Appendix C

This is the code for the third uno board (slave2) :

```
// This uno serves as slave 2 for controlling OLED display and sound sensor (KV-037).
#include <Wire.h>
#include <Adafruit_GFX.h>//Parent library required for the display
#include <Adafruit_SSD1306.h>//Sublibraries required for the display
Adafruit_SSD1306 oled(128, 64, &Wire, -1);//Define the display
const int soundPin = A3;//As an analog interface for sound decibel acquisition
int num=1;//Stands for song order

void setup() {
  analogWrite(5,100);//Through pin 5, adjust the lcd1602 backlight.
  //Because pin 2 is not enough, pin 5 of machine 3 is used instead
      oled.begin(SSD1306_SWITCHCAPVCC,0X3C);//Initialize the display,0X3C is the address of the iic communication,
  //which is obtained by calling iic_Scanner
  Wire.begin(3);//As slave 2, the iic communication address is 3
   Wire.onReceive(receiveEvent);//This registers an event on the slave side that is fired when the slave receives data from the host
   Serial.begin(9600); //Initiate serial communication with the computer
}
void loop() {
  oled.clearDisplay();//Clear the oled cache
  oled.setTextSize(2);//Set the font size to 1
  oled.setTextColor(1);//Sets the font color, default 1 (white)
  oled.setCursor(0,0);//Sets the cursor position
  oled.print("sq:");//Shows the song order in English
  //There are 20 songs, and the corresponding number of songs is 1-20,
   //with 10 new songs and 10 old songs each, 1-10 for new songs and 11-20 for old songs
  oled.setCursor(35,0);//Show song order (1-20)
  oled.print(num);
   if(num<=10){//Identify old and new songs. Less than or equal to 10 is new
    oled.setCursor(90,0);
```

```
30.         oled.print("new");//Show new songs
31.       }
32.       else if(num>10){//Judge the old and new songs, more than 10 are
old songs
33.         oled.setCursor(90,0);
34.         oled.print("old");//Display old songs
35.       }
36.       int value =analogRead(soundPin);//Detect the microphone decibel
size
37.       Serial.println(value);//Display microphone volume
38.       delay(500);
39.       if(value<125){
40.       oled.setCursor(0,25);
41.       oled.print("low voice");
42.       }1*Micro SD card module
43.     6*10kΩ resistors
44.     1*sound sensor (KV-037)
45.     1*4Ω, 3W spea
46.       oled.setCursor(0,50);
47.       oled.print("db:");//Feedback sounds too small in English
48.
49.       oled.setCursor(35,50);
50.       oled.print(value);//Display volume in English
51.       oled.display();
52.       delay(2000);
53.     }
```