Simple Voice Control

Before running the function, you need to close the App and large programs. For the closing method, refer to [4. Preparation] - [1. Manage APP control services].

Orin board users can directly open the terminal and enter the tutorial commands to run. Jetson-Nano board users need to enter the docker container first, then enter the tutorial commands in the docker to start the program.

1. Function Description

Control RGB lights, buzzers, and robotic arm through the voice recognition broadcast module.

2. Startup and Operation

2.1. Startup

Open the terminal and enter the following command to start:

```
python3 ~/dofbot_voice/scripts/simple_voice_ctrl.py
```

2.2. Operation Steps

After the program runs, the voice module will broadcast "here". Then say "Hello, yahboom" to the voice module. The voice module will reply "here" to indicate successful wake-up. Then say "red light up" to the voice module. At this time, the LED light on the driver board will light up red, and the voice module will broadcast "ok red light is on". The voice commands that this program can recognize are as follows:

Voice Command	Effect
RED-LIGHT-UP	LED light on driver board lights up red
GREEN-LIGHT-UP	LED light on driver board lights up green
BLUE-LIGHT-UP	LED light on driver board lights up blue
WARNING	Buzzer beeps 3 times
LIFT-THE-ARM-UP	Robotic arm extends upward
PUT-THE-ARM-DOWN	Robotic arm extends downward
ARM-LEFT	Robotic arm turns left
ARM-RIGHT	Robotic arm turns right
CLAMP-THE-DIP	Gripper tightens
OPEN-THE-DIP	Gripper releases

3. Core Code Analysis

`Source code path:`

```
#Jetson-Nano users need to enter the docker container to view
~/dofbot_voice/scripts/simple_voice_ctrl.py
```

simple_voice_ctrl.py

```
#Import robotic arm underlying control library
import Arm_Lib
#Import voice recognition broadcast library
from Speech_Lib import Speech
#Create voice recognition broadcast object mySpeech
mySpeech = Speech()
#Create robotic arm underlying control object Arm
Arm = Arm_Lib.Arm_Device()

#Call speech_read function to get voice recognition result
result = mySpeech.speech_read()

#Call Arm_RGB_set function to control LED light to light up red
Arm.Arm_RGB_set(50, 0, 0)

#Call Arm_Buzzer_On function, pass parameter 1 to control buzzer to beep for 100
milliseconds
Arm.Arm_Buzzer_On(1)

#Call Arm_serial_servo_write function, pass parameters to control servo 2 to
rotate to 90 degrees position within 1000 milliseconds
Arm.Arm_serial_servo_write(2, 90, 1000)

#Call void_write function, pass parameter 11 to broadcast corresponding audio
file
mySpeech.void_write(11)
```