CODE

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#include <LiquidCrystal_I2C.h>
#include <Wire.h>
#include "MAX30100_PulseOximeter.h"
#define REPORTING_PERIOD_MS 1000
LiquidCrystal_I2C lcd(0x27, 16, 2);
byte smile[] = {
B00000,
B00000,
B01010,
B00000,
B10001,
B01110,
B00000,
B00000
};
byte mod[] = {
B00000,
B00000,
B01010,
B00000,
B11111,
B00000,
B00000,
B00000
};
byte sad[] = {
B00000,
B00000,
B01010,
```

```
B00000,
B01110,
B10001,
B00000,
B00000
};
PulseOximeter pox;
uint32_t tsLastReport = 0;
void onBeatDetected()
{
Serial.println("Beat!!!");
}
void setup()
{
Serial.begin(115200);
lcd.init();
lcd.backlight();
lcd.createChar(1 , smile);
lcd.createChar(2 , mod);
lcd.createChar(3 , sad);
lcd.setCursor(0, 0);
lcd.print(" Pluse");
lcd.setCursor(0, 1);
lcd.print(" Oximeter");
delay(2000);
if (!pox.begin()) {
Serial.println("FAILED");
for (;;);
} else {
Serial.println("SUCCESS");
```

```
}
pox.setIRLedCurrent(MAX30100_LED_CURR_7_6MA);
pox.setOnBeatDetectedCallback(onBeatDetected);
}
void loop()
{
pox.update();
if (millis() - tsLastReport > REPORTING_PERIOD_MS) {
lcd.clear();
lcd.setCursor(0 , 0);
lcd.print("BPM : ");
lcd.print(pox.getHeartRate());
lcd.setCursor(0 , 1);
lcd.print("Sp02: ");
lcd.print(pox.getSpO2());
lcd.print("%");
tsLastReport = millis();
if (pox.getSpO2() >= 96) {
lcd.setCursor(15 , 1);
lcd.write(1);
}
else if (pox.getSpO2() <= 95 && pox.getSpO2() >= 91) {
lcd.setCursor(15 , 1);
lcd.write(2); }
else if (pox.getSpO2() <= 90)
{
lcd.setCursor(15 , 1);
lcd.write(3);
}
}}
```