Title:

LCD Backlight Display

Sensor/Indicator/Actuator:

Indicator

Features:

Show Simple Text Show Sensor Data RGB Lighting Control

Connection:

I2C

Summary:

The LCD Backlight Display has two lines of 16 character spaces. Meaning that you can show up too 32 characters at a time. Doesn't sound like enough? Implementing a simple menu system allows your character limit to become limitless. Tell stories and show data without needing a computer. Go further by using the Backlight color as an additional indicator as well. Red for hot and blue for cold or whatever your project needs.

Usage

We access the LCD in software through the Grove LCD RGB Backlight library

Initialization

First, initialize the LCD:

```
lcd.begin(16, 2)
```

This indicates the LCD has 16 columns and 2 rows.

Change Backlight Color

We can use the following function to change the color of the backlight by providing red, green, and blue values (from 0 to 255):

```
void setRGB(int r, int g, int b);
```

For example, to set the color to full red:

```
setRGB(255, 0, 0);
```

Clear Display

You can clear the display using the following function:

```
clear();
```

Cursor

You can also turn on and off the cursor (indicates active cursor position):

```
void cursor();
void noCursor();
```

Or make the cursor blink:

```
void blink();
void noBlink();
```

LED Backlight

Or make the LED Backlight blink:

```
void blinkLED();
void noBlinkLED();
```

Power off display

Or turn on and off the display:

```
void display();
void noDisplay();
```

Example Code

```
#include <Wire.h>
#include "rgb_lcd.h"

// Plug LCD into I2C Socket

rgb_lcd lcd;

void setup()
{
lcd.begin(16, 2);
```

```
lcd.setRGB(255, 0, 0);
}

void loop()
{
  // Red Hello World
  lcd.clear();
  lcd.noBlinkLED();
  lcd.setRGB(255, 0, 0);
  lcd.setCursor(0,0);
  lcd.print("Hello Red...");
  lcd.setCursor(0,1);
  lcd.print("World!");
  delay(1000);

  // Blue Hello World
  lcd.clear();
  lcd.setRGB(0, 0, 255);
  lcd.setCursor(0,0);
  lcd.print("Hello Blue...");
  lcd.setCursor(0,1);
  lcd.print(" World!");
  delay(1000);

  // Green Blinking Hello World
  lcd.clear();
  lcd.setRGB(0, 255, 0);
  lcd.blinkLED();
  lcd.setCursor(0,0);
  lcd.print("Hello Blinking");
  lcd.setCursor(0,1);
  lcd.print("Green World!");
  delay(4000);

  // Print to show effect of display off
  lcd.clear();
  lcd.noBlinkLED();
  lcd.setRGB(128, 128, 128);
  lcd.setCursor(0,0);
  lcd.print("Prepare to turn");
  lcd.setCursor(0,1);
  lcd.print("display off.");
  delay(2000);

  // Turn off display
  lcd.noDisplay();
```

```
  delay(2000);

  // Turn on display
  lcd.display();
  lcd.clear();
}
```