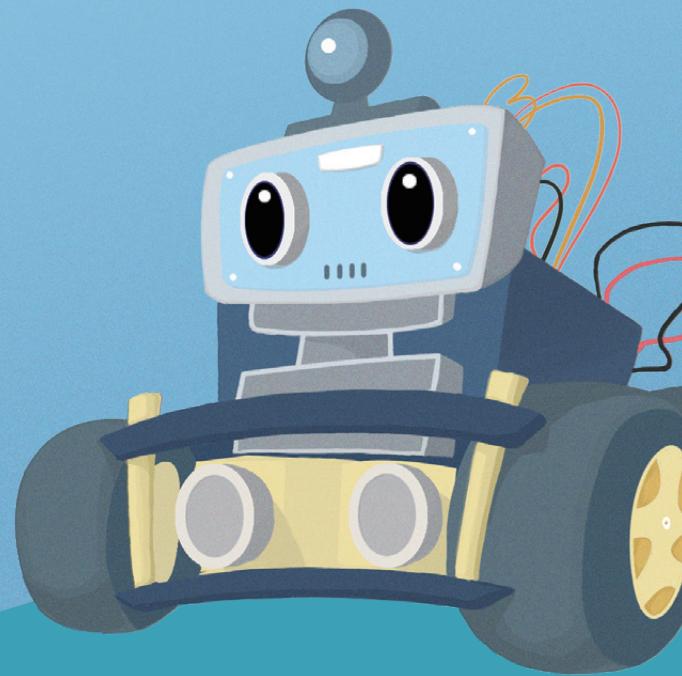


6

SMART ROBOT CAR V4.0 WITH CAMERA



Follow
Mode





Introduction:

- + In this lesson, we will teach you how to achieve the Follow Mode of the Smart Robot Car and make it follow the target to move forward.

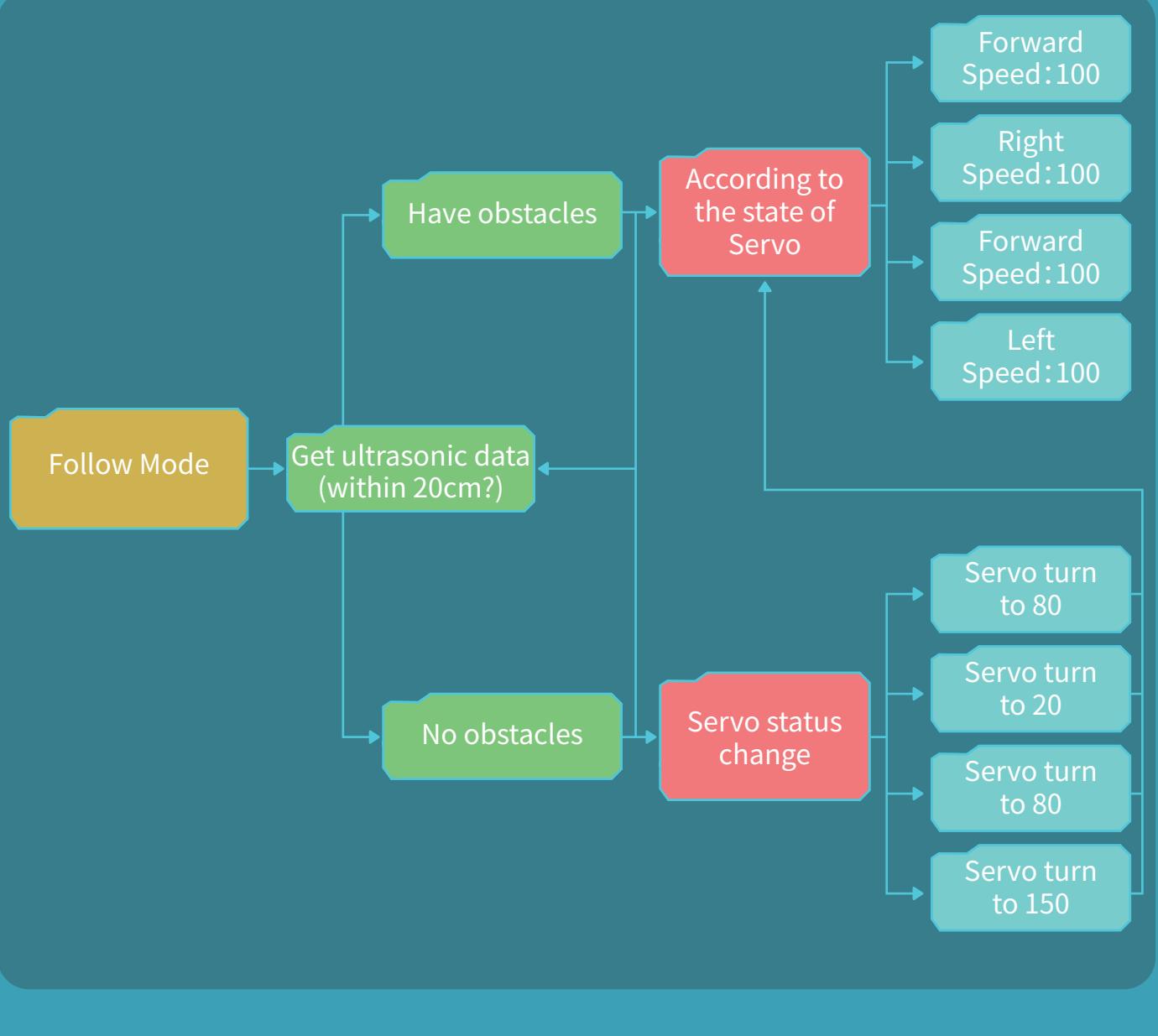


Preparation:

- + A Smart Robot Car (with battery)
A USB Wire

- + The realization of Smart Robot Car's Follow Mode is also uses the ultrasonic module, but it is slightly different from the usage of Obstacles-avoidance Mode.

Let's take a look at the overall framework of the implementation principle of the Follow Mode using the ultrasonic module and then analyze the program:



Please open Demo1 in the current folder:

First of all, let's take a look at the definition of the relative functions and variables of the Follow Mode.

```
C:/ // in ApplicationFunctionSet_xxx0.h
#ifndef _ApplicationFunctionSet_xxx0_H_
#define _ApplicationFunctionSet_xxx0_H_

#include <arduino.h>

class ApplicationFunctionSet
{
public:
    void ApplicationFunctionSet_Init(void);
    void ApplicationFunctionSet_Follow(void);

private:
    volatile uint16_t UltrasoundData_mm;
    volatile uint16_t UltrasoundData_cm;
    boolean UltrasoundDetectionStatus = false;
public:
    boolean Car_LeaveTheGround = true;
    const int ObstacleDetection = 20;
};

extern ApplicationFunctionSet Application_FunctionSet;
```

⊕ Then, as for the programming of the Follow Mode, you can list the situations described in the flowchart when the target is not found and write them down.

```
C:/ // in ApplicationFunctionSet_xxx0.h
void ApplicationFunctionSet::ApplicationFunctionSet_Follow(void)
{.....}
```

⊕ Upload program. (Please toggle the “Upload-Cam” button to “Upload” when uploading the program.) After successful upload, please put the Smart Robot Car on the ground steadily and then turn on the switch. By default, when the ultrasonic module recognizes that there is a target in front, the Smart Robert Car will go straight ahead, and when there is no target in front, it will turn to find the target intelligently.