AI Voice Interaction: Playing football

Function Introduction

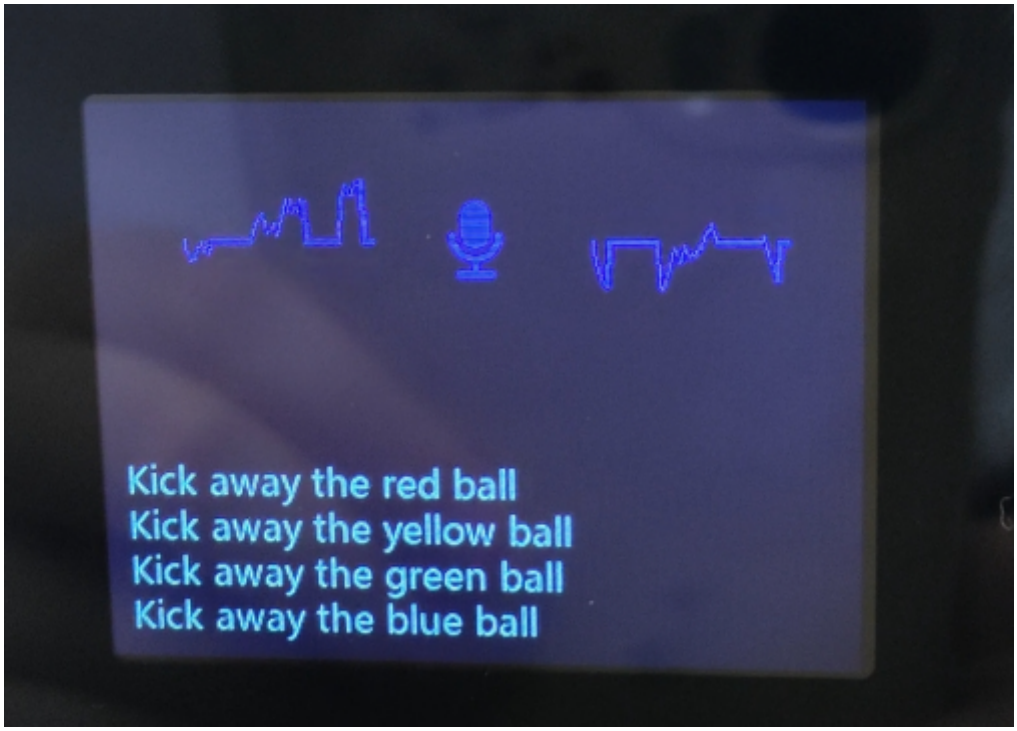
This case is how to play the startup program. You can say the color of the ball you want to kick according to the words prompted on the screen, and the robot dog will kick the ball of the corresponding color.

This function requires an Internet connection to work properly

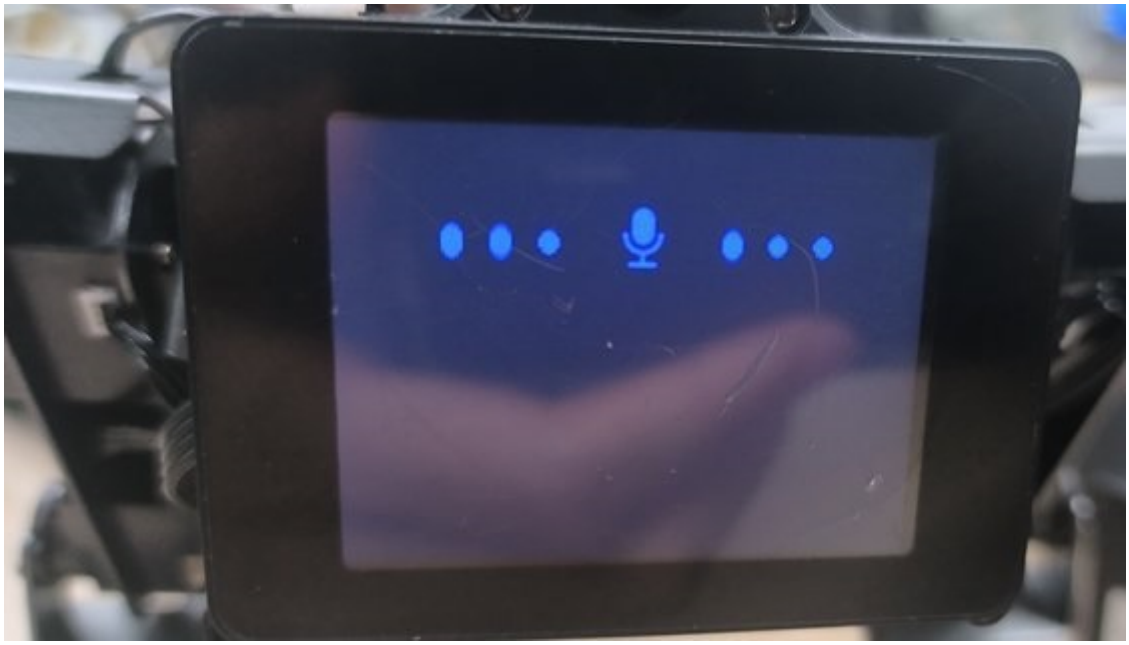
Function Experience

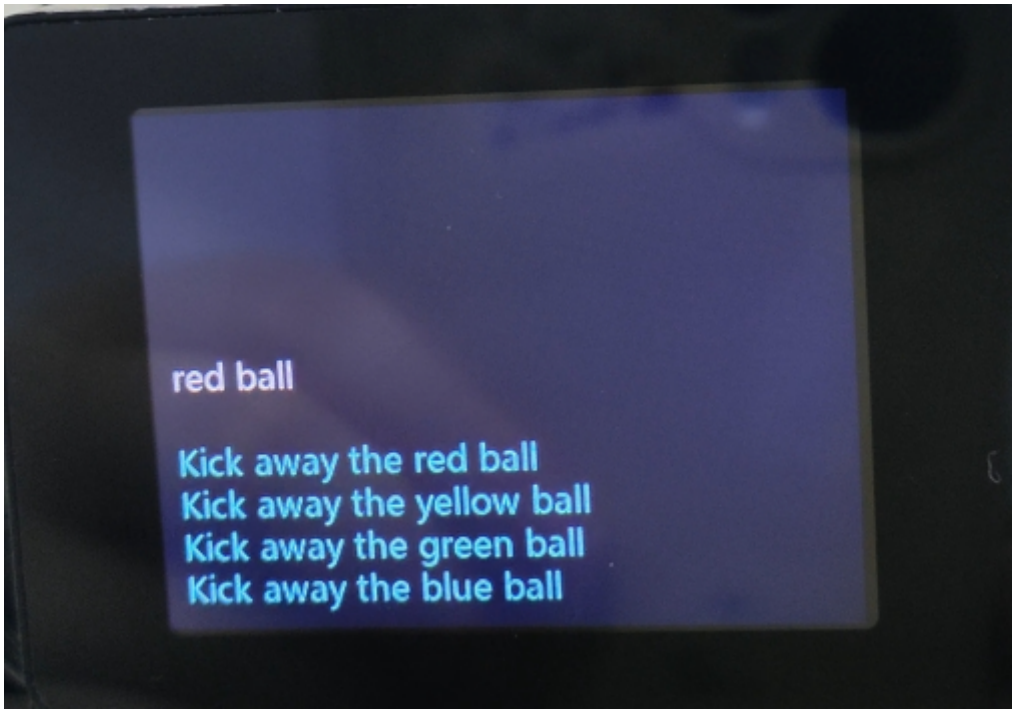
1. Turn on the robot dog first, press the button on the upper right of the "dog head" to enter the sample mode, and then select the fun kick ball function.

2. After entering the voice recognition function, wake up with voice first, "lulu".



3. When you hear a ding, you can say the prompt word at the bottom of the screen.





4. The robot dog will recognize the semantics and enter a kicking motion. When the kick is successful, voice interaction is required again.

Program source code

1. First, log in to the robot dog system through VNC
2. Then enter the terminal

```
cd /home/pi/RaspberryPi-CM4-main/demos/speech_AI_football/
tree -L 1
```

3. Directory structure description

```
├── audio.py #Recording file
├── auto_platform.py #System environment dependency
├── football_ImageAPI.py #Picture interface
├── football_tts.py #Synthesized audio file
├── language_recognize.py #Speech recognition
├── libnyumaya.py #Speech wake-up
├── speach_football.py #Sports visual interface
├── speech_AI_football.py #Fun football voice interaction main function
└── speech_picture.py #Large model picture analysis
```

```
if net:
    while True:
        open_AI_play()
        if detect_keyword():
            clear_top()
            start_recording()
            content = test_one()

            if content != "":
                clear_top()
                speech_list = line_break(content)
                print(speech_list)
```

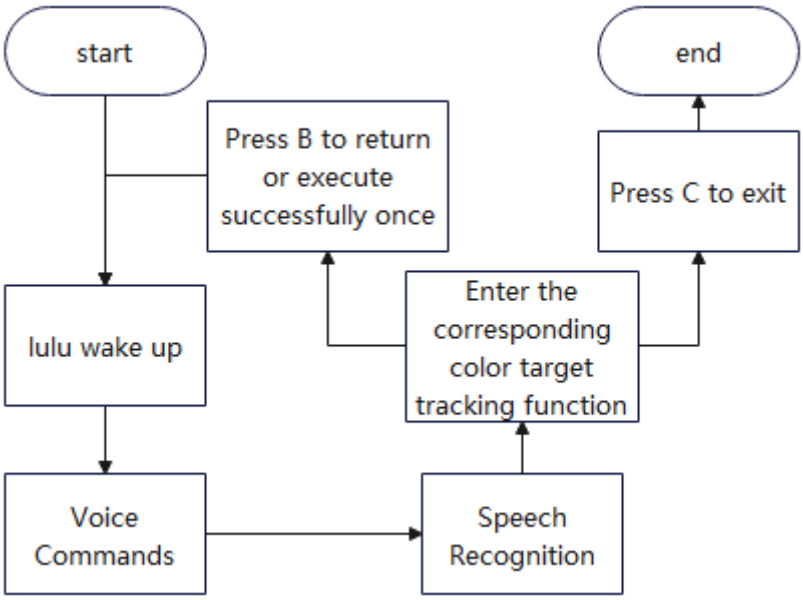
```
                if la == "en":
                    english_only = ''.join(char for char in speech_list if
ord(char) < 128)
                    display_text = english_only
                else:
                    display_text = speech_list

                lcd_draw_string(
                    draw,
                    10,
                    110,
                    display_text,
                    color=(255, 255, 255),
                    scale=font2,
                    mono_space=False,
                )
                display.ShowImage(splash)

                lines = len(display_text.split("\n"))
                tick = 0.3
                if lines > 6:
                    scroll_text_on_lcd(display_text, 10, 111, 6, tick)


                if not actions_AI(content):
                    continue

            if content == 0:
               break

        time.sleep(0.1)
else:
    draw_offline()
    while True:
        time.sleep(0.1)
```

The program shows the general process. After waking up, say the command word, and the result will be fed back to the screen after voice recognition, and then enter the corresponding color kicking movement.

If you want to add more colors, you can study the function of the python file in this directory and add it yourself.

Functional principle

The specific flow chart is as follows:


start
end
Press B to return or execute successfully once
Press C to exit
lulu wake up
Enter the corresponding color target tracking function
Voice Commands
Speech Recognition