#include <SPI.h>  
#include <Wire.h>  
#include <Adafruit\_GFX.h>  
#include <Adafruit\_SSD1306.h>  
  
#define OLED\_RESET 4  
int TIME\_UNTIL\_WARMUP = 900;  
unsigned long time;  
  
  
int analogPin = 0;  
int val = 0;  
Adafruit\_SSD1306 display(OLED\_RESET);  
  
  
void setup() {   
  
 display.begin(SSD1306\_SWITCHCAPVCC, 0x3C);  
 display.clearDisplay();  
}  
  
  
void loop() {   
   
 delay(100);  
  
 val = readAlcohol();  
 printTitle();  
 printWarming();  
  
 time = millis()/1000;  
   
 if(time<=TIME\_UNTIL\_WARMUP)  
 {  
 time = map(time, 0, TIME\_UNTIL\_WARMUP, 0, 100);  
 display.drawRect(10, 50, 110, 10, WHITE); //Empty Bar  
 display.fillRect(10, 50, time,10,WHITE);  
 }else  
 {  
 printTitle();  
 printAlcohol(val);  
 printAlcoholLevel(val);   
 }  
 display.display();  
  
}  
  
  
void printTitle()  
{  
 display.clearDisplay();  
 display.setTextSize(1);  
 display.setTextColor(WHITE);  
 display.setCursor(22,0);  
 display.println("Breath Analyzer");  
}  
  
void printWarming()  
{  
 display.setTextSize(2);  
 display.setTextColor(WHITE);  
 display.setCursor(0,20);  
 display.println("Warming up");  
}  
  
void printAlcohol(int value)  
{  
 display.setTextSize(2);  
 display.setTextColor(WHITE);  
 display.setCursor(45,25);  
 display.println(val);  
}  
  
void printAlcoholLevel(int value)  
{  
 display.setTextSize(1);  
 display.setTextColor(WHITE);  
 display.setCursor(10,55);  
   
 if(value<200)  
 {  
 display.println("You are sober.");  
 }  
 if (value>=200 && value<280)  
 {  
 display.println("You had a beer.");  
 }  
 if (value>=280 && value<350)  
 {  
 display.println("Two or more beers.");  
 }  
 if (value>=350 && value <450)  
 {  
 display.println("I smell Oyzo!");  
 }  
 if(value>450)  
 {  
 display.println("You are drunk!");  
 }  
 }  
   
 int readAlcohol()  
 {  
 int val = 0;  
 int val1;  
 int val2;  
 int val3;   
  
  
 display.clearDisplay();  
 val1 = analogRead(analogPin);   
 delay(10);  
 val2 = analogRead(analogPin);   
 delay(10);  
 val3 = analogRead(analogPin);  
   
 val = (val1+val2+val3)/3;  
 return val;  
 }