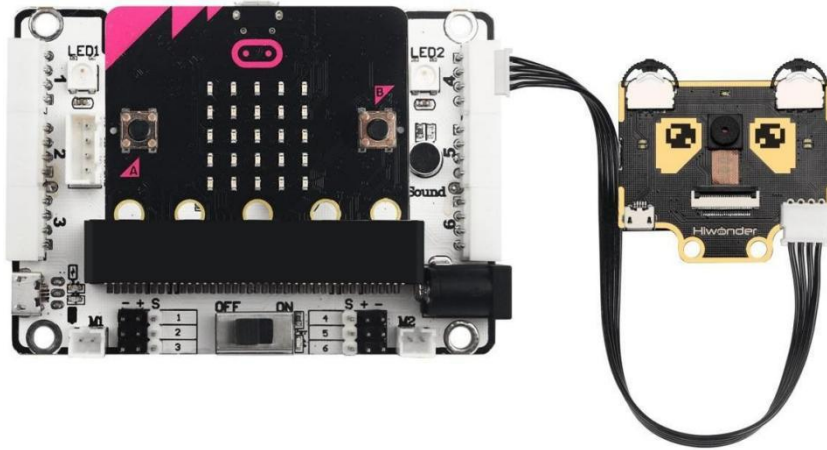


# Lesson 6 Landmark Recognition

## Integration with micro:bit

### 1. Preparation

Connect WonderCam to micro:bit Expansion Board Port 4.



### 2. Learning Objective

- ① To know the connectivity of WonderCam on micro:bit Expansion Board
- ② To understand the program logic.

### 3. Programming Plan

In this lesson, we will integrate the Vision module Landmark Recognition function with the output from micro:bit Expansion Board. The program will first initialize the Vision module following by detecting the landmark and present it on the micro:bit Dot Matrix Display.

### 4. Programming

#### ◆ Adding Extension

Go to <https://makecode.microbit.org/> and create New Project. In the MakeCode Toolbox, select Advanced, click on Extensions to add the following two extension

packs:

<https://github.com/hiwonder/wondercam>

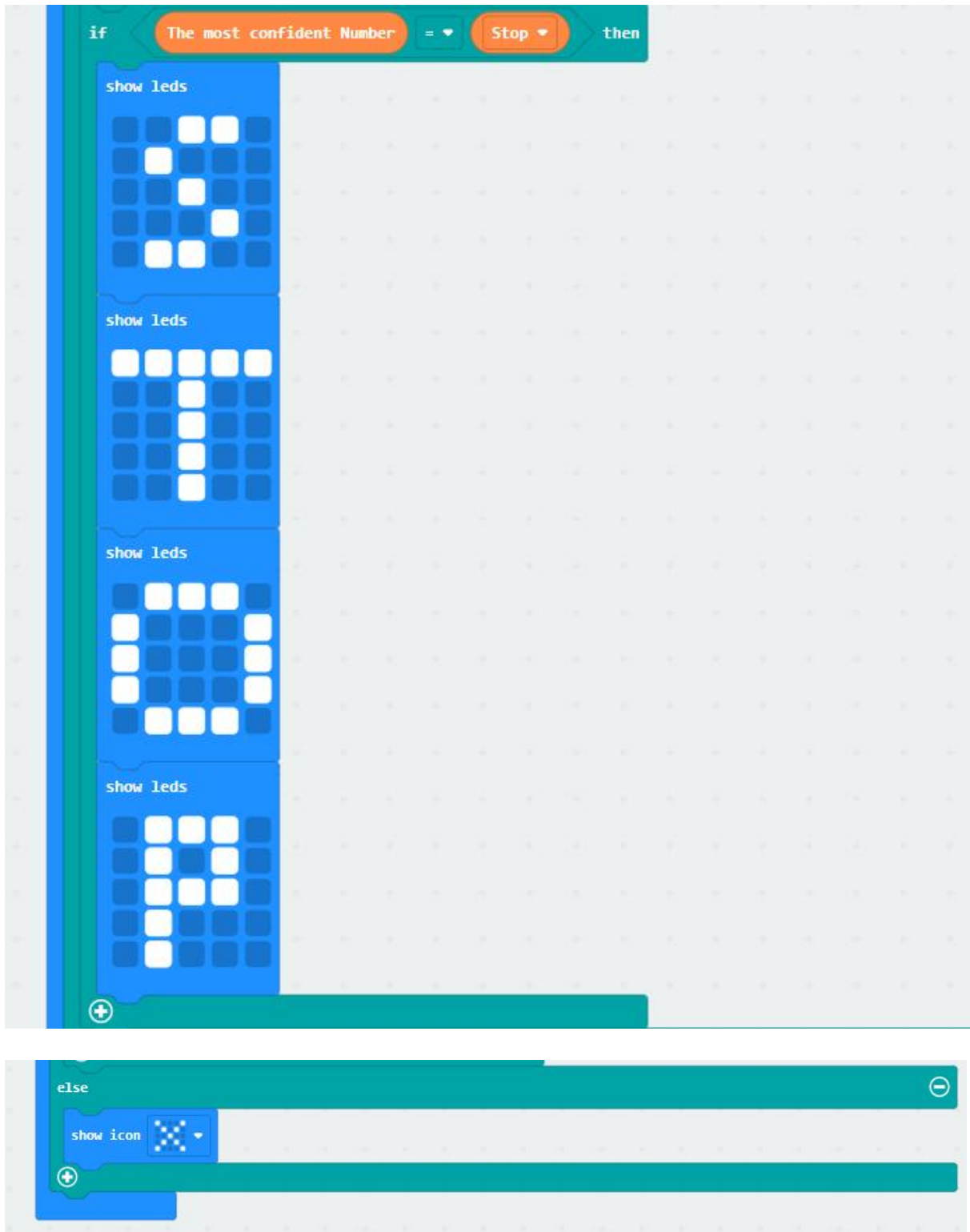
<https://github.com/Hiwonder/Startbit>

## ◆ Command Blocks

```

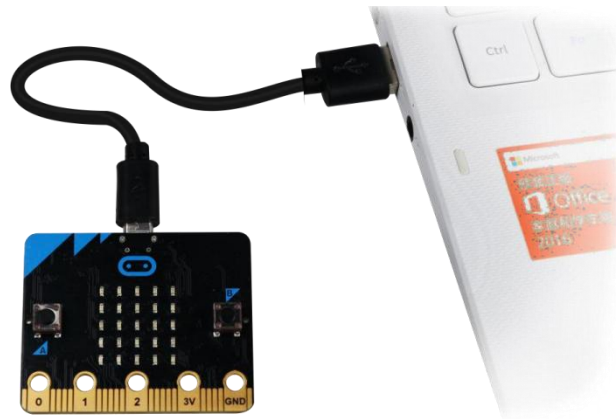
on start
  Initialize WonderCam at 0x32
  Switch to Landmark Recognition
  Turn ON led

forever
  Update and get results
  if The most confident > 0.5 and The most confident Number ≠ NoLandmark then
    if The most confident Number = Go forward then
      show arrow North
    if The most confident Number = Turn left then
      show leds
    if The most confident Number = Turn right then
      show leds
    if The most confident Number = Turn About then
      show leds
  
```



## 4.1 Pairing devices and program download

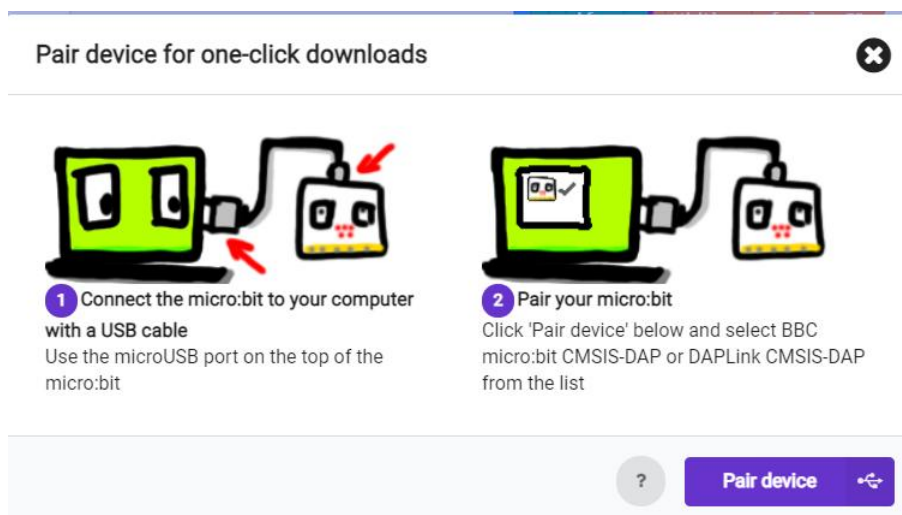
- 1) Connect micro:bit to computer.



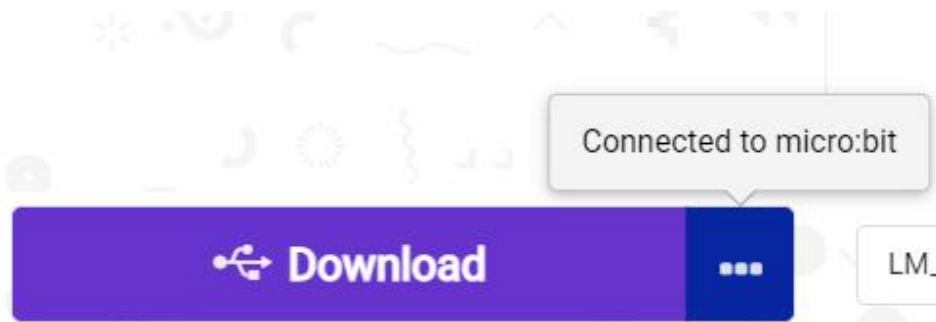
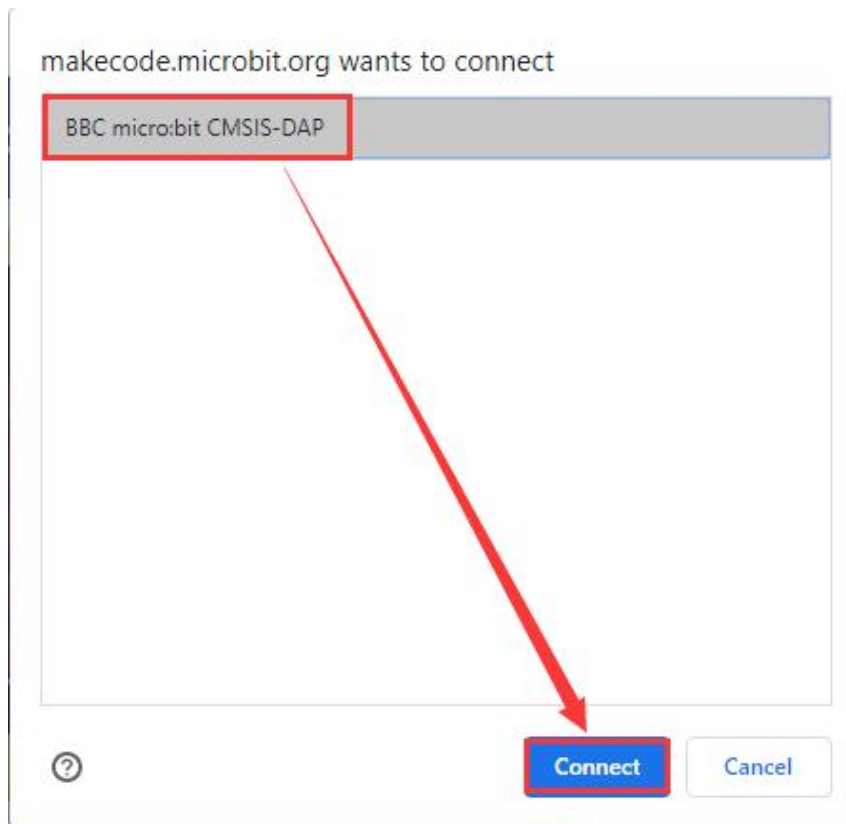
2) Click on “...” located beside “Download” and select “Pair device”.



3) Click on on “Pair device” on the Pop-up screen.

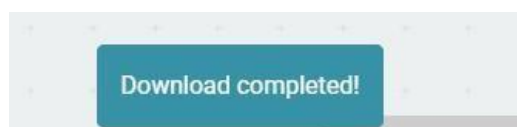


4) Click “Connect” as shown in image below.



5) Once connection is successful, click “Download”. During downloading process, the yellow light on micro:bit will blink consistently, do not disconnect or change USB cable.

6) When download is finished, the light on micro:bit will remain on and screen will appear Download completed message.





名称	修改日期	类型	大小
DETAILS.TXT	2016/3/22 星期...	文本文档	1 KB
MICROBIT.HTM	2016/3/22 星期...	Chrome HTML D...	1 KB



Tips: In micro:bit drive there are two files as show in image above. DETAILS.TXT records the data information of the micro:bit board. MICROBIT.HTM links to micro:bit official web page (computer need to be online when click).

## 5. Results

\*Please refer to Lesson 6 Landmark Recognition on how to program Line recognition.

After program is downloaded, connect micro:bit to Expansion board and switch power to ON. WonderCam will automatically start on Landmark Recognition function.

Place the card in front of WonderCan, LED will display corresponding landmark.