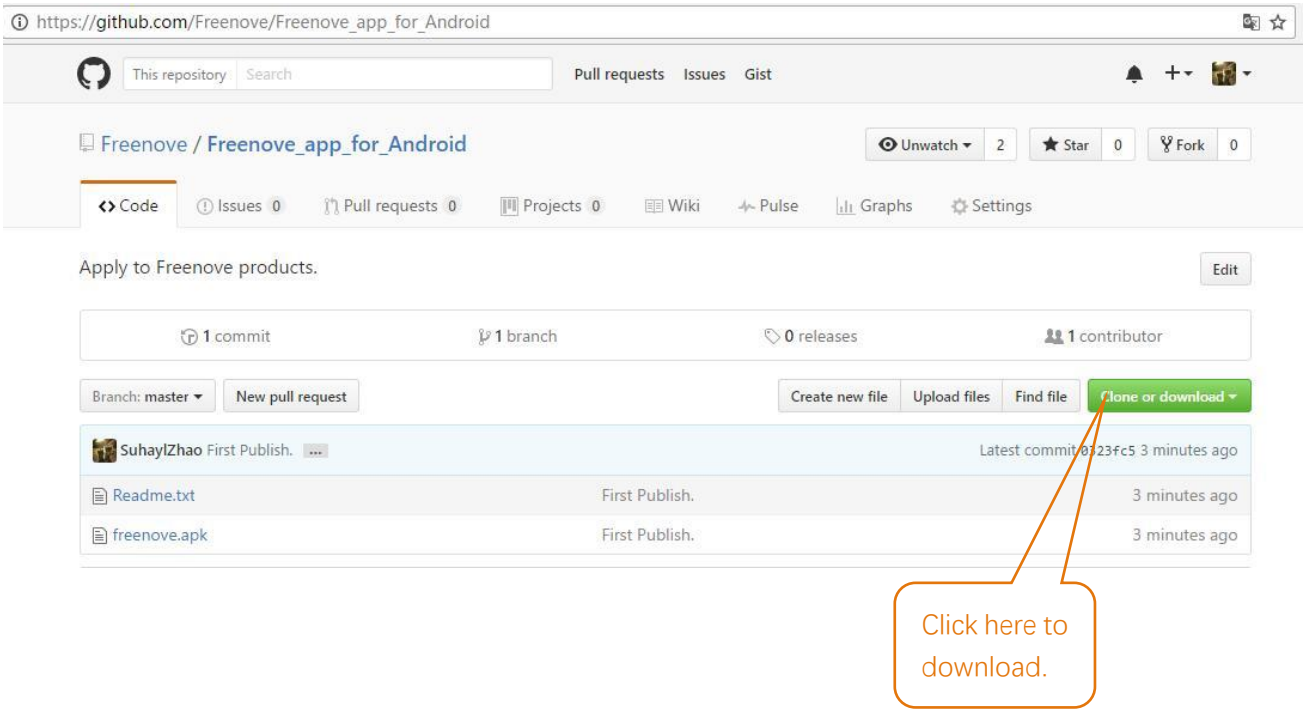
## Method 2

Visit https://play.google.com/store/apps/details?id=com.freenove.suhayl.Freenove, and click install.



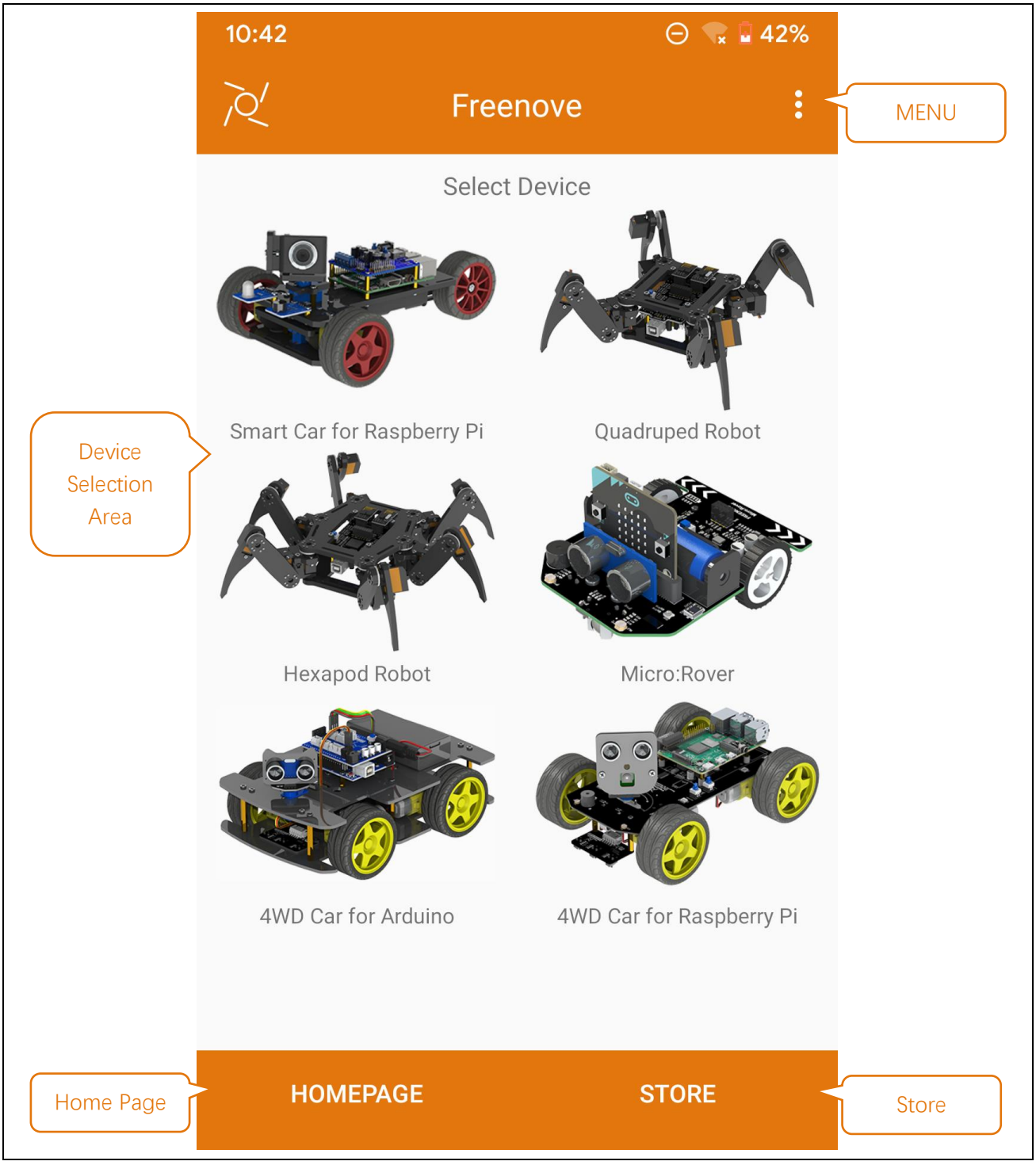
# Method 3

Visit https://github.com/Freenove/Freenove_app_for_Android, download the files in this library, and install freenove.apk to your Android phone manually.



# Using

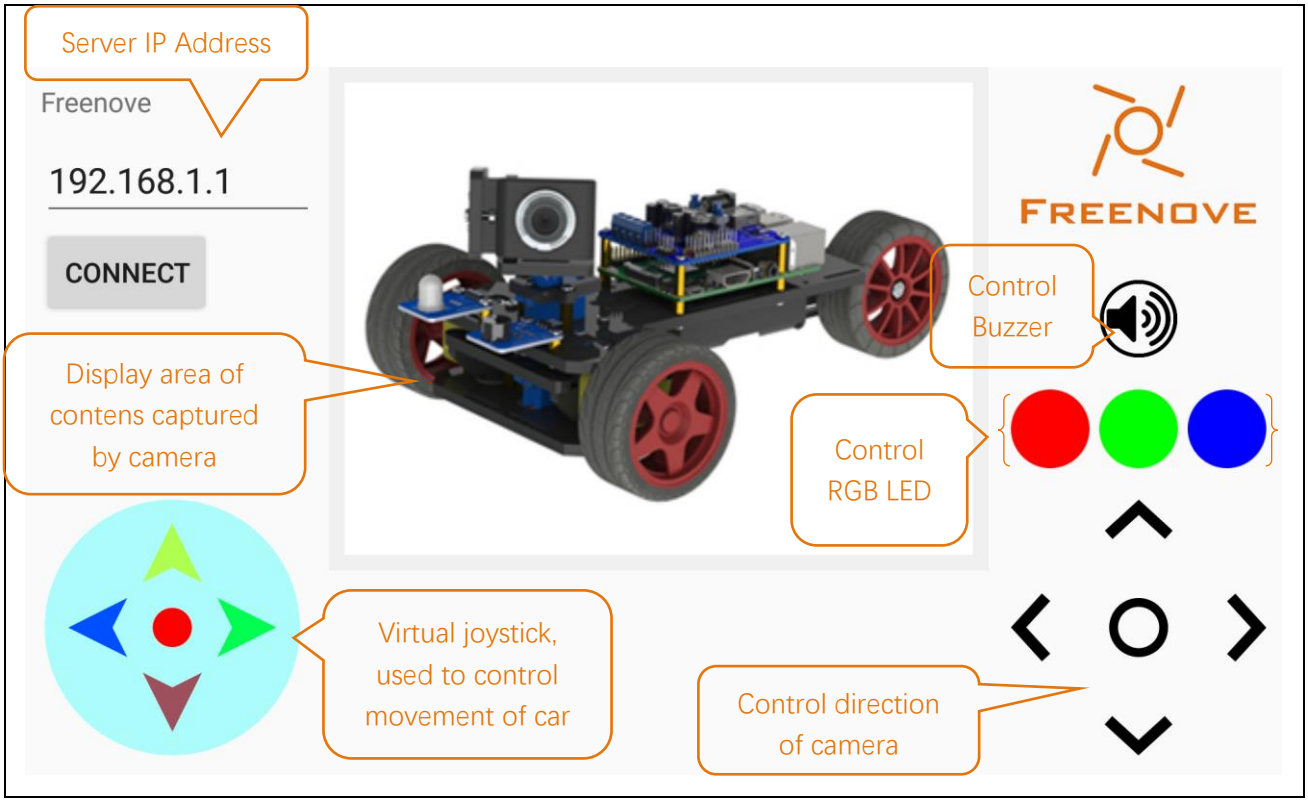
Open application “Freenove”, as shown below:



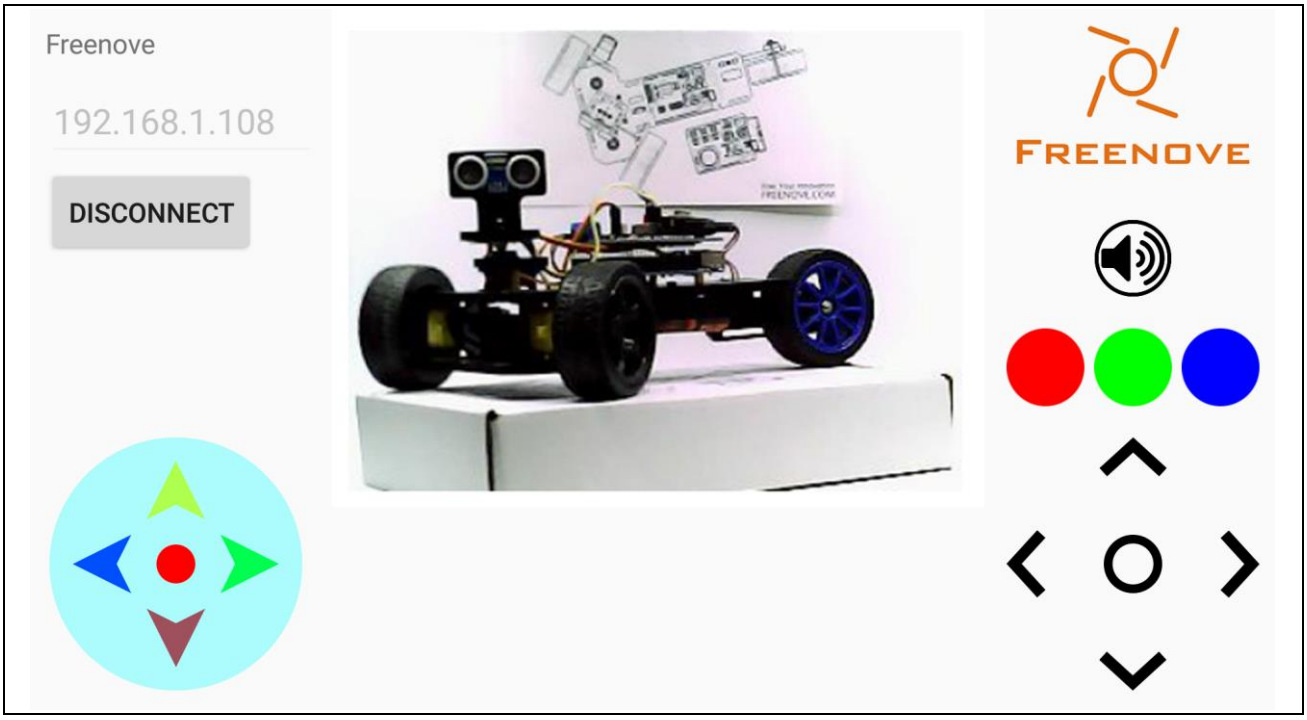

There will be more Freenove products added to the device selection area in the future.

# Freenove Three-wheeled Smart Car Kit for Raspberry Pi

Click “Smart Car for Raspberry Pi”. then application jump to following interface.



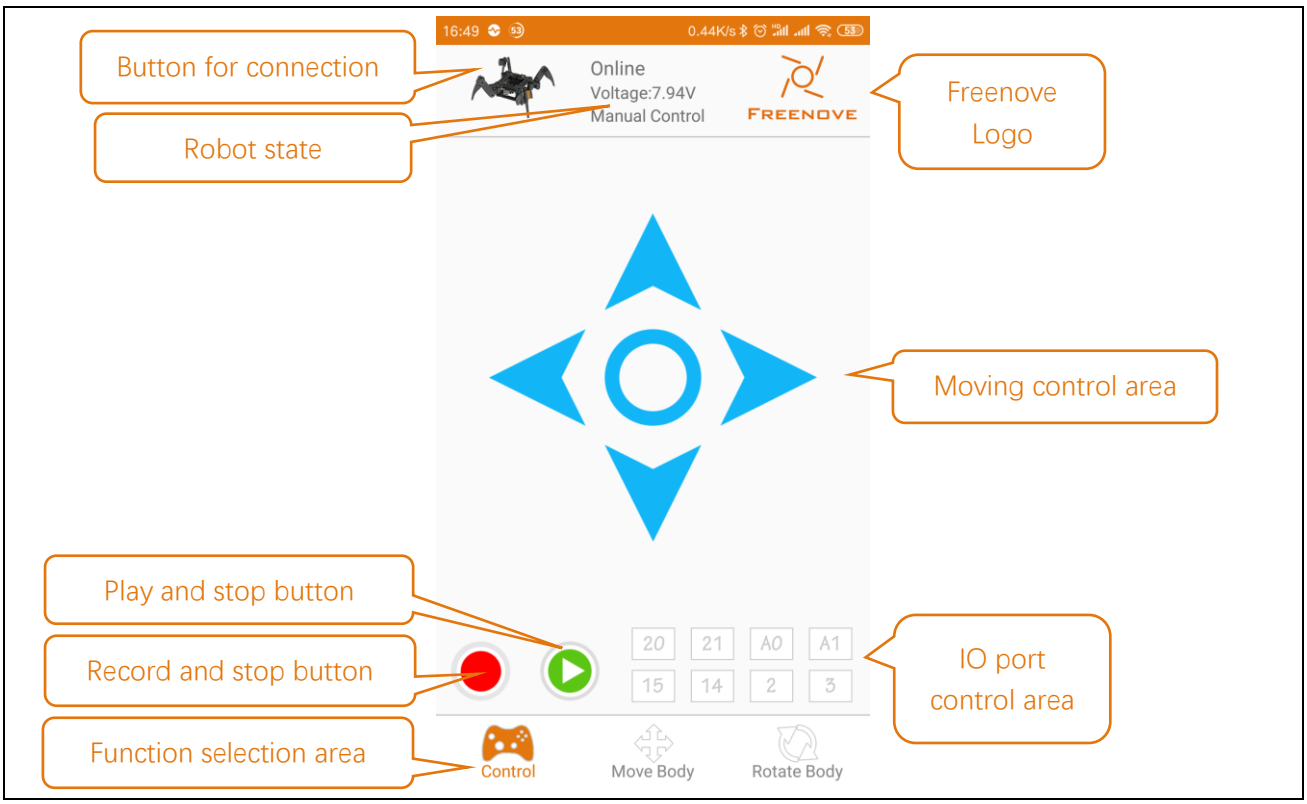
Make sure camera and TCP services of the RPi have been opened. Then enter your RPi IP address in the column Server IP Address, click the button CONNECT. Then the connection succeeds later. RPi IP address is 192.168.1.108. after a successful connection, the interface is shown below.




The IP address will be stored after correct onnection, so that it can be used multiple times without having to output the IP address every time. Then you can control the car.

# Freenove Quadruped Robot Kit

Click Freenove Freenove Quadruped Robot Kit, then app jumps to the following interface.



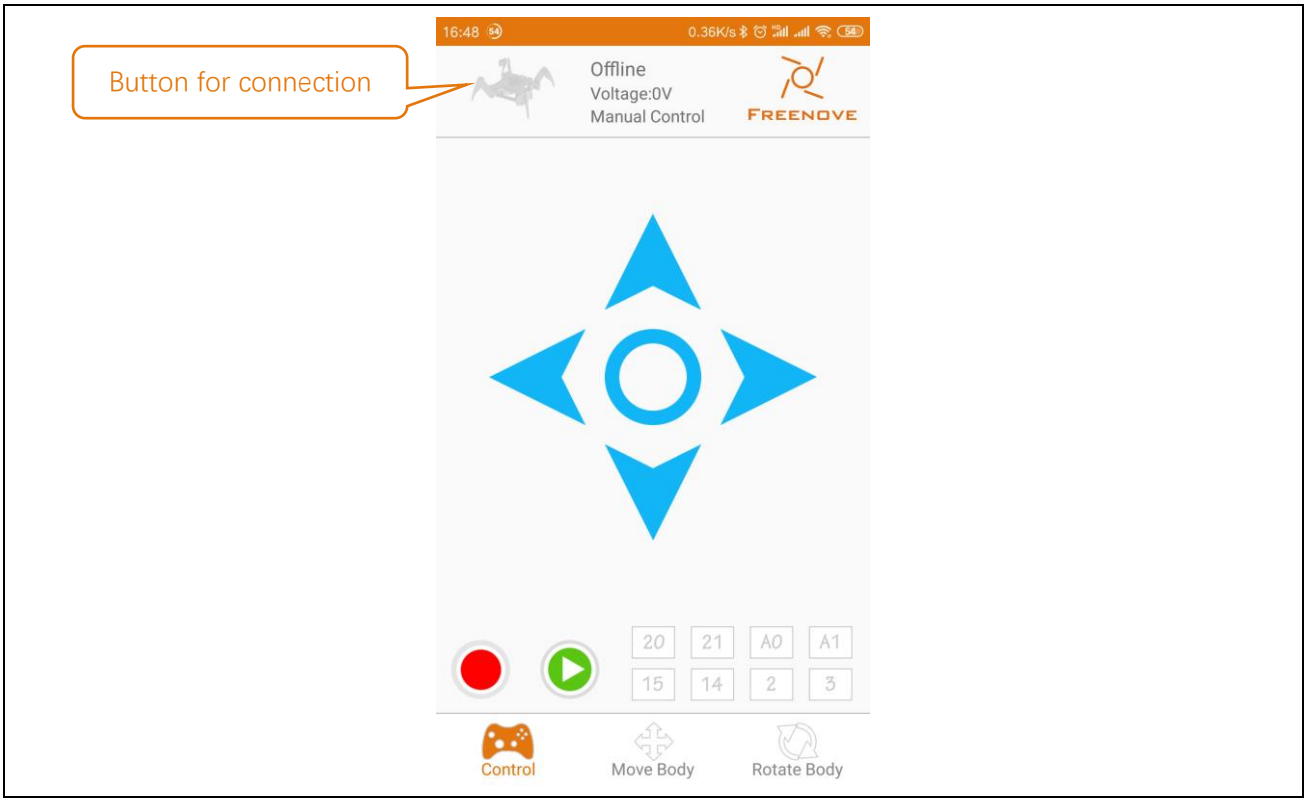

If your Android device has been connected to the robot via WiFi, then the app will connect the robot automatically.
Under this page:
In moving control area, you can control robot to move back or forth and left or right, through touching arrow control button.
When you click the center, robot will sit down or stand up.

In IO port control area, you can also control different IO ports of robot to output high or low level, through touching differnet buttons.

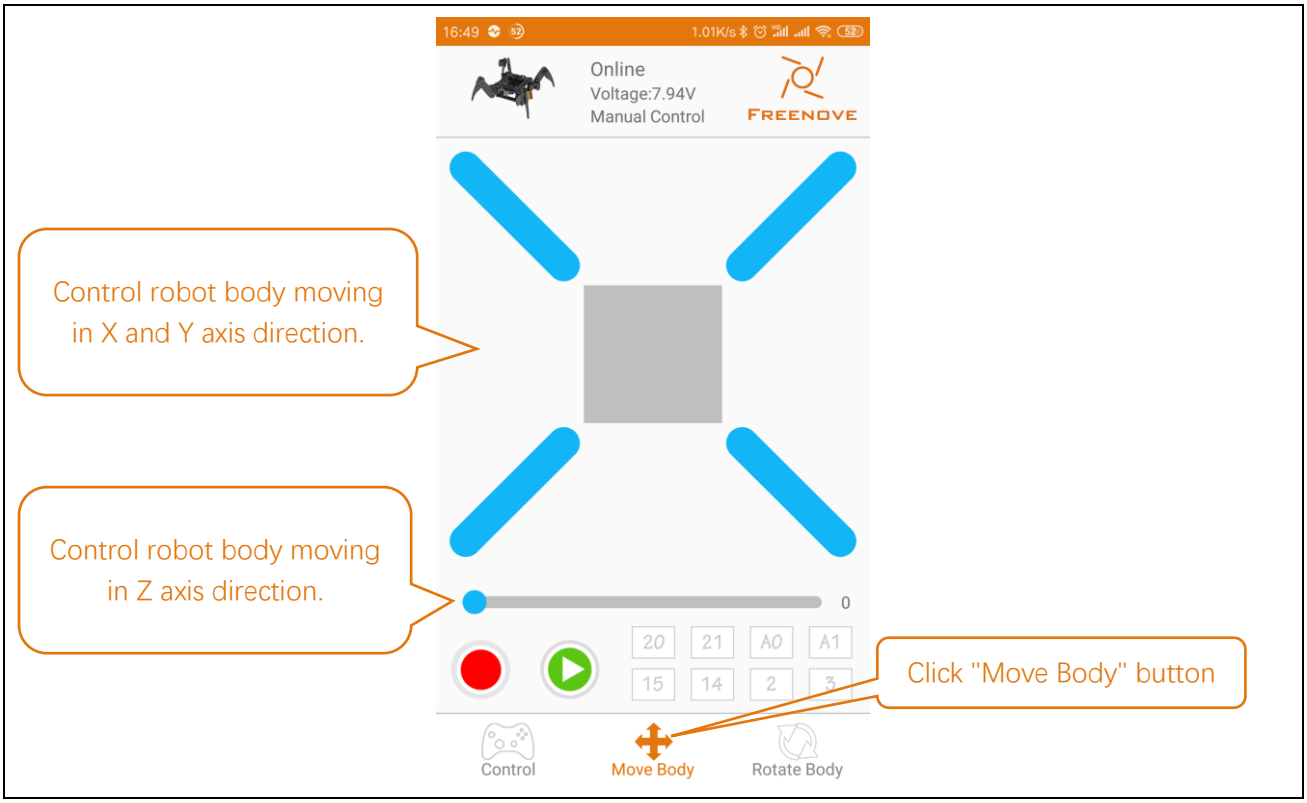
We will introduce the rest red and green button latter.

If the WiFi of your Android device is not connected to the robot, you will not be able to control the robot directly. If the connection succeeds, you can touch the robot indication icon to connect on the top left, or reopen Freenove app connection.

The following is a page screenshot of the app under offline.

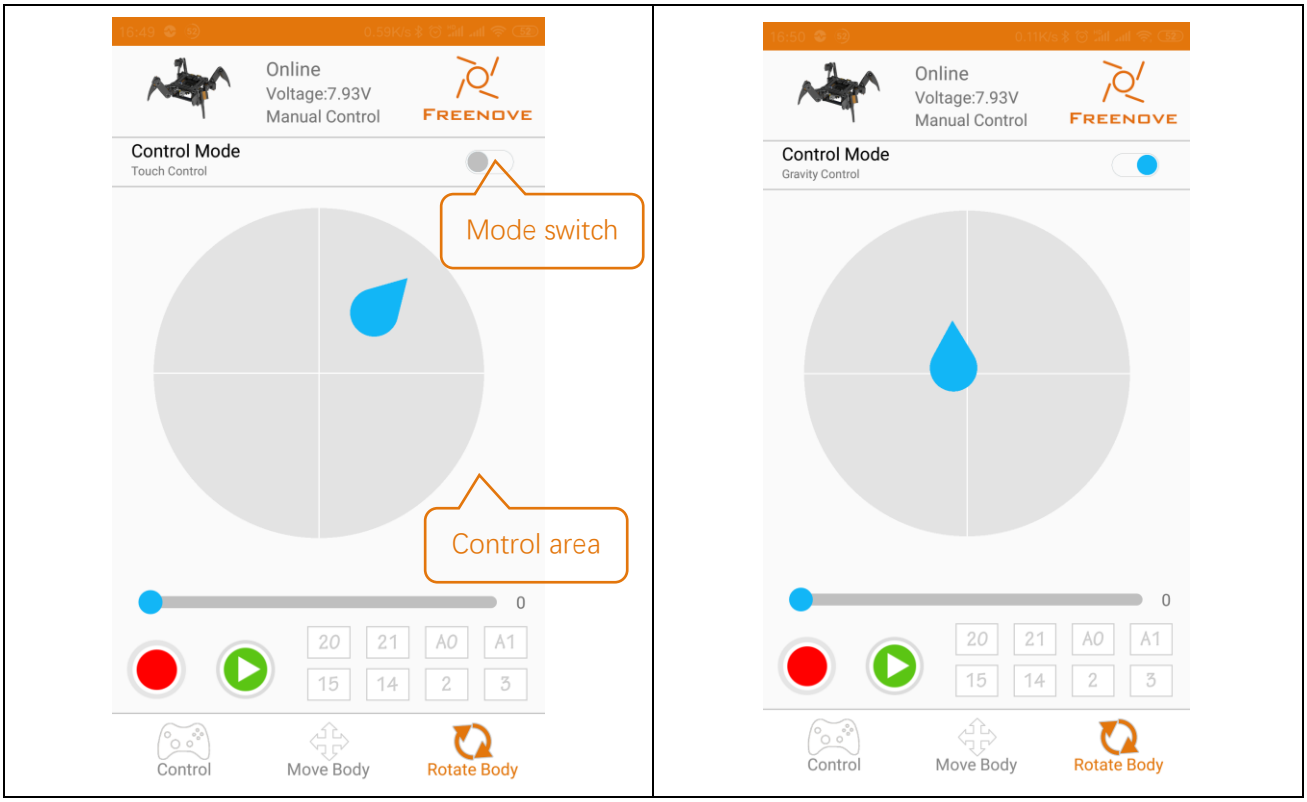



Click "Move Body" button to enter the page below.




In this page, you can control the robot body moving in three-dimensional space and with its feets no moving.

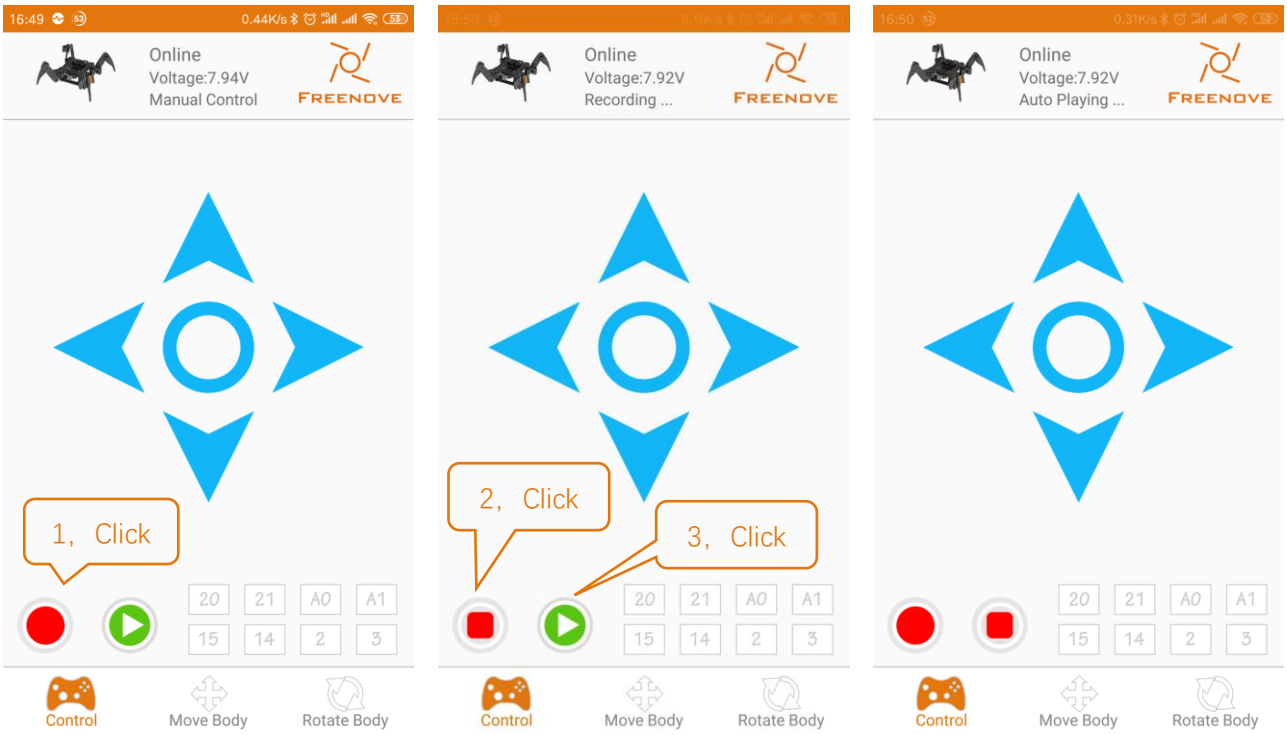
Click "Rotate Body" button to enter the page below.




In this page, you can control robot body to rotate along the X, Y, Z axis. You can use one finger to drag the blue drip or use two fingers to rotate the blue drip.

Mode switch is used to switch control mode. Left is touch control mode and right is gravity control mode. Under gravity control mode, tilt your cell phone to control.

Now we will introduce the record function.




Nomatter which interface the app is in, you can use this function.

First, press red circular button. Then it become red square button. The app starts to record your operation. Under this process, you can swich different fuction selections and do whatever operation you want. When you want to end recording, just press red square button, nomatter which page you are in.

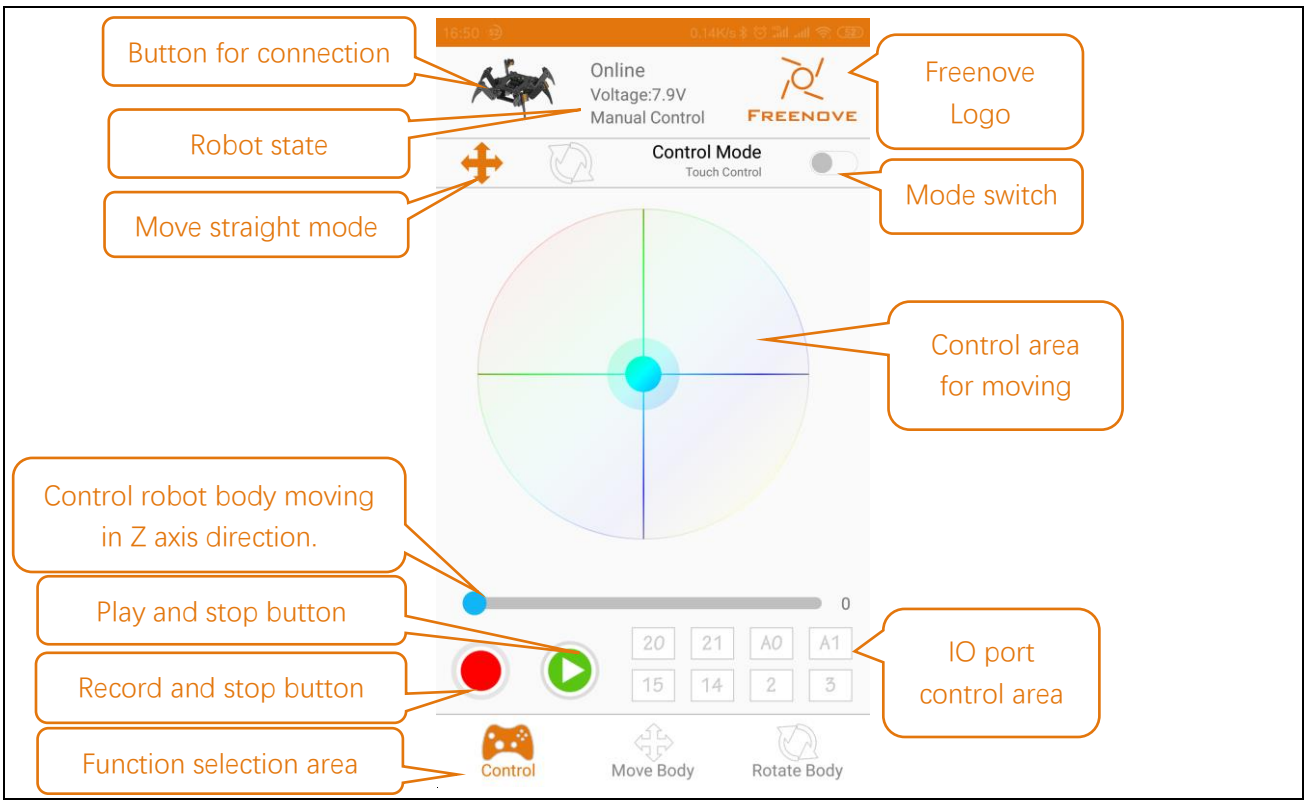
Second, press green circular button to play. Then it become red square button. You can press it to end the playing or wait for automatic end.

And the app will save only one record until you record another set of operations. So you can play a record many times.

You can also press green circular button to play without ending recording.

# Freenove Hexapod Robot Kit

Click Freenove Hexapod Robot Kit, then it jumps to the following interface.




If your Android device has been connected to the robot via WiFi, then the app will connect the robot automatically.

Under this page. Click move straight mode:
In control area, you can control robot to move in any direction. First you can click any position in Ring area. And you can drag the circular button to any position. The moveing speed is depend on the distance to center. And When you click the center, robot will sit down or stand up.

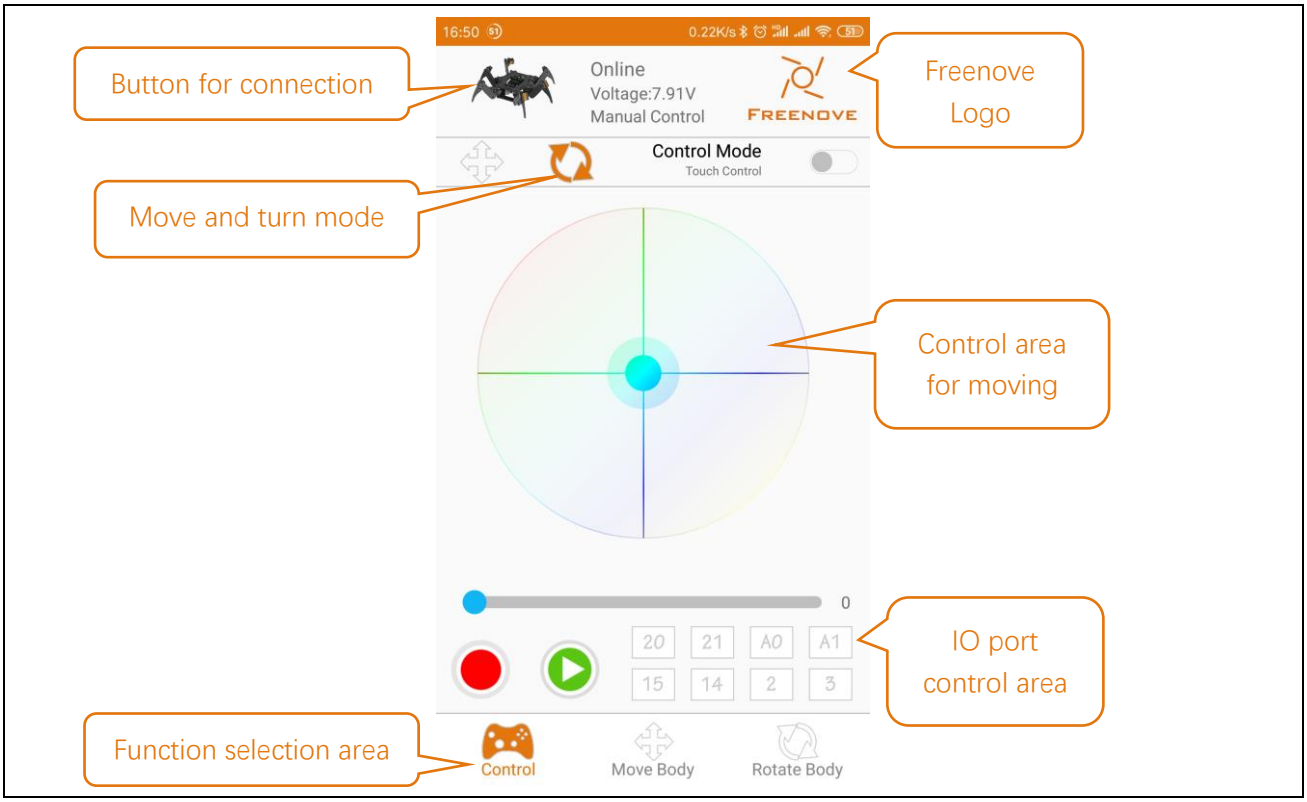
In IO port control area, you can also control different IO ports of robot to output high or low level, through touching differnet buttons.

Slider is used to Control robot body moving in Z axis direction.

Mode switch is used to switch control mode. Left is touch control mode and right is gravity control mode. Under gravity control mode, tilt your cell phone to control.

We will introduce the rest red and green button latter.

Under this page. Click move straight mode




In control area:

When circular button is in Y axis, the robot will move forth or back. When circular button is in x axis, the robot will turn in original place.

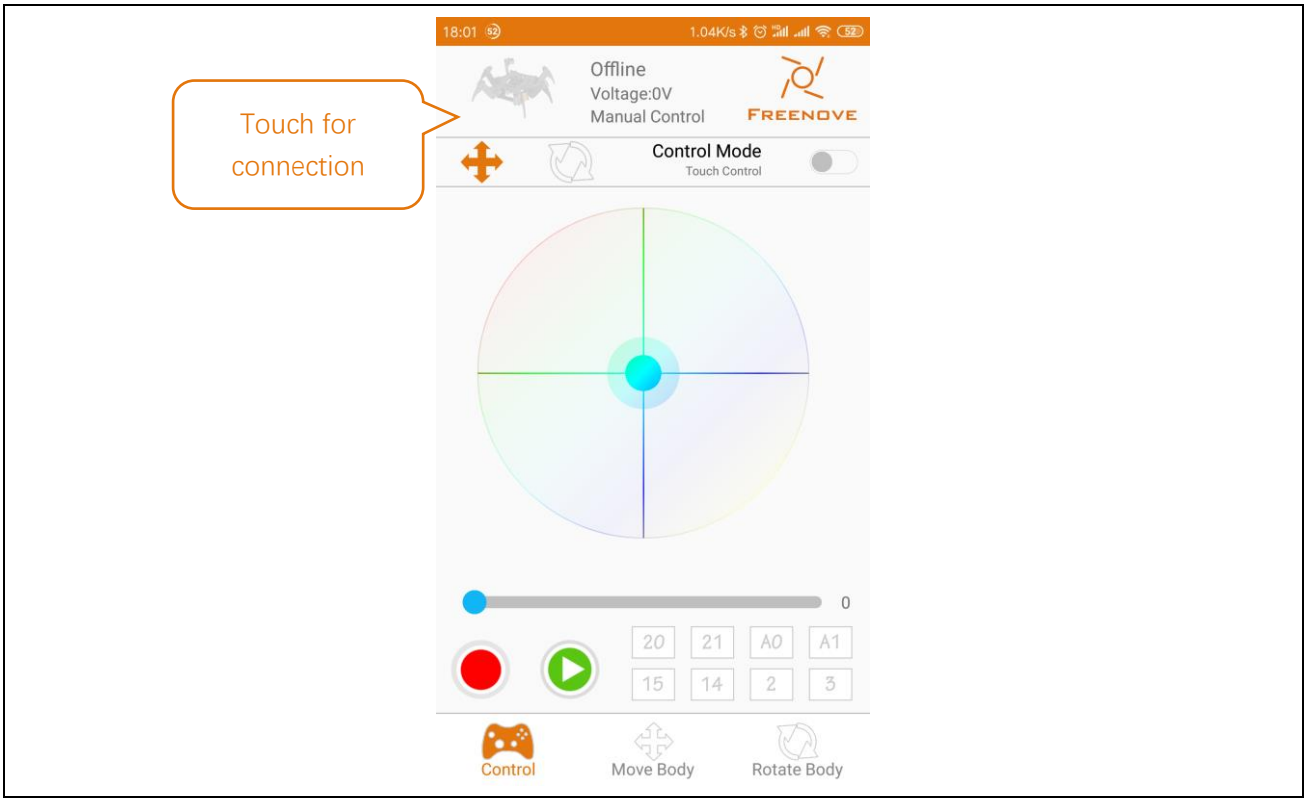
If circular button is in other positons, the robot will turn with certain turning radius.

The closer the distance to the x-axis, the smaller the turning radius.

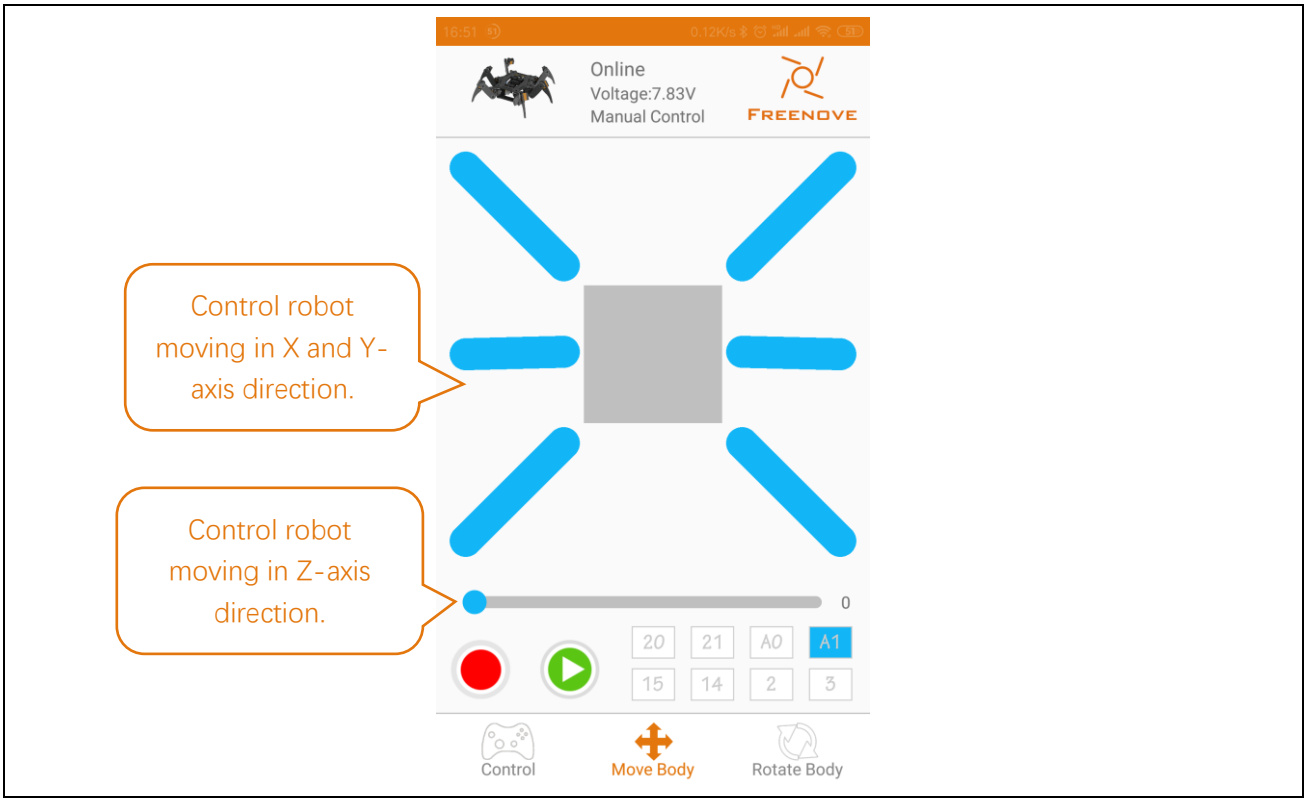
Mode switch is used to switch control mode. Left is touch control mode and right is gravity control mode. Under gravity control mode, tilt your cell phone to control.

If the WiFi of your Android device is not connected to the robot, you will not be able to control the robot directly. If the connection succeeds, you can touch the robot indication icon to connect on the top left, or reopen Freenove app connection.

The following is a page screenshot of the app under offline.

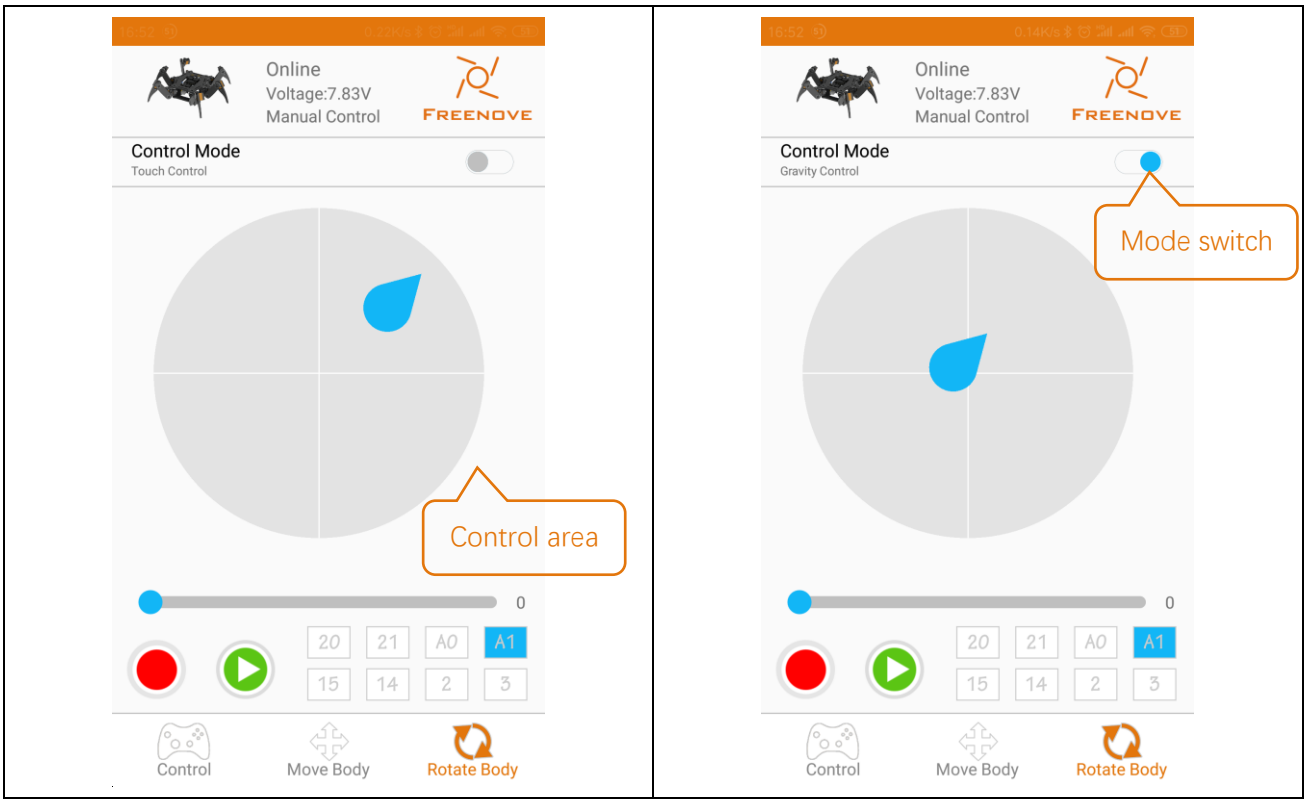


Click "Move Body" button to enter the page below.



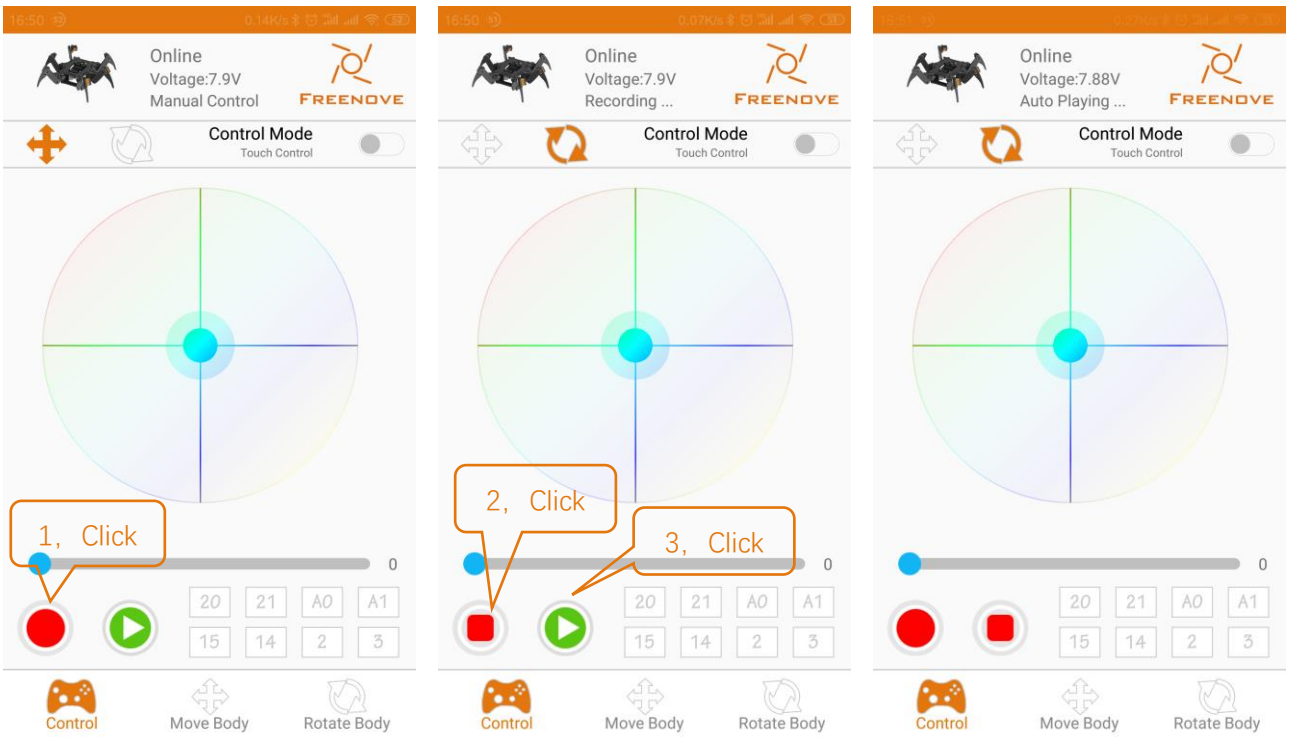

In this page, you can control the robot body moving in three-dimensional space and with its feets no moving. Here, controling robot to move in Z axis direction will not influence the robot positon in Z axis under control function selection. And A1 button is pressed in this page, so IO port A1 outputs high level.

Click "Rotate Body" button to enter the page below.



In this page, you can control robot body to rotate along the X, Y, Z axis. You can use one finger to drag the blue drip or use two fingers to rotate the blue drip.
Mode switch is used to switch control mode. Left is touch control mode and right is gravity control mode. Under gravity control mode, tilt your cell phone to control.
Here, controling robot to move in Z axis direction will not influence the robot positon in Z axis under control function selection.

Now we will introduce the record function.




Nomatter which interface the app is in, you can use this function.

First, press red circular button. Then it become red square button. The app starts to record your operation. Under this process, you can swich different fuction selections and do whatever operation you want. When you want to end recording, just press red square button, nomatter which page you are in.

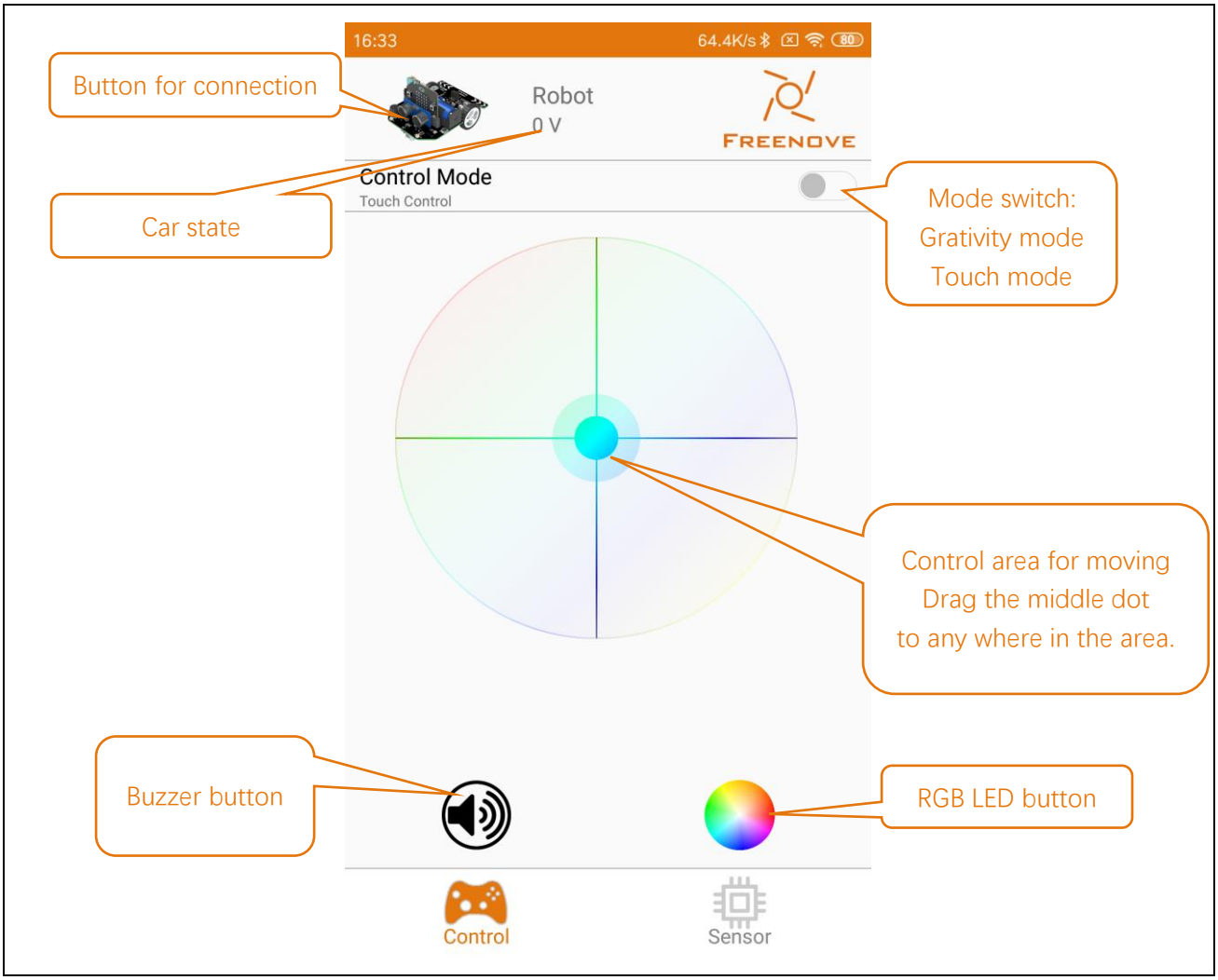
Second, press green circular button to play. Then it become red square button. You can press it to end the playing or wait for automatic end.

And the app will save only one record until you record another set of operations. So you can play a record many times.

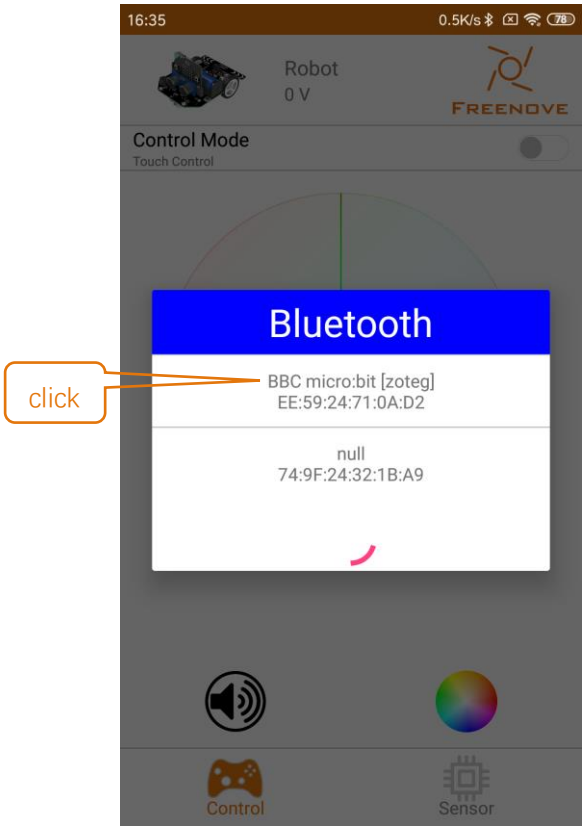
You can also press green circular button to play without ending recording.

# Freenove Micro:Rover

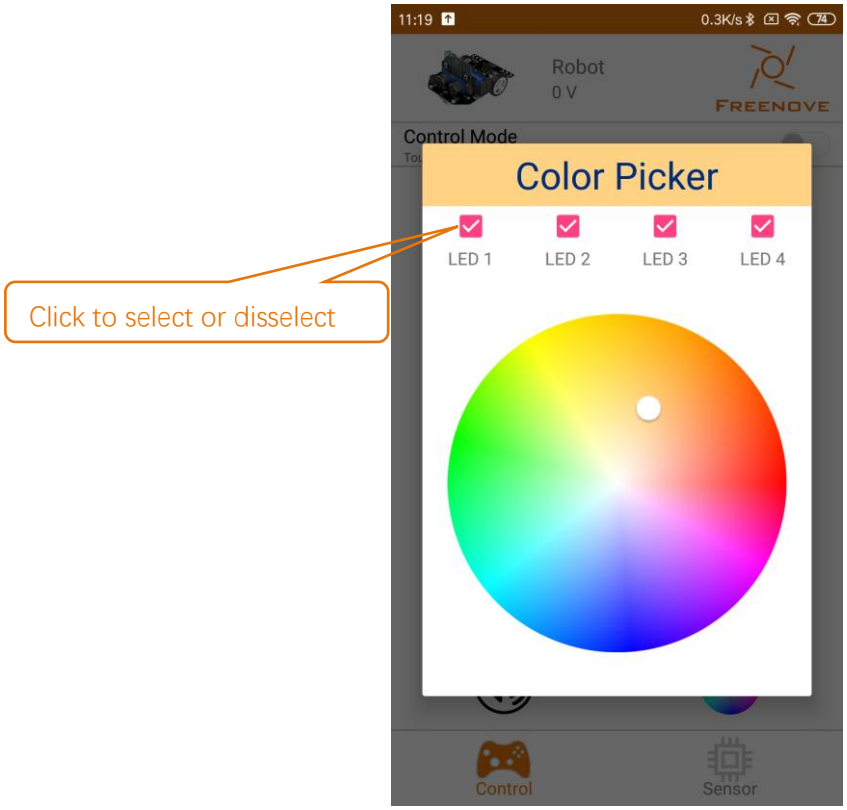
Click Micro:Rover on home page, then it jumps to the following interface.



First, chlick connection button to contact Mico:Rover with phone.

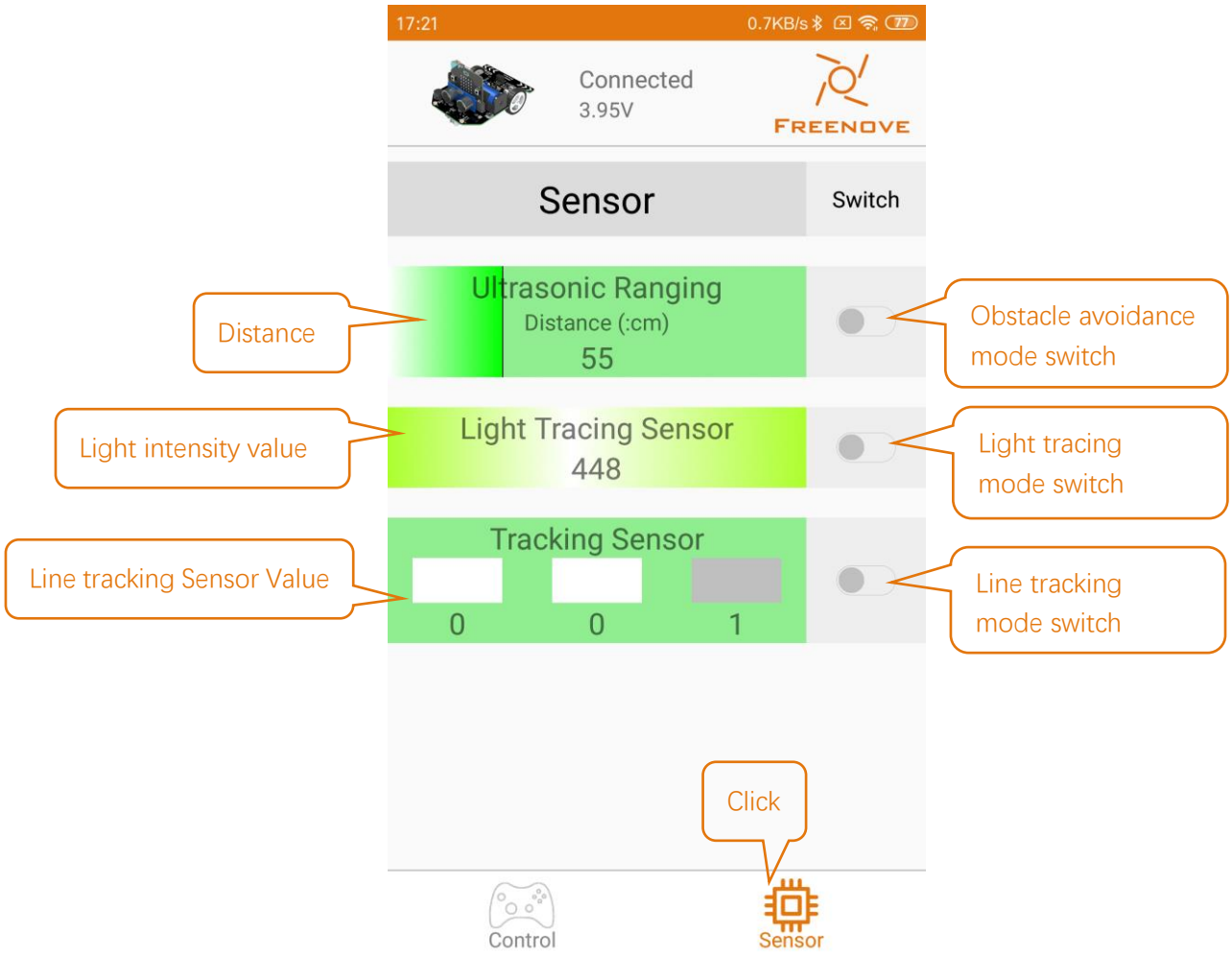



Click RGB LED button. Then following interface will appear.



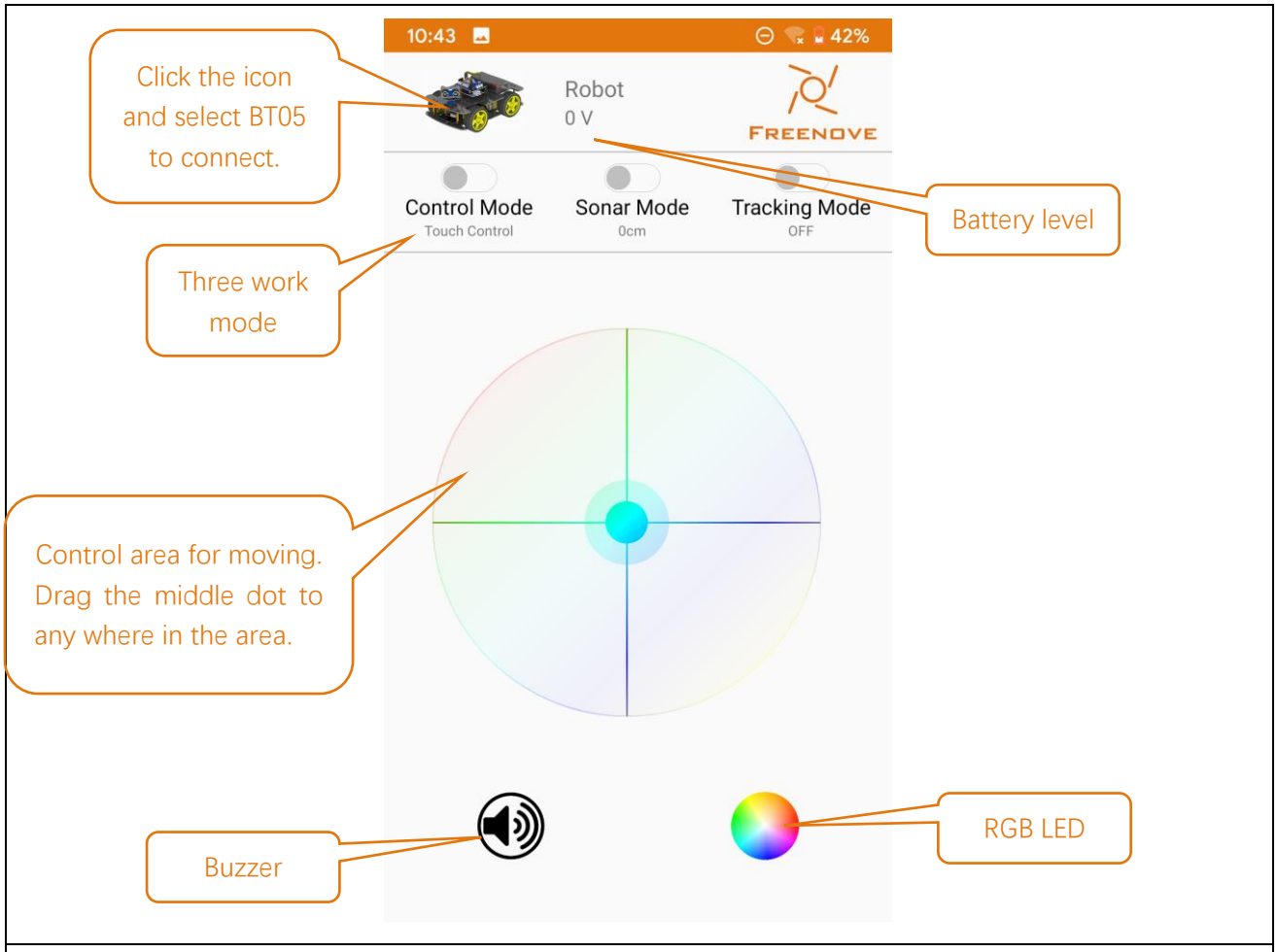

You can choose to change the color of certain LEDs selected.

In sensor interface, there are three control modes based on sensors.

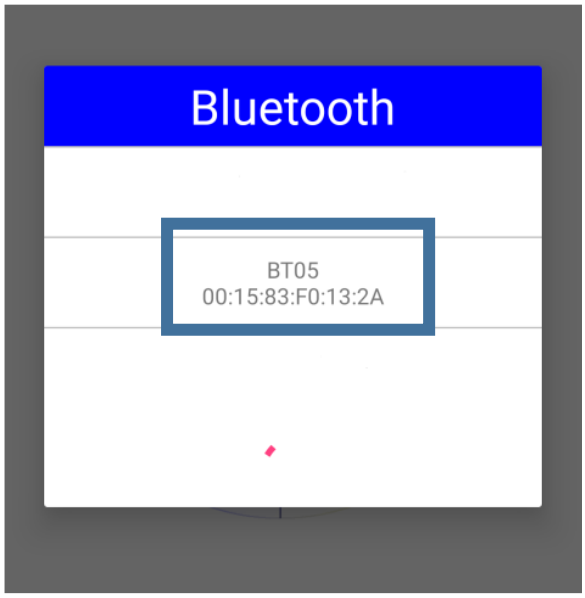


# Freenove 4WD Car for Arduino

Make sure you have install Bluetooth module in the car.

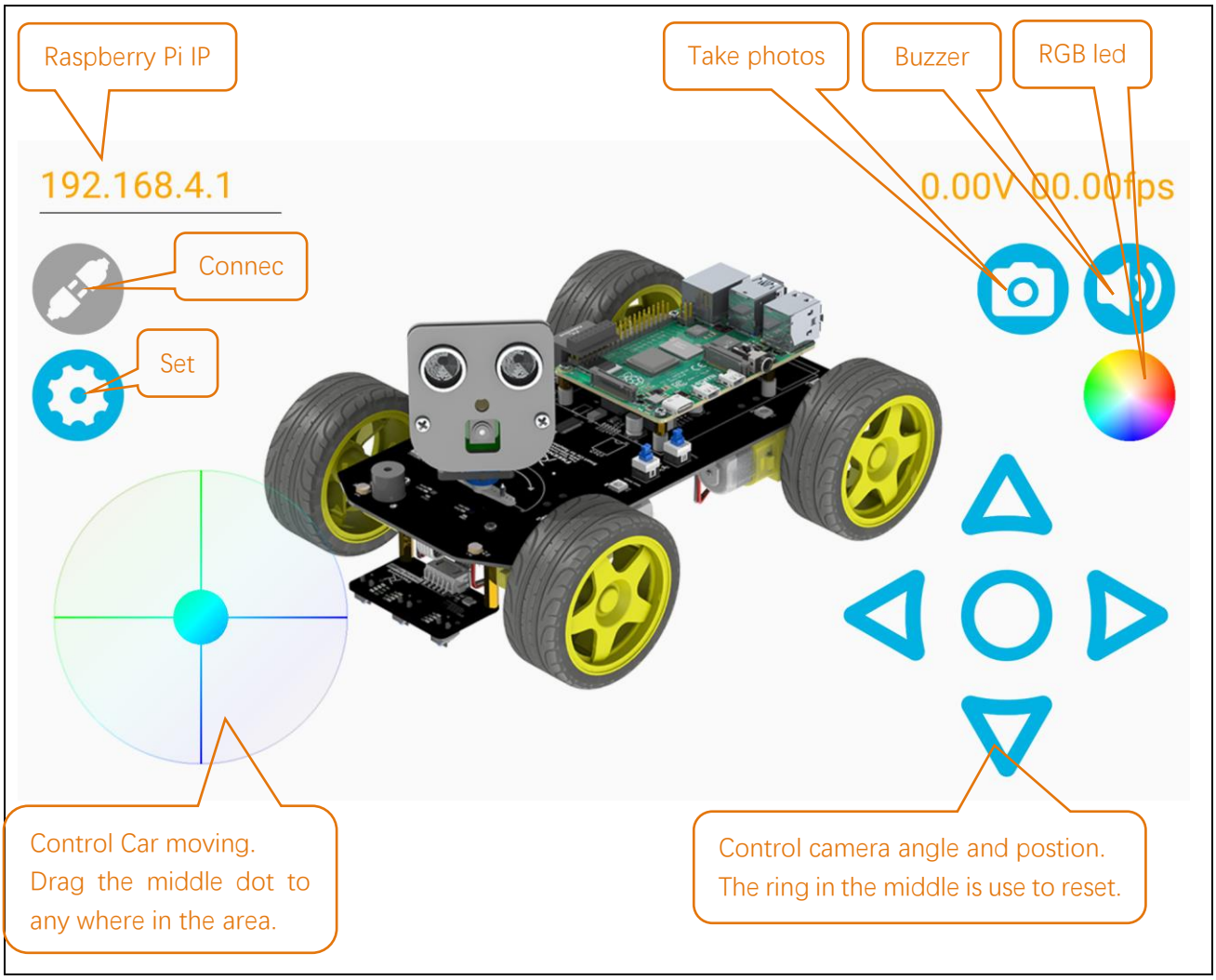



Click BT05

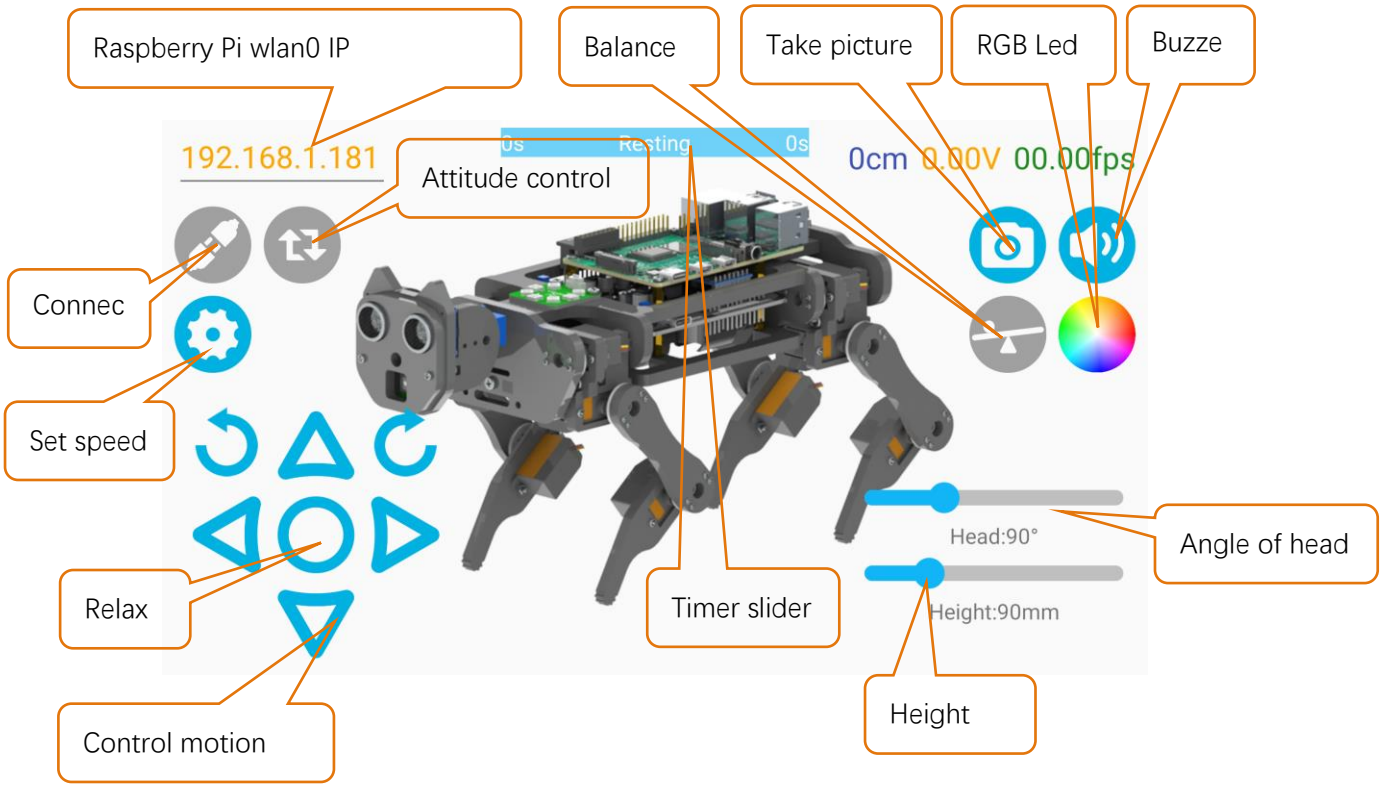


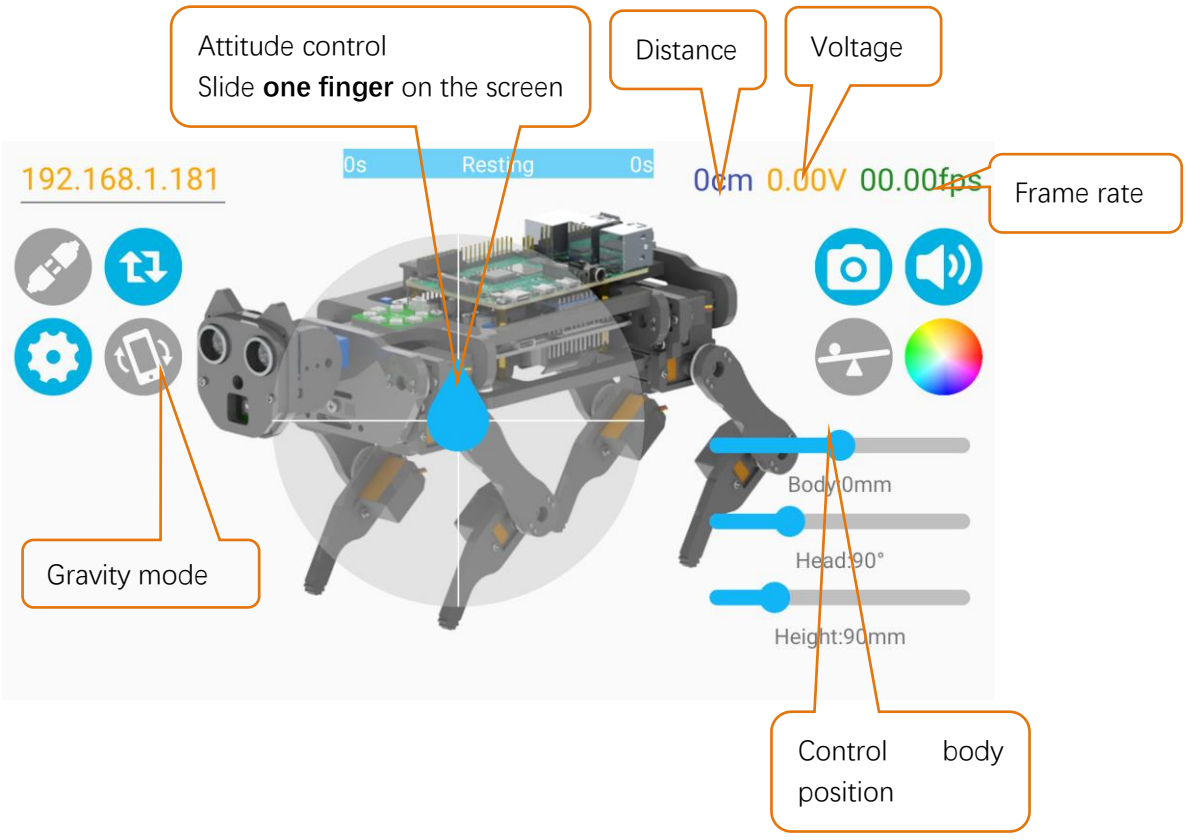
# Freenove 4WD Car for Raspberry Pi

Open the server in Raspberry Pi car first.



# Freenove Robot Dog for Raspberry Pi



**Relax mode.**

a) When the robot dog moves for 3 minutes in total, it will feel tired (the servo will get hot). In order to protect the servo, the robot will get into relax mode for 1 minute. **During this time, it won't responds to motion command.** You can still use the functions of LED, buzzer, real-time video and so on.
b) When the robot dog moves for <3 minutes and then the robot rest for 1 minute. The timer will start from 0. Then the robot can moves for 3 minutes again.
c) If the robot isn't tired and is standing, when the robot don't receive motion command for 10s, it will get into relax mode. In this situation, it will responds to any commands.

**Following are the features of his app.**
**First, you need turn on the Server. Then enter your raspberry pi IP address and click connect icon.**

Othe top of the interface, there is a timer slider to indicate the time for moving or resting.

# What's next?

Thanks for your reading.

This book is all over here. If you find any mistakes, missions or you have other ideas and questions about contents of this book or the kit and ect, please feel free to contact us, and we will check and correct it as soon as possible.
support@free.com

We will continue to update the application, add more devices, and optimize the software to make it with abetter user experience in the future.

If you want to learn more about Arduino, Raspberry Pi, smart cars, robots and orther interesting products in science and technology, please continue to focus on our website. We will continue to launch cost-effective, innovative and exciting products.
www.freenove.com

Thank you again for choosing Freenove products.