Q-scout Series Course

Robobloq

Section 5：
《Always on Call》

Curriculum objectives

Knowledge and skills (Technical)

1. Learn the usage of Q-scout custom button.
2. Learn the usage of the "control module, "start module", "motion module" and "sensor module" for the intermediate level programming.
3. Learn loop statement and making use of the conditional statement.

Knowledge and skills (Cognitive)

1. By using various conditional statements based exercises students are able to enhance their logical thinking ability.
2. Various tasks or project driven challenges help students improve their problem solving skills
3. **Knowledge and skills (Emotional attitude and values)**

1. Cultivate students' spirit of courage and dedication through course guidance.

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Curriculum introduction

Firemen play a very important role in making our life peaceful and disaster free. Their exceptional bravery and professional efficiency not just extinguish fires but also obviates any sort of disaster. They are always on the standby mode and their exceptional bravery always inspire us and so as to our Q-scout.

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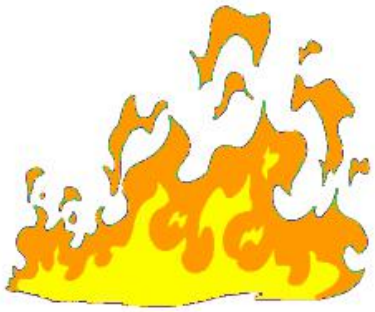
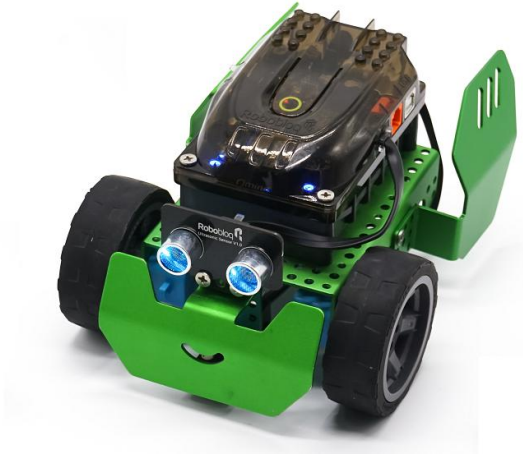
Curriculum introduction

The firemen are always ready to carry out their missions. Can our Q-scout do the same? When a Q-scout receives a new assignment, it must set off immediately and it must be always ready all the times, for such challenges.





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Task analysis

In order to make our Q-scout to immediately respond as an on-call bot, we need to consider two questions.

1. How does Q-scout decide that the message received by it a relevant to the On-call action?

2. In what way we can write a program to implement the due process by Q-scout after receiving a message regarding On-call action?

Hands-on practice

Let’s Learn the custom button:

It is basically a button/switch whose functions can be programmed. By using the custom button, when we press the button, we can make our bot to perform certain task. And, that task can be defined in a program. So, after defining the task for the custom button, when we press the button, the mainboard receives that defined instruction, if button is pressed.

custom button

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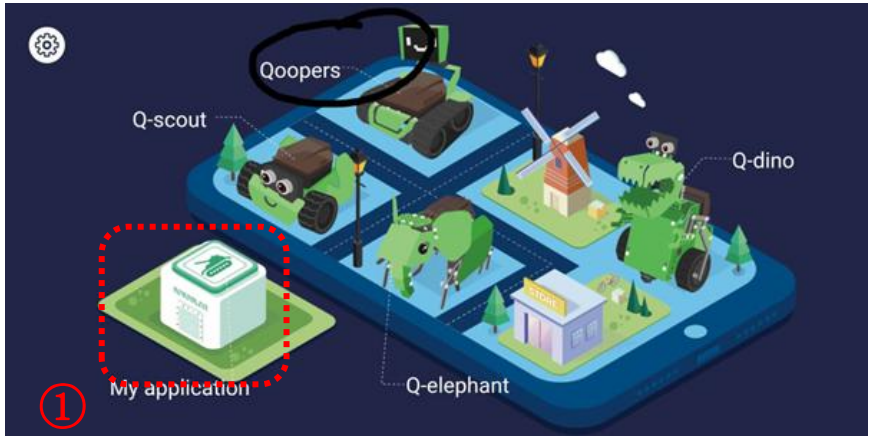
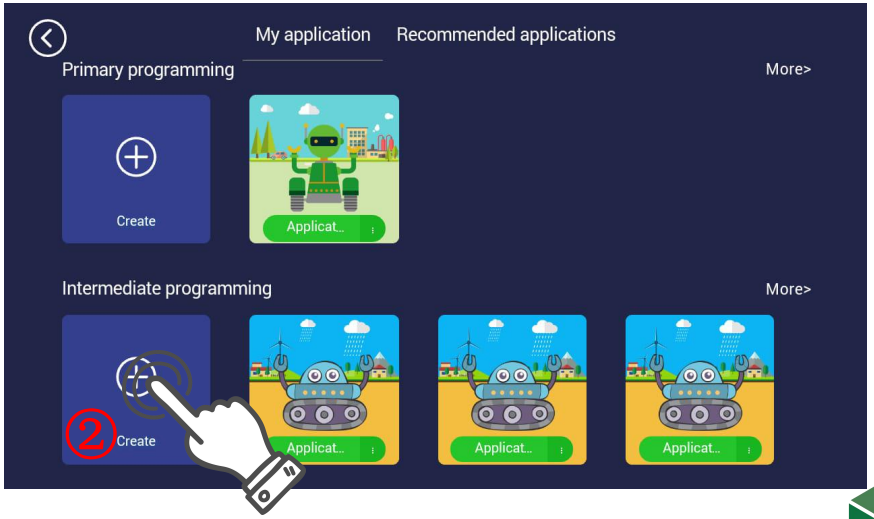
Knowledge explanation

Learn intermediate programming of Q scout:

①click on the "my application" on your opened mobile app ② click on intermediate programming, and then “create application”





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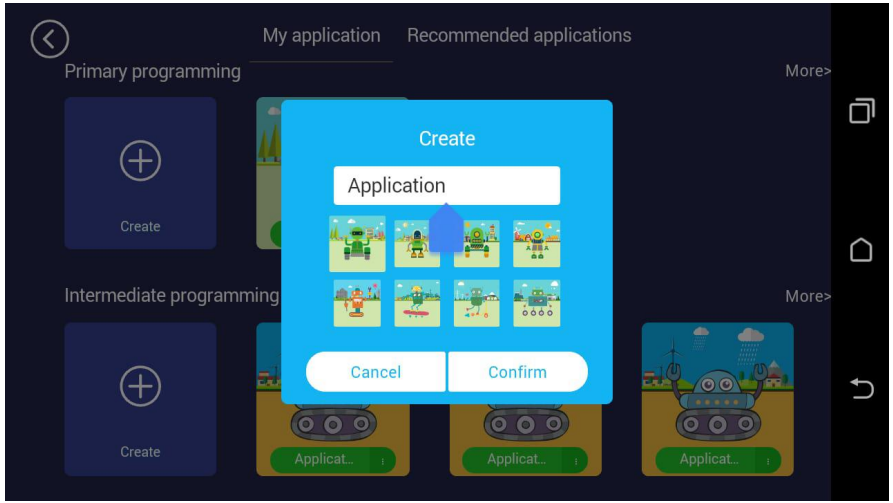
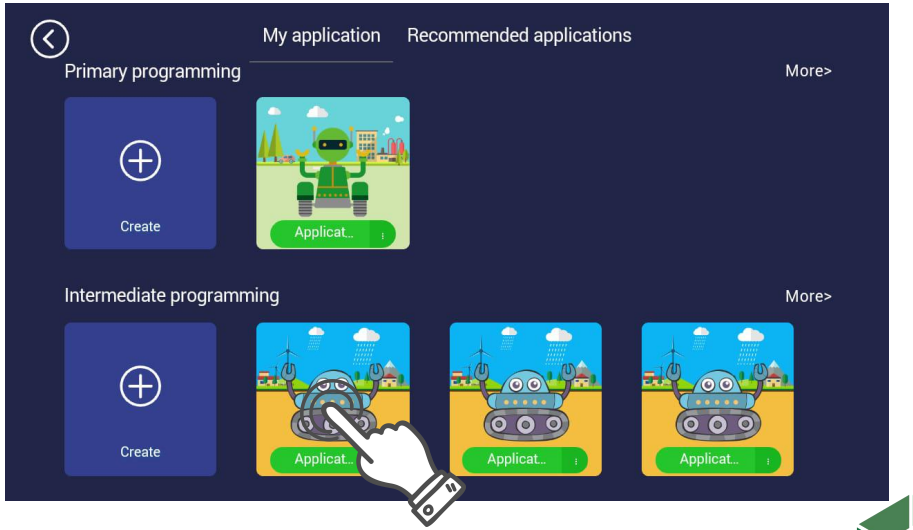
Knowledge explanation

③Enter the new applucation name, such as Q-scout ④ Click on the created new application icon





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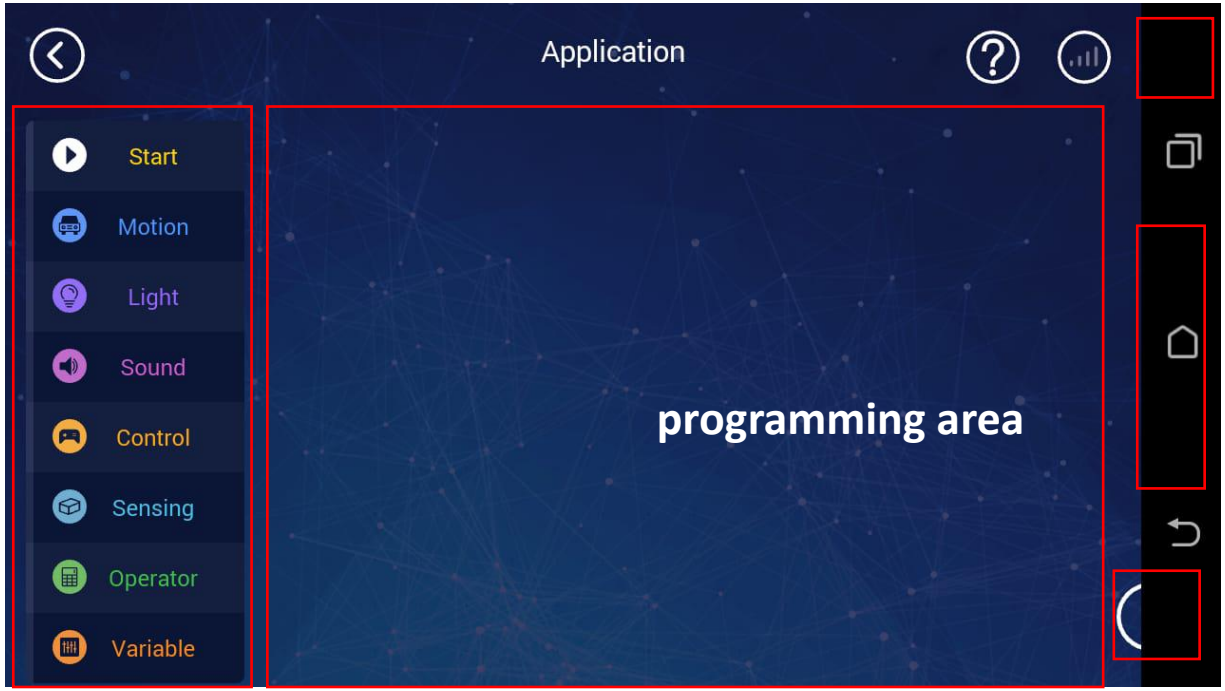
Knowledge explanation

Know intermediate programming interface



The icon of connecting bluetooth

Tool icon(icon amplify，deflate，mediacy)

Program running icon

Icon modules area

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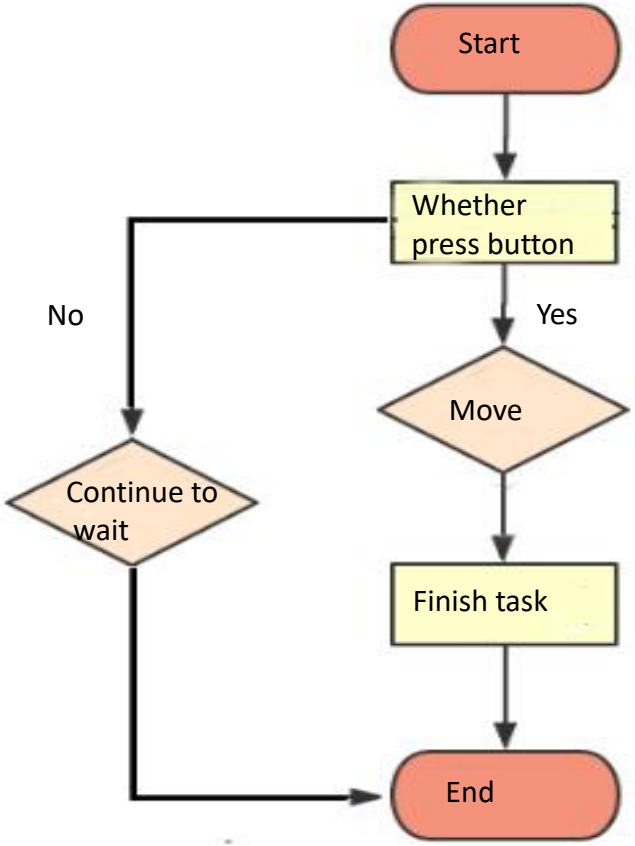
Hands-on practice



According to flow chart analysis , Q-scout performs the task mentioned in the program after the button press event.

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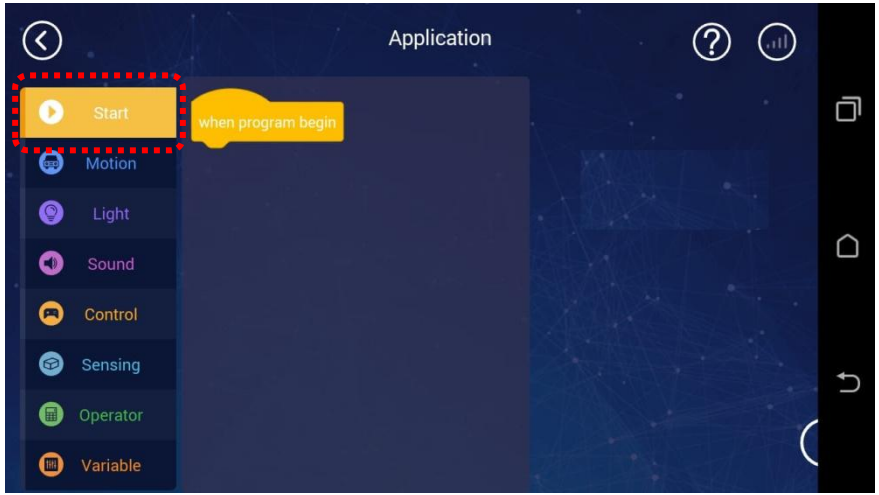
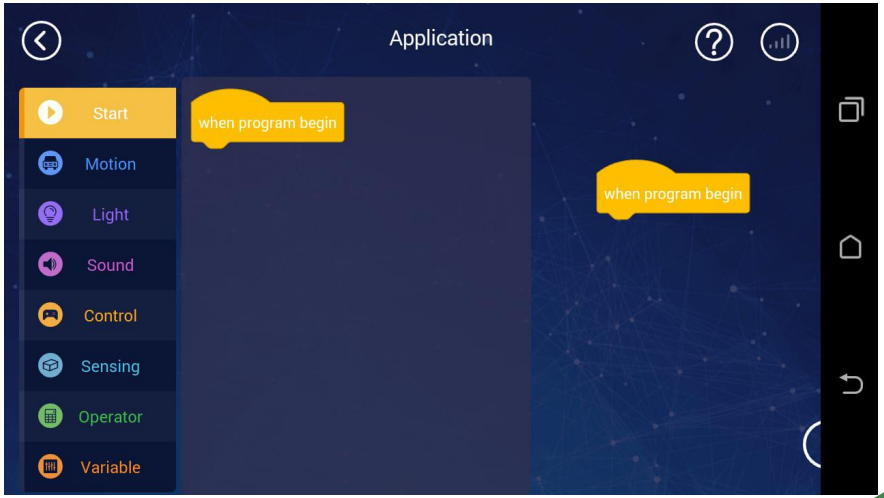
Hands-on practice

How to use start module: Start icon is the necessary a beginning icon for every program, and each segment start only with this start icon.

Click on the start icon, drag the "as progarm start" icon to programming area with your finger.





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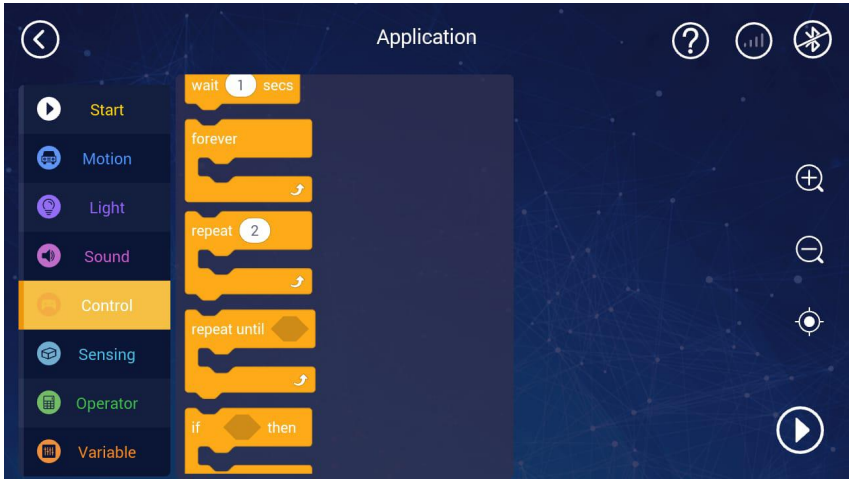
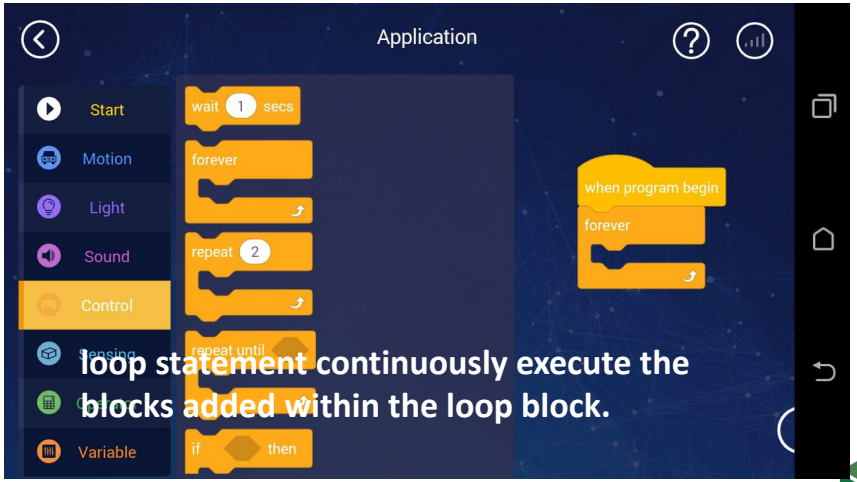
Hands-on practice

Learn control module: This module has wait () (seconds) statement, and other statements for continuous loop execution, repeat perform() times, and so on.

So, you can pick the wait block from this module if you wish to keep your bot on the wait mode unless the button is pressed.





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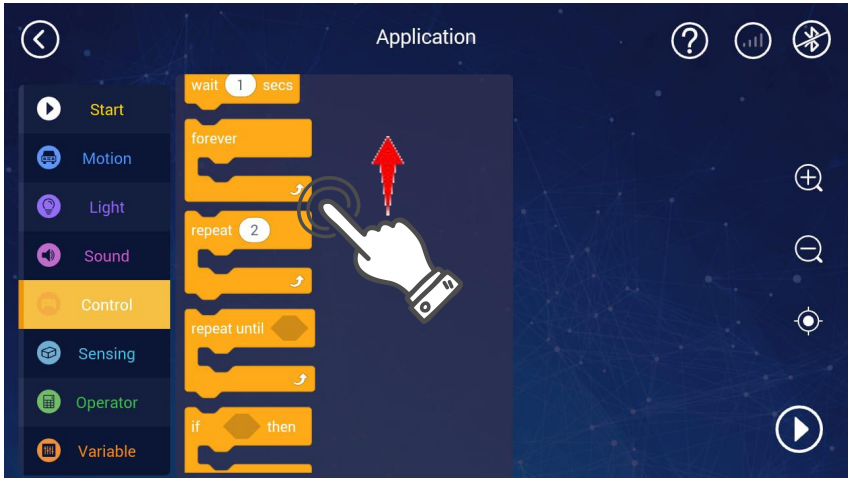
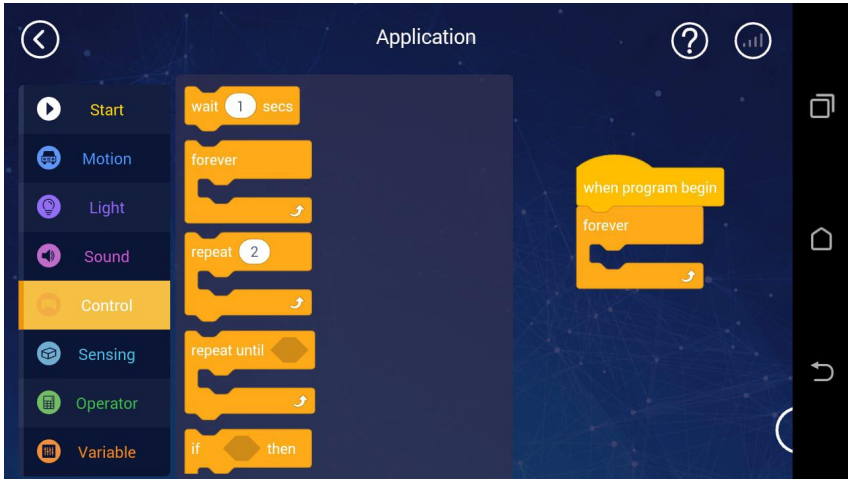
Hands-on practice

Learn condition judgment statement: 

If a given condition is matched, then this block will execute the command added within this block.





Slither upward, choose condition judgment icon.

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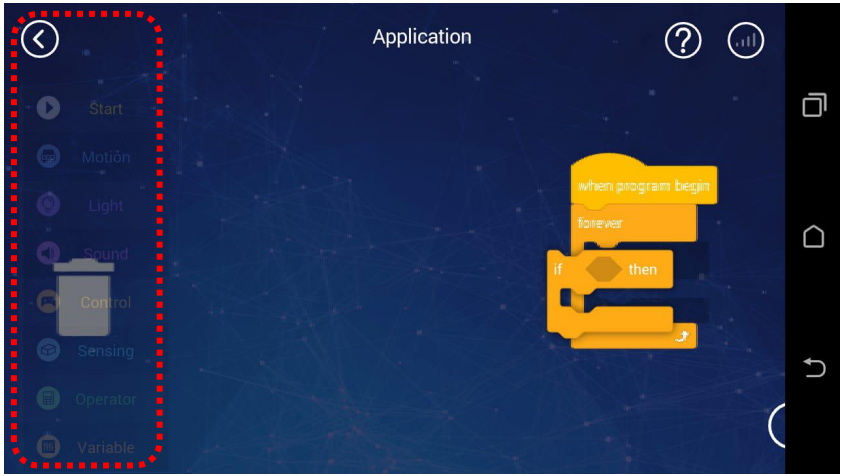
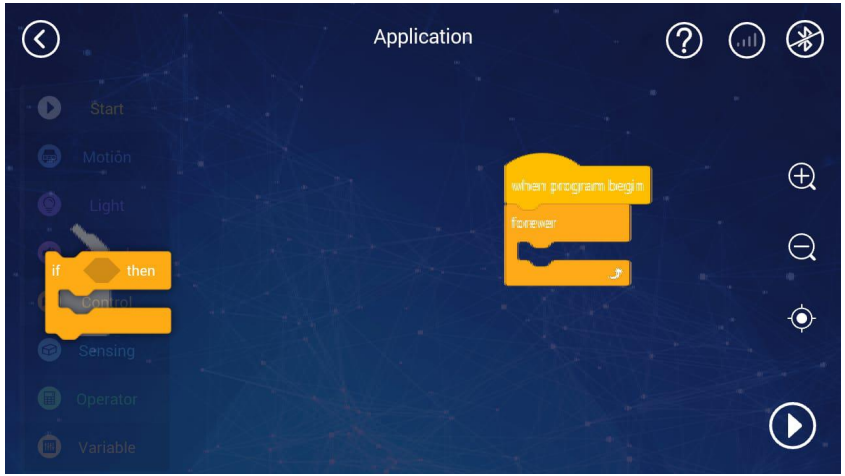
Hands-on practice

Delete icon: While writing a program, if you need to delete some undesirable blocks then you can drag those blocks and drop to left side on the thrash icon.





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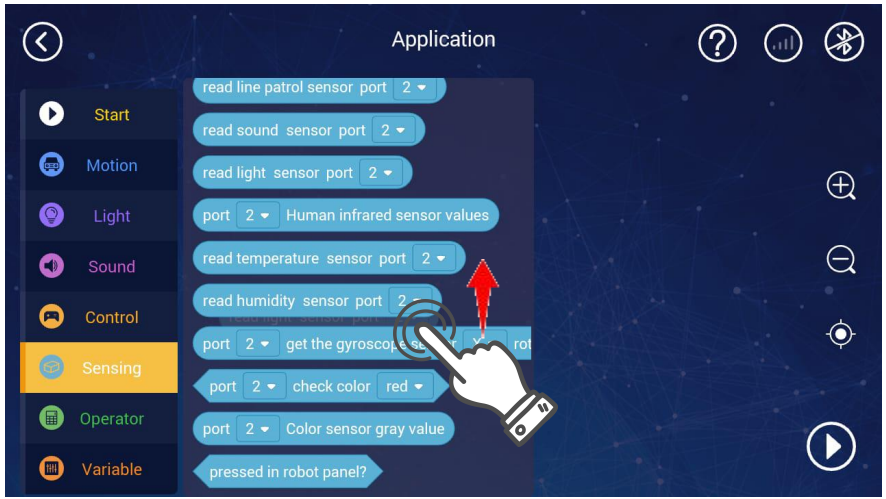
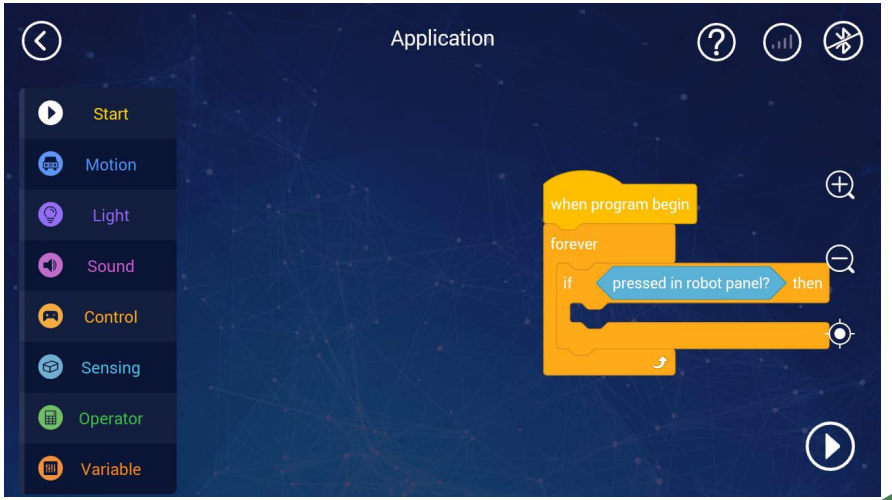
Hands-on practice

Learn sensor module: Using custom button function, drag the icon of "whether button is pressed" upward, put it in the "conditional judgment statement"





Slither upward，drag the icon of "whether press button" on the top of main board

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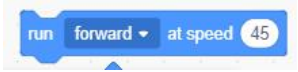
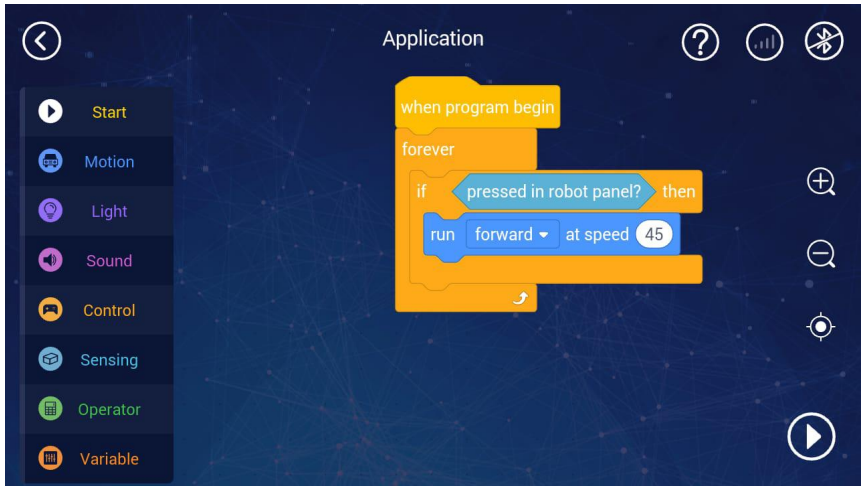
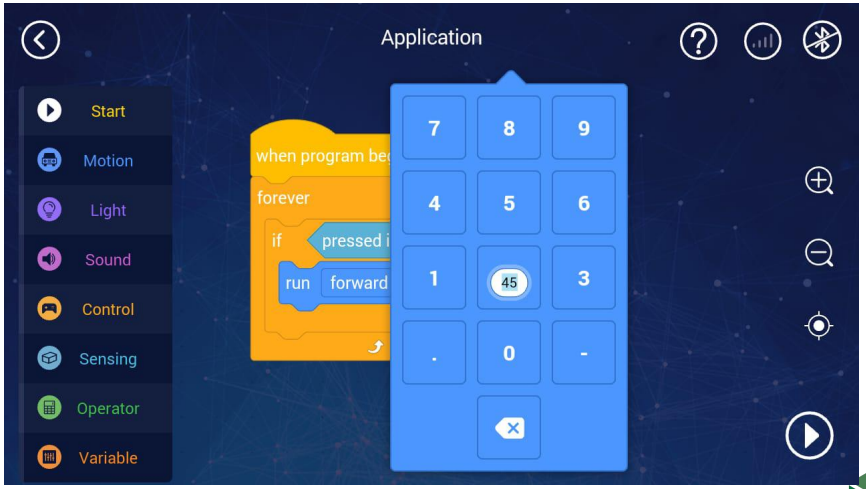
Hands-on practice

Learning motion module: The motion module mainly controls the rotation speed and angle of the motor, choose 

icon to place the programming area.

Click the icon in the digital area to set the forward speed of the motor.





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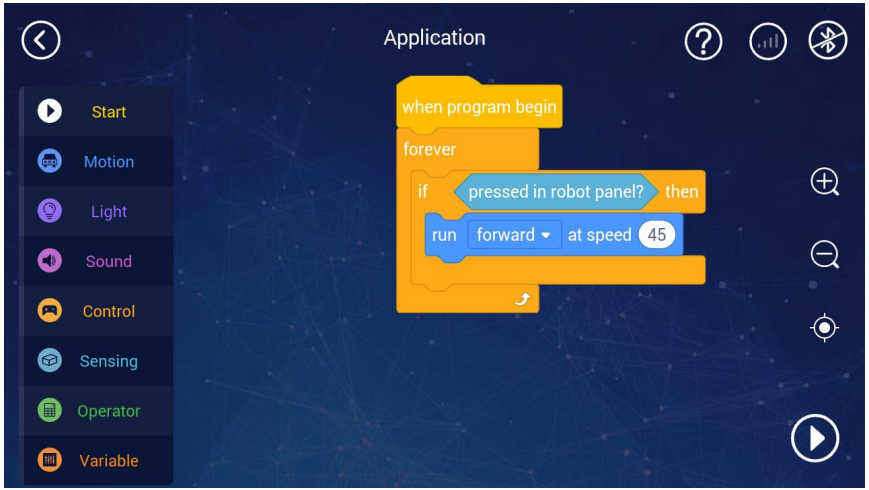
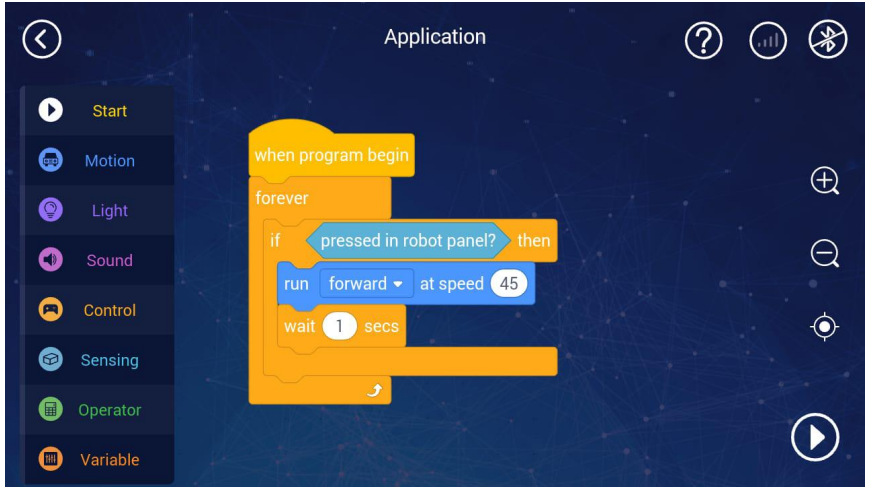
Hands-on practice

Learn the wait time module: The wait time module increases the elapsed time between two module icons. Such as: motor rotation time length can be set by the time module.





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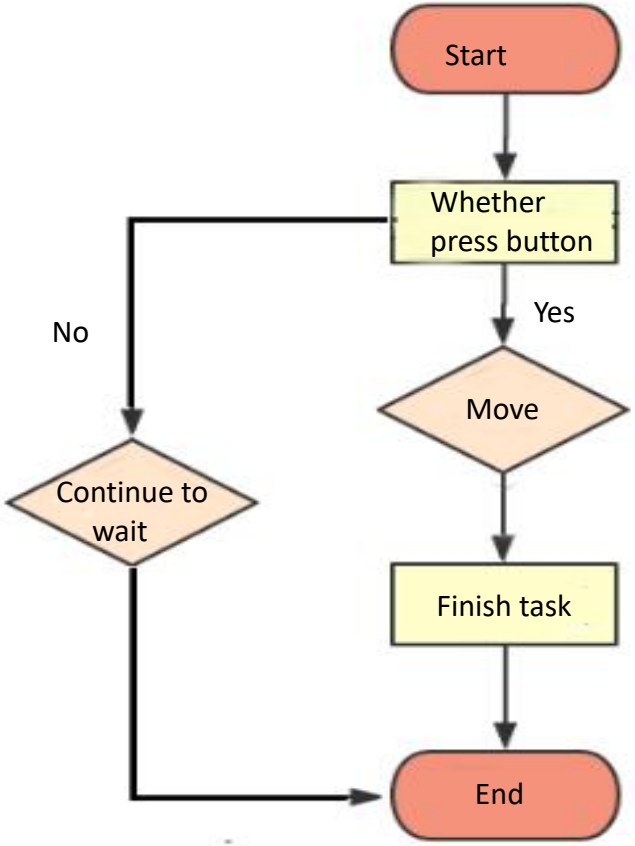
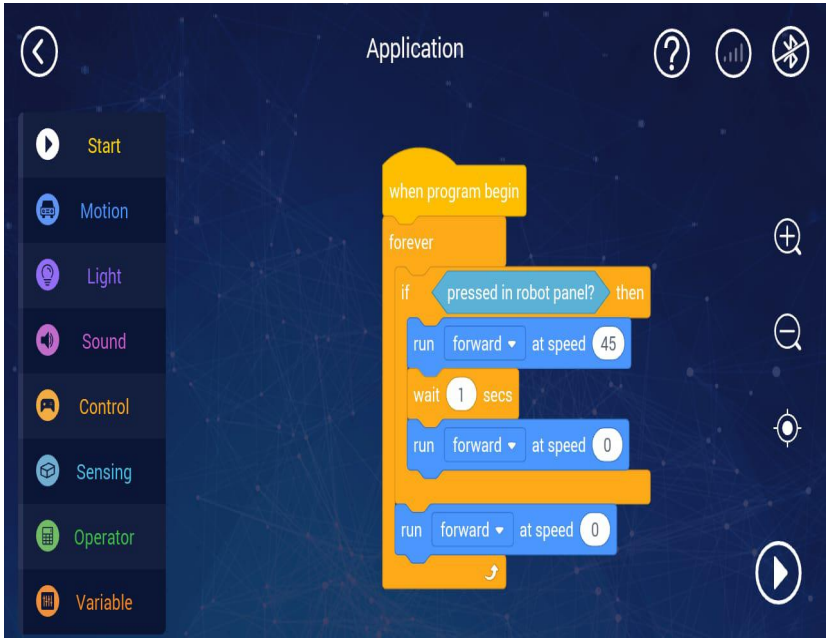
Hands-on practice



Based on the given flowchart, write a program to keep Q-scout on the standby mode.



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Extends

1. In the intermediate program, loop module have two modes, they are continuous loop execution (forever) and repeat perform ( ) times. "Repeat perform ( ) times" could set loop times, and " forever "will be always executed until it matches the given conditions.

2. As earlier we have written a program for Q scout to turn left or right, similarly try writing a more complex program for Q scout.

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