Raspberry Pi 5110 Mini LCD 84*48 PCD8544 Usage

Introduction

With a resolution of 84 * 48, this Mini LCD screen display the CPU utilization and the memory occupancy rate that runs on your Raspberry Pi through Raspberry Pi internal Python programming. It is clear at a glance.

Of course, geek players can also program by themselves to display any content. this Mini LCD screen is with backlit. When the Raspberry Pi is used as a server, you can also see the operation condition of Raspberry Pi at night.

Mini LCD screen is compatible with Raspberry Pi Model B+ and B.

For C User

If you are a C user, please test and use PCD8544 LCD according to the following steps:

Step1: Install wiringPi

```
cd /home
git clone git://git.drogon.net/wiringPi
cd wiringPi
sudo ./build
```

Step 2: Copy Cpu_show.tar.gz to /home and extract it

Download the Cpu_show.tar.gz and then unzip it

```
sudo cp yourpath/Cpu_show.tar.gz /home
sudo tar xvf Cpu_show.tar.gz
```

Step 3: Compile files

```
cd /home/cpu_show
sudo ./compile.sh
```

Step 4: Run the program

```
sudo ./cpushow
```

NOTE：Due to the contrast of each LCD are different, if you found the content displayed too dark or too light, you need to modify the contrast variables of pcd8544_rpi.c, and then recompile and run to see the effect of changes !

```
vim pcd8544_rpi.c
```

Modify the line 52, **int contrast = 45;**

45 is the default contrast, if the character LCD display is too light, set this value increases, decreases if the character LCD display is too dark. Recommended stepping value is 5. After the changes are complete, re-compile the code, and then run.

For Python User

If you are a Python user, please test PCD8544 LCD according to the following steps:

Step 1: Download example code

```
git clone https://github.com/adafruit/Adafruit_Nokia_LCD.git
```

Step 2: Configure the base environment

```
cd Adafruit_Nokia_LCD
sudo apt-get install python-dev
sudo python setup.py install
sudo apt-get install python-imaging
```

Step 3: Modify example code

```
cd examples
```

Since our PCD8544 LCD display does not use the hardware SPI interface of Raspberry Pi, so we use software to simulate SPI so as to drive PCD8544. The example code is based on hardware SPI. As a result, we need to make a few modifications to example code to drive PCD8455 LCD.

```
vim image.py
```

The modified code is as follows:

```
30  # Raspberry Pi hardware SPI config:
31  # DC = 23
32  # RST = 24
33  # SPI_PORT = 0
34  # SPI_DEVICE = 0
35
36  # Raspberry Pi software SPI config:
37  SCLK = 17
38  DIN  = 18
39  DC   = 27
40  RST  = 23
41  CS   = 22
42
43  # Beaglebone Black hardware SPI config:
44  # DC = 'P9_15'
45  # RST = 'P9_12'
46  # SPI_PORT = 1
47  # SPI_DEVICE = 0
48
49  # Beaglebone Black software SPI config:
50  # DC = 'P9_15'
51  # RST = 'P9_12'
52  # SCLK = 'P8_7'
53  # DIN = 'P8_9'
54  # CS = 'P8_11'
55
56
57  # Hardware SPI usage:
58  # disp = LCD.PCD8544(DC, RST, spi=SPI.SpiDev(SPI_PORT, SPI_DEVICE, max_speed_hz=4000000))
59
60  # Software SPI usage (defaults to bit-bang SPI interface):
61  disp = LCD.PCD8544(DC, RST, SCLK, DIN, CS)
62
```

Step 4: Run the Python program just modified

```
sudo python image.py
```

Press Enter, you should see a cat displayed on PCD8544 LCD.

Also you can modify these two files of animate.py and shapes.py exactly in the same way as