Qoopers series course

Section 1
《Metal Block Planet》

Robobloq

Curriculum objectives

Knowledge and skill
1.Know basic components and main control panel of Qoopers
2.Know program manner and action routine of mobile phone end and computer end；

Process and methods
1.Stimulate children's learning interest and imagination for universe by exploring space story；

Emotional attitude and values
1.Start from the exploration of space story, train students' curiosity and exploration desire to universe.

Curriculum introduction

Space exploration always is dream of human, ancient solar system, mysterious outer space, is there water in Mercury? Does universe limited? or does universe have edge? How does the black hole formed? There are a lot of questions motivate us fly to space.

Qoopers are the actors who love explore space, they are driving airship flying to center of MilkyWay galaxy.
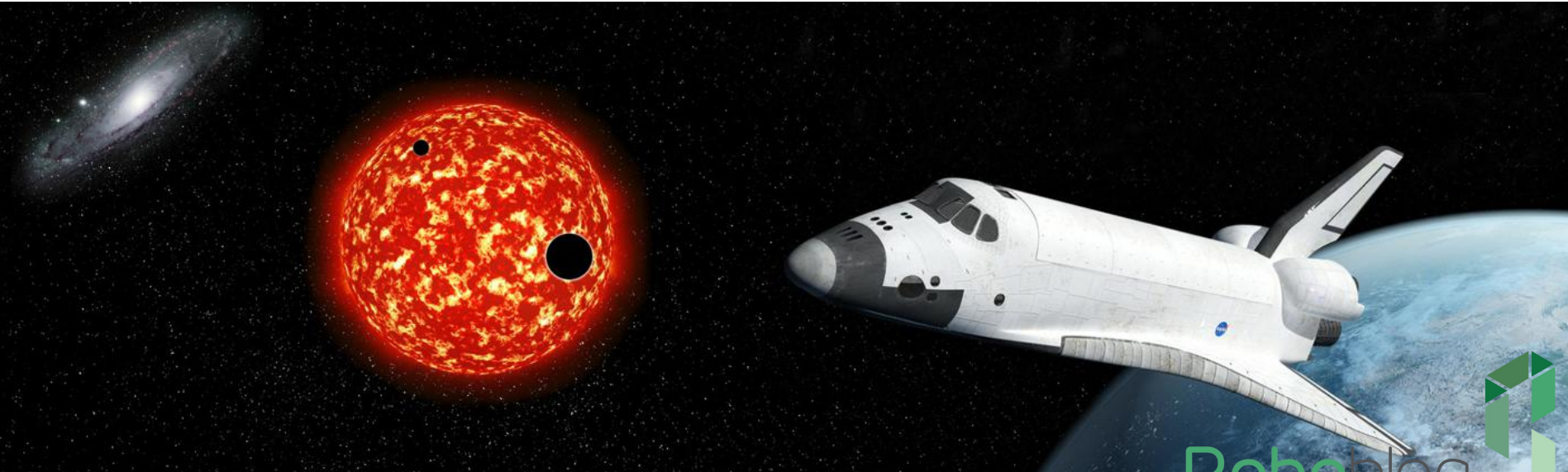
Curriculum introduction

Owing to a great kind of attraction, the airship that Qoopers drive suddenly out of control on the way of flying, and finally Qoopers fully absorbed by this force.

Curriculum introduction

Fortunately, the airship that Qoopers drive was landed one planet safely, according to data, this planet is Metal Block planet of cosmic galaxy.

Curriculum introduction

Metal Block planet surface is similar to earth, such as there are mountains, lakes and so on, but the difficulties that Qoopers faced is great temperature difference between day and night, active volcano and complex changeable terrain.
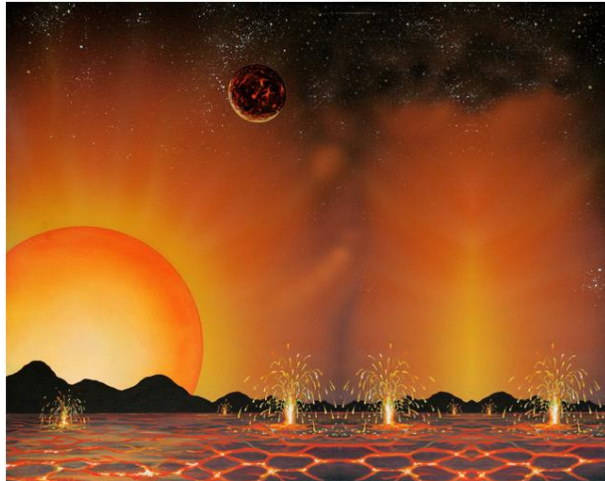
Knowledge explanation

Qoopers exploration team landed Metal Block planet safely, facing grim environment, Qoopers decided to take reconnaissance on the spot to explore information of Metal Block planet.
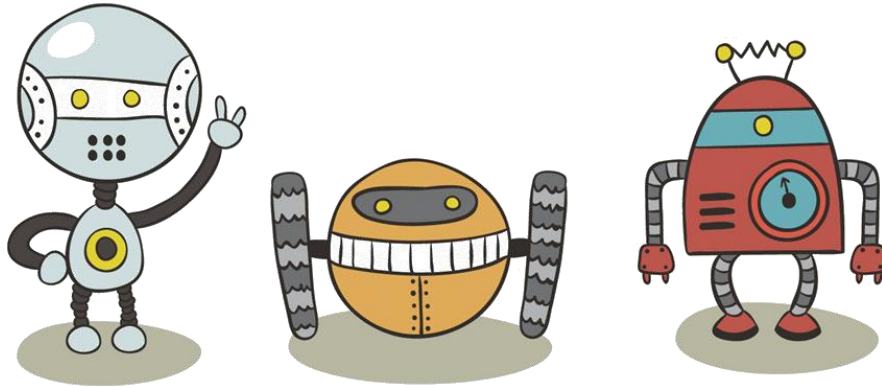
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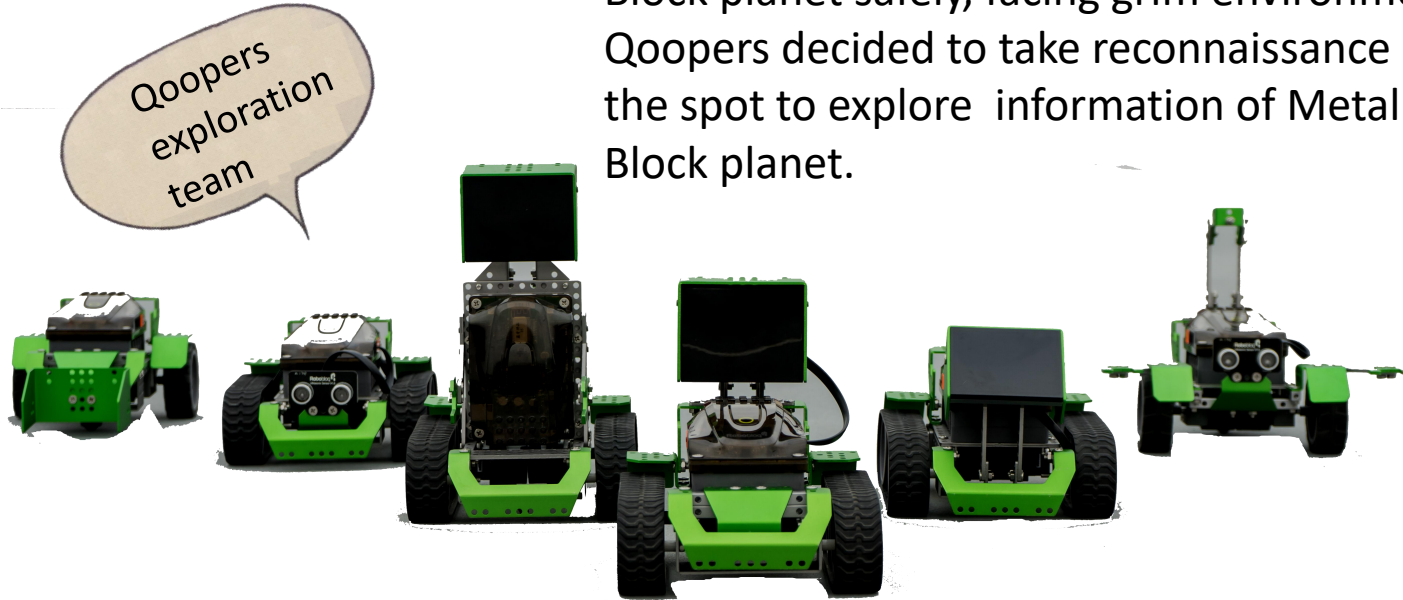
The small encyclopedia of robot

Robot is a kind of automated machine, which difference is this kind of machine have smart ability that is similar to human or organisms, such as perception,planning, action, coordination ability, it is a kind of automated machine that have advanced flexibility.
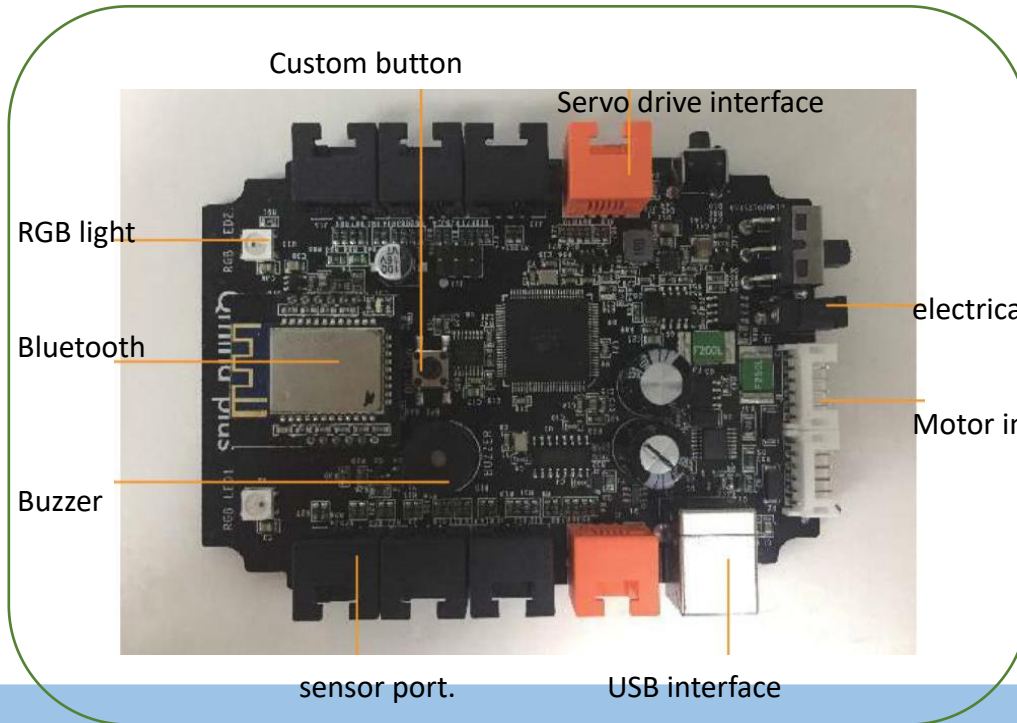
Knowledge explanation
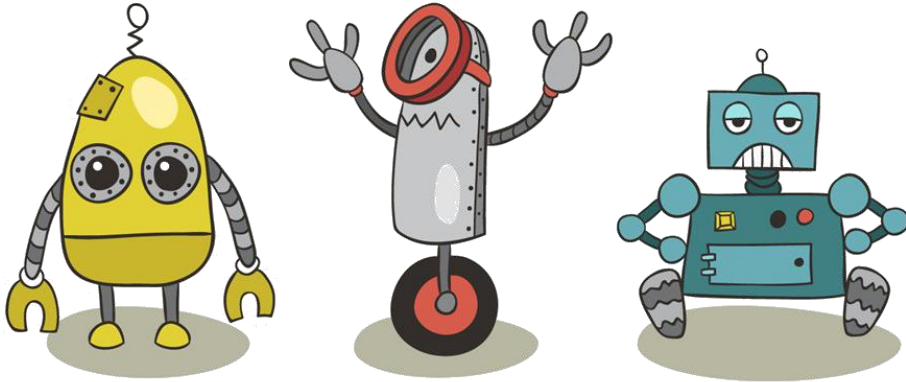
The small encyclopedia of robot

Usually, robot consists of perception system, control system, perform system, when robot works, robot perceive changes of outer environment by perception system, and then convey to control system to analyze environment information, then perform system performs action command.

Knowledge explanation

Robobloq

All the members of Qoopers, which core part is main control penal, assembled by metal component, install sensor to apperceive environment, and walk by electrical machinery.

The main components of structure are built by structure purlin, trestle, pieces, wheels.

Knowledge explanation

The main control penal equals to brain of human, it can deal with information returned by sensor according to environment change to control movement of itself.

Custom button

Servo drive interface

RGB light

Bluetooth

electrical source interface

Motor interface

Buzzer

sensor port.

USB interface

Knowledge explanation

Ultrasonic sensor

The ultrasonic sensor of perception system can detect distance between the front obstacle and sensor probe, achieving Qoopers avoid block automatically by apperceiving distance and controlling electrical machinery.

Knowledge explanation
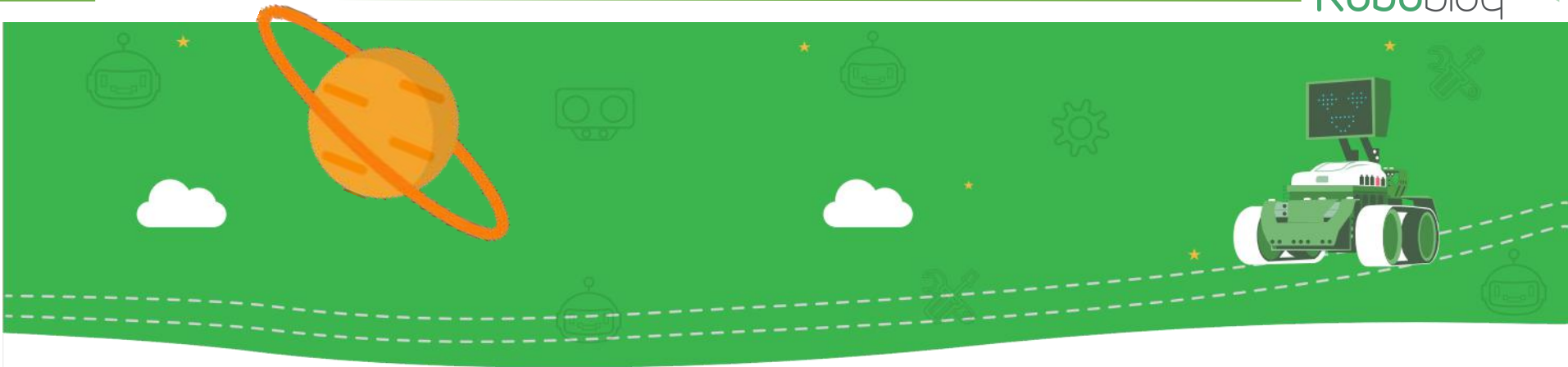
Qoopers, no matter take action or finish task, both controlled by programming. you can use mobile phone APP and computer to program and upload to Qoopers.

Robobloq

Knowledge explanation

The interface of Qoopers mobile phone APP and computer programming application.
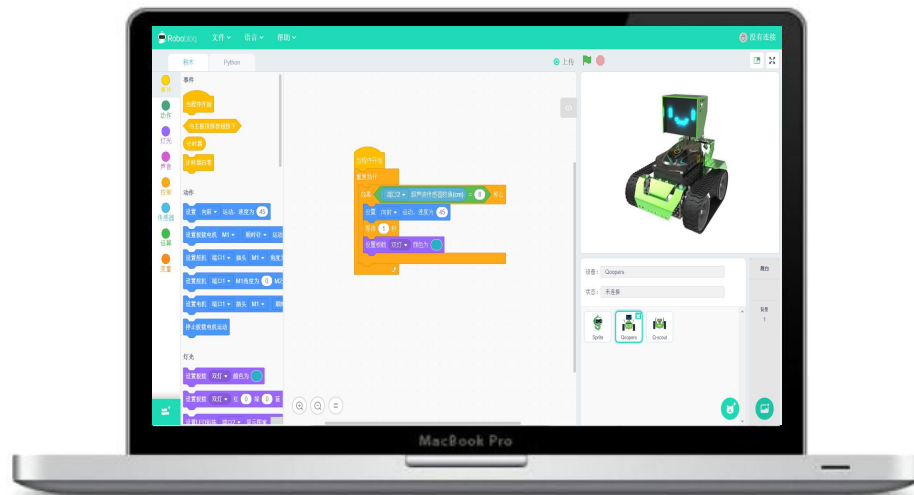
Knowledge explanation

On the basis of difficult degree and variety, Qoopers mobile phone APP programming divided into primary level and Intermediate level programming.
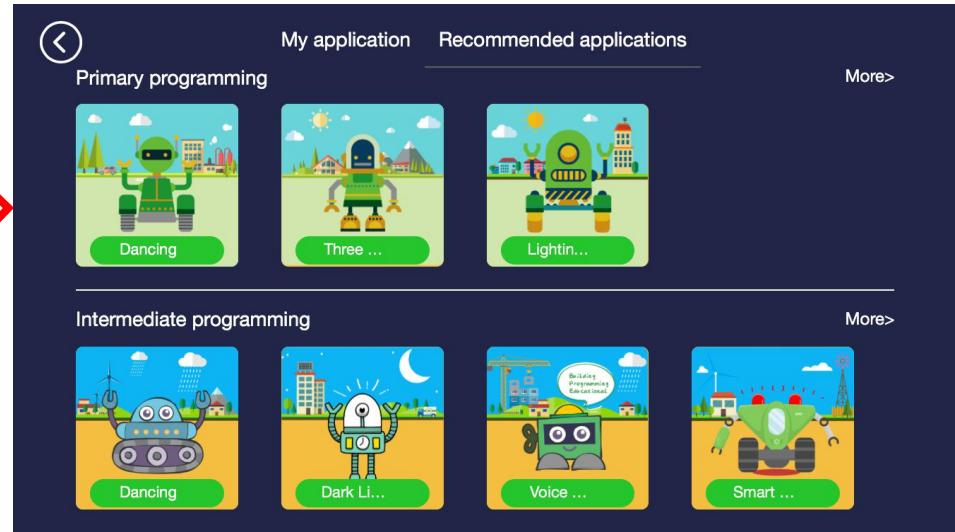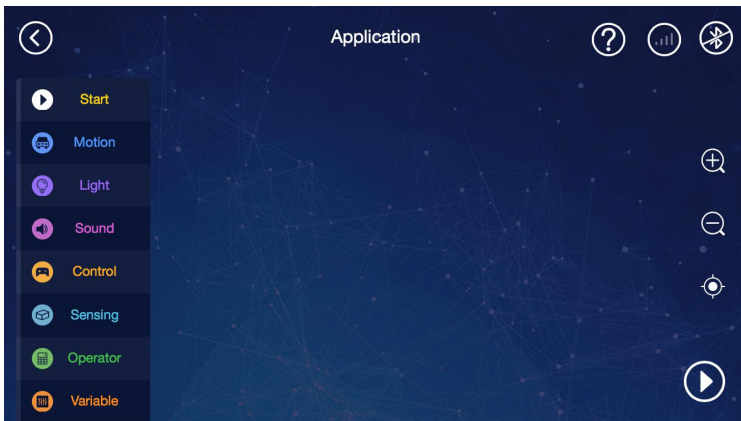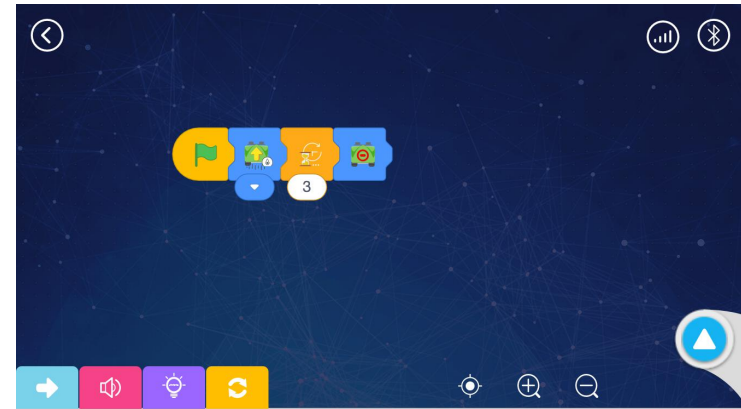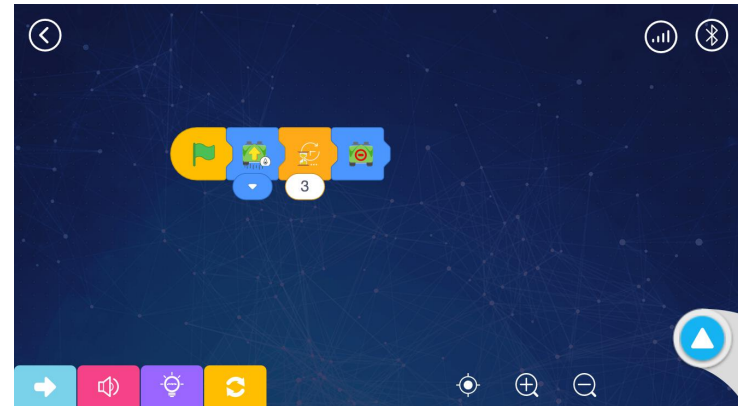
Knowledge explanation

Connect Qoopers and mobile phone:

Open mobile bluetooth and close to Qoopers, click on bluetooth icon on the top right corner of mobile phone, wait to connect, when bluetooth icon, which on the application screen, become. it indicates that connect successfully， it can operate procedure when click on icon ,robot electrical source switch need to turn on before connection.

The connection is successful and is being initialized.
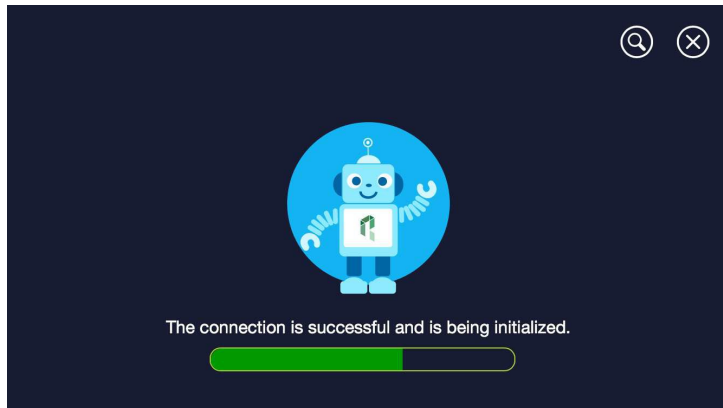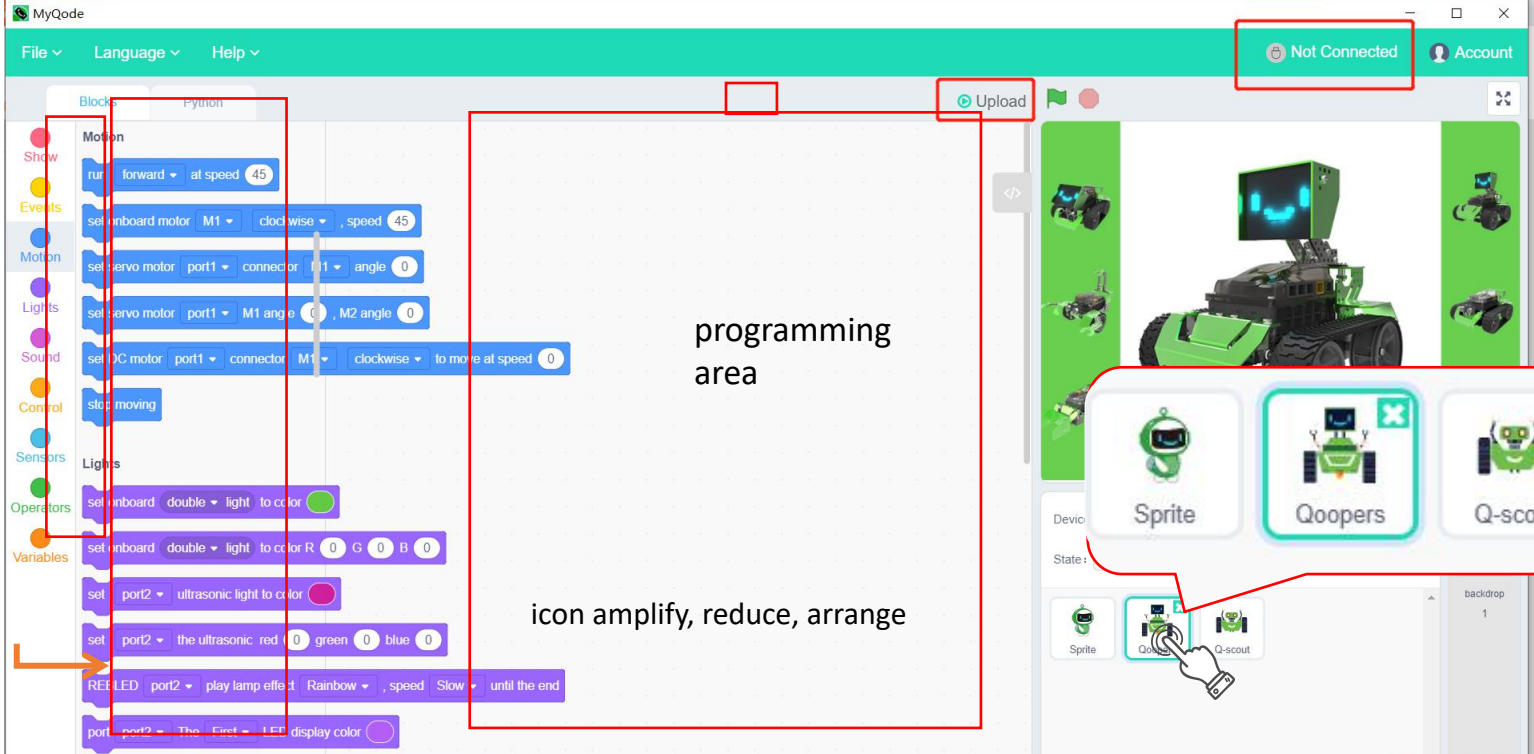
Knowledge explanation

Programming on the computer end, open Robobloq programming application, enter into programming interface.
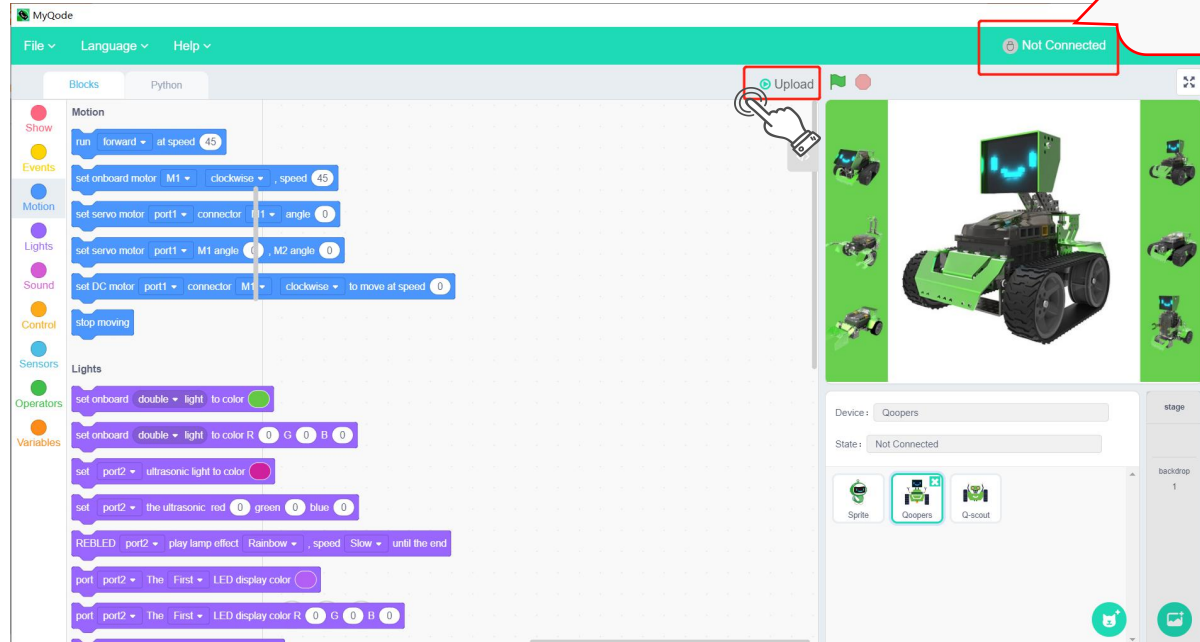
Knowledge explanation

Qoopers connect to computer, after procedure programmed, use download line connect computer and main control penal.

Knowledge explanation

After connected and download, click "not connect" icon on the top right corner of application to connect.
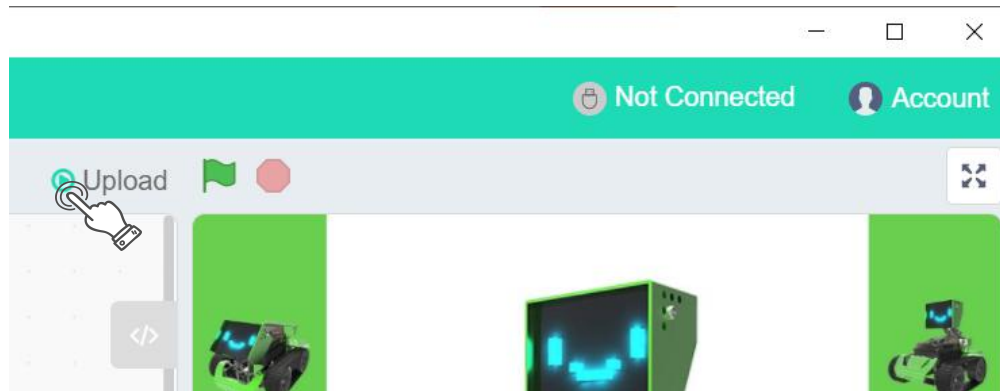
Not connect

Switch to bluetooth connection

Knowledge explanation

Upload procedure, click on upload on the application screen, when exist " update successfully, it has connected window", it indicates Qoopers upload procedure successfully, open the switch of main control penal, then it can operate procedure.
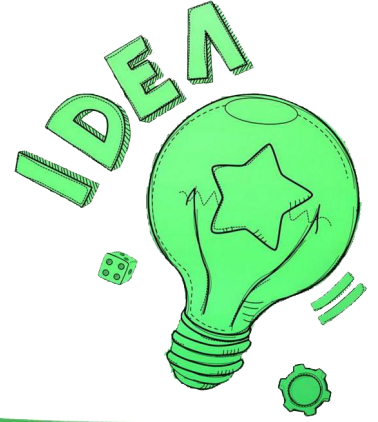
Summary and rethink

1.Do you know what parts correspond to robot's perception system, control system and perform system?

2.What is the difference between mobile phone programming connection way and computer programming way?

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