

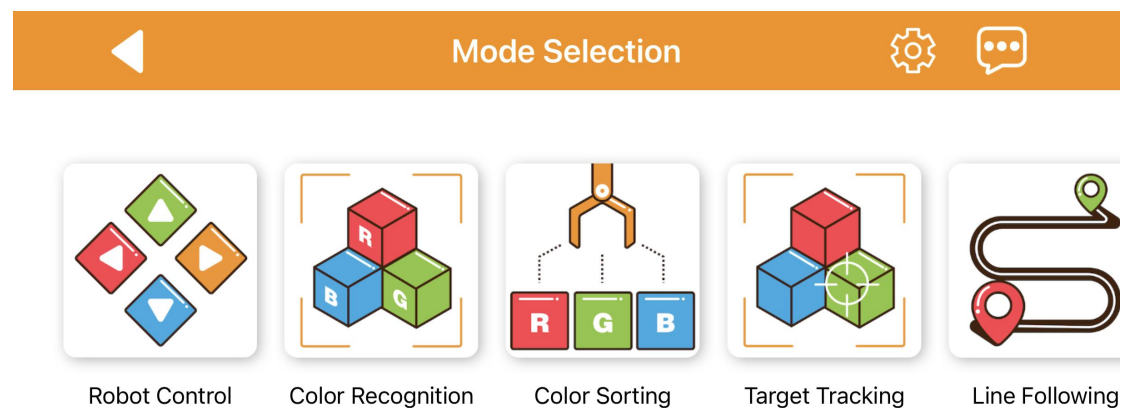
Quick User Experience

1. Getting ready

Please refer to the file in “1.Getting Ready/2.Preparation/Lesson 1 App Remote Control/1.App Installation and Connection” to install app and connect MasterPi.

2. Start Games

Click MasterPi icon to enter the Mode Selection interface.






2.1 Robot Control

- 1) Select “Robot Control” to enter this game, and then MasterPi will return to the initial position.




- 2) The interface of “Robot Control” can be divided into three parts. The left side of the interface can control the movement of the robotic arm by dragging the slider. Other function icons can refer to the following table:

Icon	Corresponding Function
	Drag to control MasterPi's movement
	Control the rotation direction of MasterPi
	Control MasterPi back to the initial posture.

The real-time image transmitted by camera indicates voltage value of MasterPi's battery. (Note: when the battery voltage is less than 7V, please charge it as soon as possible)

The right side of the interface can be used to control the angle of 5 servos so as to control the movement of the robotic arm.

- 3) If you want to back to the games option interface, you can click the blank area, then the title bar will appear. Next, click  at the left side.

2.2 Color Recognition

Note:

① Please start this game under a well-lit environment, but try to keep it from direct light.


② When recognizing, please do not have the same or similar colored object within the detected range to avoid interference.


③ If the recognition effect is not good enough, please refer to “1.Getting Ready/2.Preparation/Lesson 2 Color Threshold Adjustment”

1) Click “Color Recognition” to enter this game. Its interface is as follow:



2) After clicking “Start recognition”, point red, blue, or green object at camera. When recognizing red, MasterPi will perform “nod” action; when recognizing blue or green, MasterPi will perform “shake head” action.

Button Icon	Function Instruction
<div>Start recognition </div>	Start or stop this game
<div>Threshold setting</div>	Set color threshold

- 3) If want to back to mode selection interface, you can arbitrarily click the blank area in interface, then click .

2.3 Color Sorting



Note:


- ① Please start this game under a well-lit environment, but try to keep it from direct light.
- ② When recognizing, please do not have the same or similar colored object within the detected range to avoid interference.
- ③ If the recognition effect is not good enough, please refer to “1.Getting Ready/2.Preparation/Lesson 2 Color Threshold Adjustment”.

- 1) Click “Color Sorting” to enter this game. Its interface is as follow:



- 2) Click “Start sorting”, and then point the colored block at camera. After recognizing, the gripper will open automatically. Then take block in the middle of gripper, the block will be transported to the corresponding area.

Button Icon	Function Instruction
	Start or stop this game
	Set color threshold

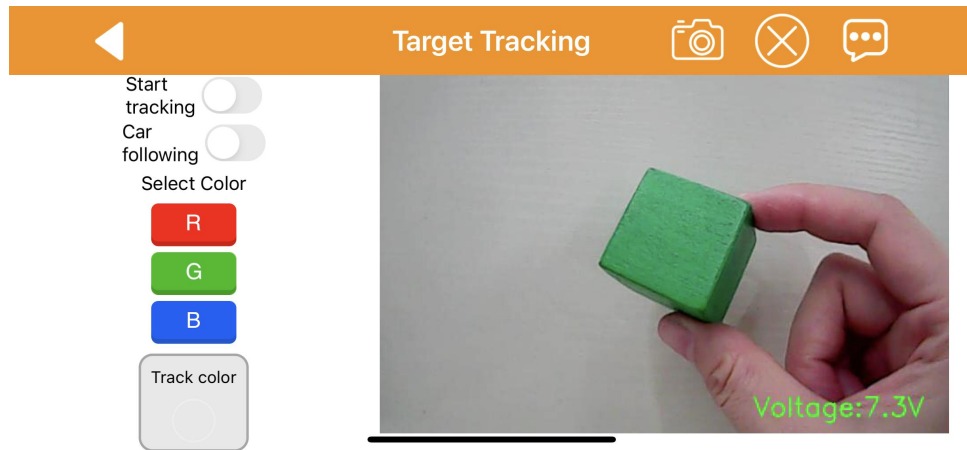
- 3) If want to back to mode selection interface, you can arbitrarily click the blank area in interface, then click .

2.4 Target Tracking





Note:


- ① Please start this game under a well-lit environment, but try to keep it from direct light.
- ② When recognizing, please do not have the same or similar colored object within the detected range to avoid interference.
- ③ If the recognition effect is not good enough, please refer to "1.Getting Ready/2.Preparation/Lesson 2 Color Threshold Adjustment".

- 1) Click "Target Tracking" to enter this game. Its interface is as follow:



- 2) After selecting the targeted color, click “Start tracking”. After starting robotic arm tracking, robotic arm will move with the targeted color but the car is stationary. Then click “Car following”, car will follow the movement of the targeted color but the robotic arm is stationary.

Button Icon	Function Instruction
	Start robotic arm tracking.
	Start car following
	Select the targeted color
	Display the information of targeted color

- 3) If want to back to mode selection interface, you can arbitrarily click the blank area in interface, then click .

2.5 Line Following

Note:

Please start this game under a well-lit environment, but try to keep it from direct light.

When recognizing, please do not have the same or similar colored object within the detected range to avoid interference.

If the recognition effect is not good enough, please refer to “1.Getting Ready/2.Preparation/Lesson 2 Color Threshold Adjustment”


1) Click “Line Following” to enter this game. Its interface is as follow:



2) Click “Start following” to enter this game and select color. Then MasterPi will follow the targeted line.

Icon Button	Function Instruction
<div>Following <input type="checkbox"/></div>	Start or stop this game

<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Select Color </div> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: black; color: white; padding: 10px 20px; margin: 5px; border-radius: 5px;">BLACK</div> <div style="background-color: red; color: white; padding: 10px 20px; margin: 5px; border-radius: 5px;">RED</div> </div>	<p>Select the targeted color</p>
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- 3) If want to back to mode selection interface, you can arbitrarily click the blank area in interface, then click .


2.6 Obstacle Avoidance



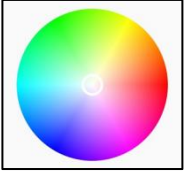
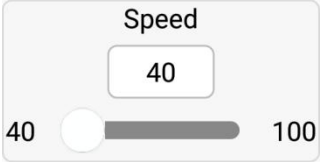
Note: Do not detect object at close range for a long time


- 1) Click “Obstacle Avoidance” to enter this game. Its interface is as follow:



- 2) Click “Start avoiding”. MasterPi will move forwards and it will turn left when detecting obstacle ahead.

Button Icon	Function Instruction
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Start avoidance  </div>	Start this game

	<p>Set obstacle threshold</p>
	<p>Turn on or off RGB light</p>
	<p>Adjust RGB light color</p>
	<p>Adjust motor speed</p>

- 3) If want to back to mode selection interface, you can arbitrarily click the blank area in interface, then click .