




Cheap and Cute Digital PhotoFrame Without SD Card on ESP8266 and 1.8-inch TFT

Cheap & Cute PhotoFrame Without SD Card on ESP8266 + 1.8inch TFT

 Difficulty **Medium**

 Duration **1 hour(s)**

 Categories **Decoration, Furniture, House, Play & Hobbies**

 Cost **10 USD (\$)**

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Comments

Introduction

Digital photo frame are awesome thing to show photos of your family members, friends and your pets. I wanted to build a small, cheap and cute photo frame with the parts already in my hand. This frame use 1.8" Small TFT panel and ESP8266 wireless development environment in a 3D printed case.

Materials

Tools

Step 1 - Parts

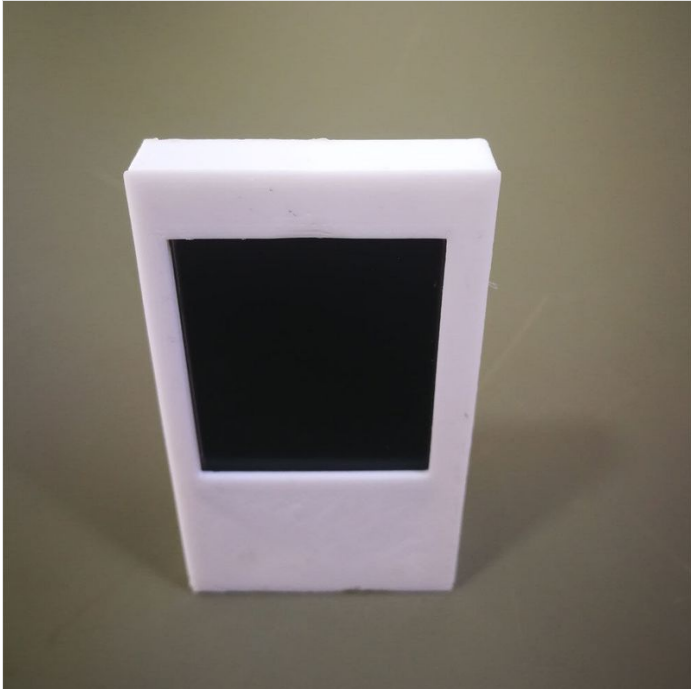
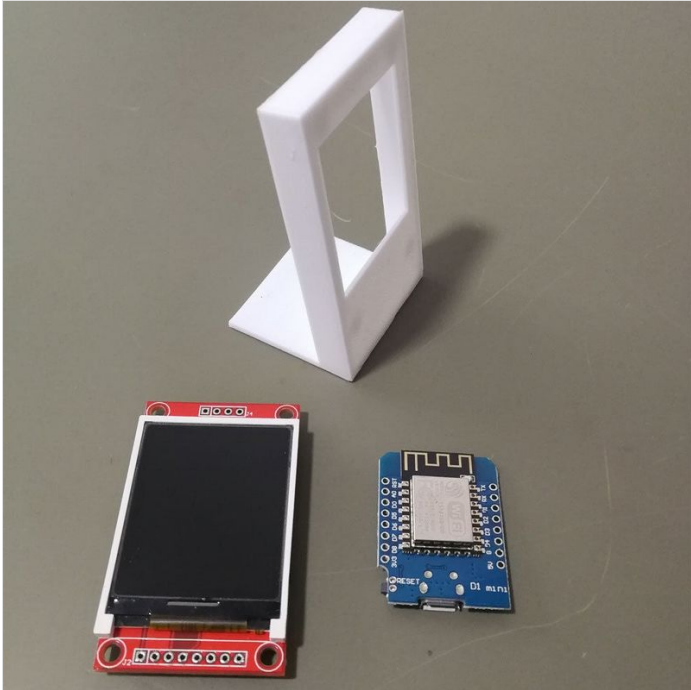
1.8 TFT Panel ST7735 <https://www.aliexpress.com/item/32913848470.html>

1.8 TFT Panel ST7735 https://www.banggood.com/1_441_82_02_22_42_8-Inch-TFT-LCD-Display-Module-Colorful-Screen-Module-SPI-Interface-p-1494883.html

ESP8266 WEMOS D1 <https://www.aliexpress.com/item/33036965281.html>

3D Printed Case <https://www.thingiverse.com/thing:4097143>

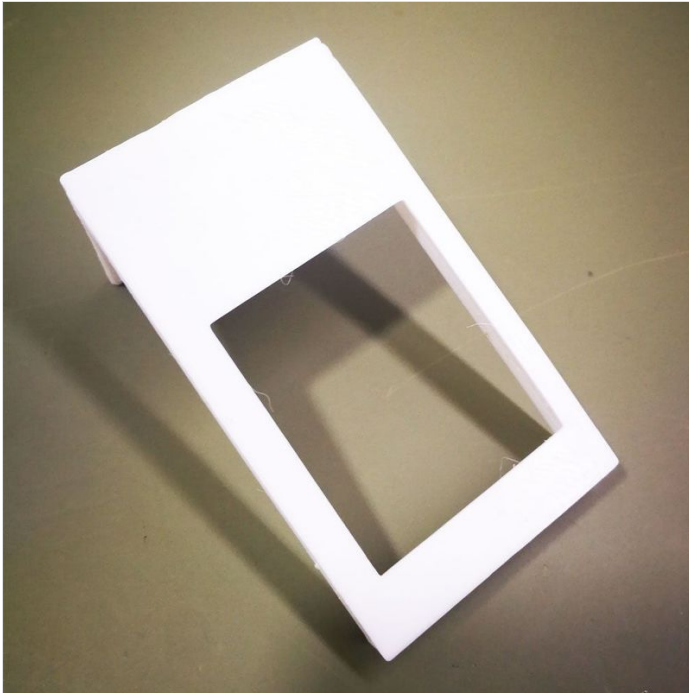
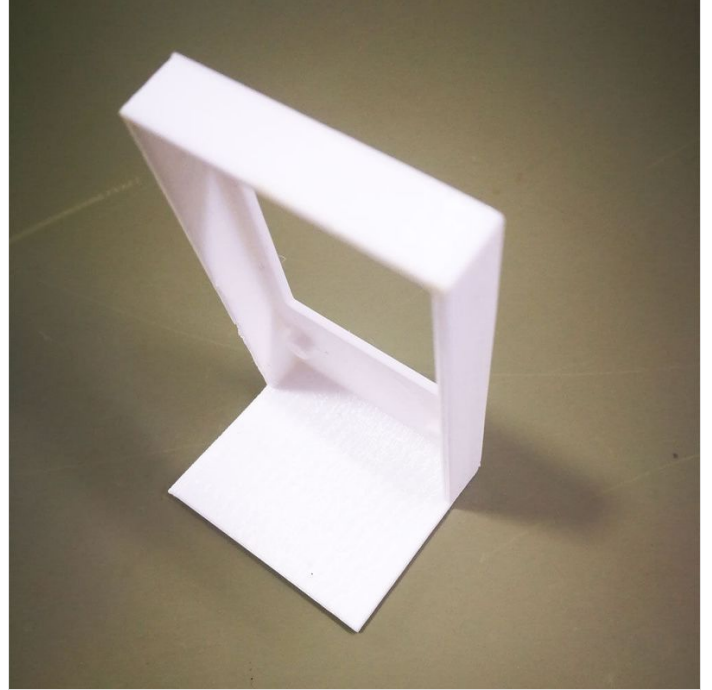
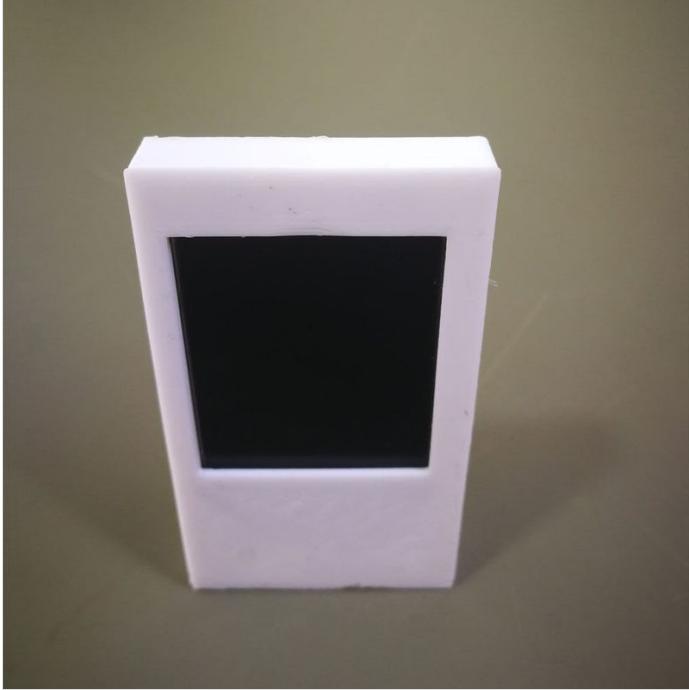
Some Wires & Soldering Iron.



Step 2 - 3D printed Object

I've prepare parts and printed frame on my 3D Printer.

Model Download: <https://www.tinkercad.com/things/1oIgHjgJMjd>

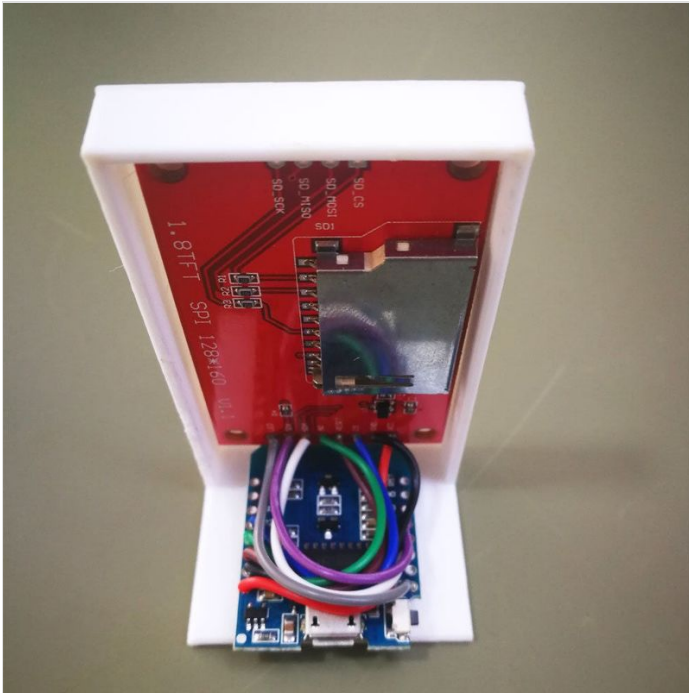


Step 3 - Mounting Parts & Technical Information

Solder and mount parts on 3D Printed case as shown above images.

1.8" (Actually 1.77") TFT Panel datasheet

Wemos D1 datasheet

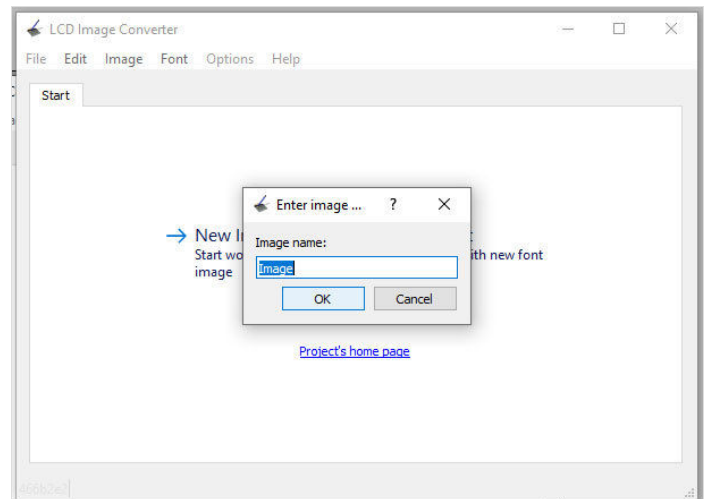
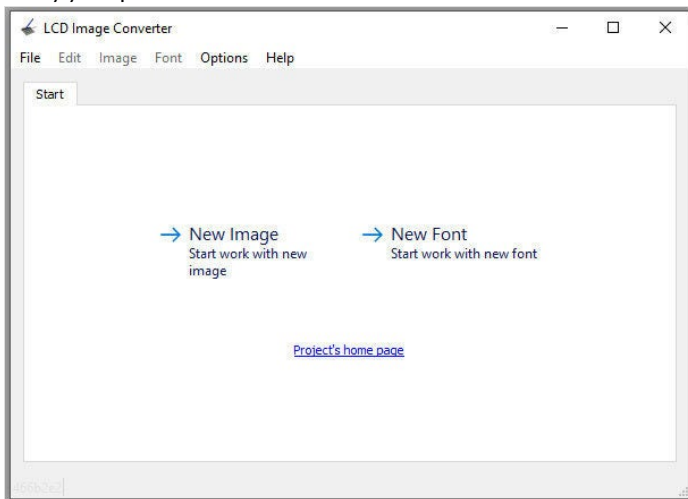


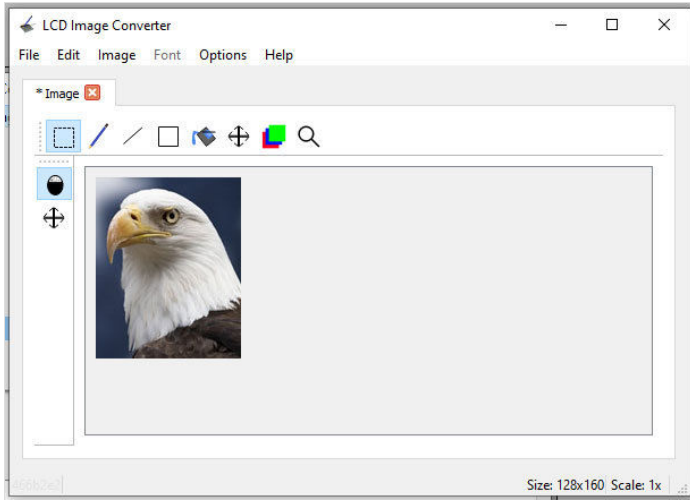
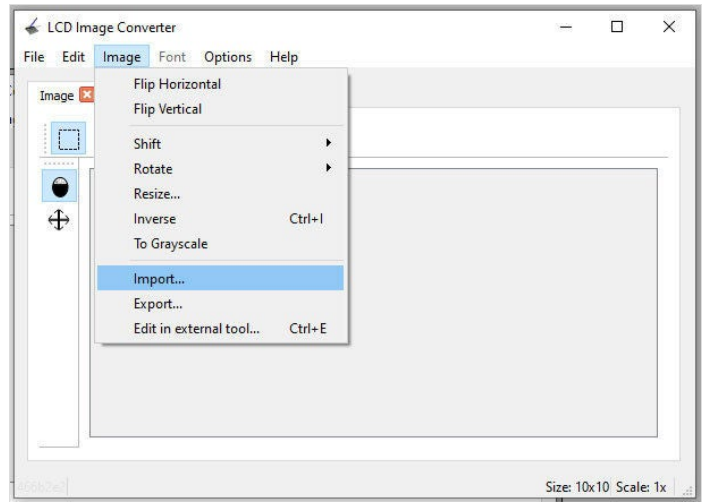
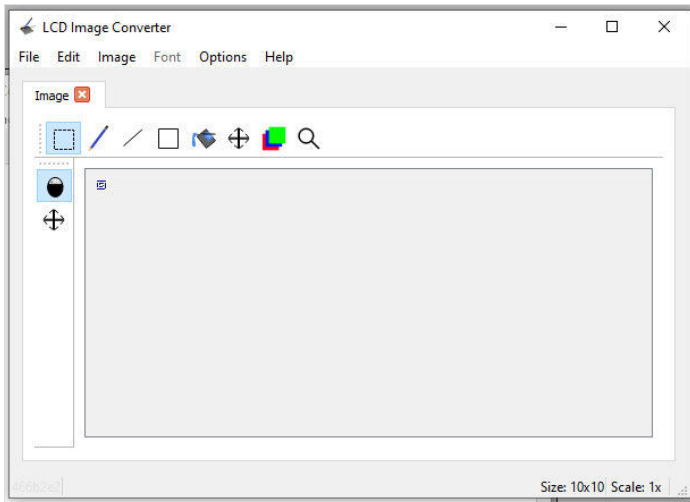
Connection

Wemos D1	1.8" TFT ST7735
5V	P1 (VCC)
GND	P2(GND)
D2	P3(CS)
D4	P4(RST)
D3	P5(A0)
D7	P6(SDA)
D5	P7(SCK)
3.3V	P8(LED+)

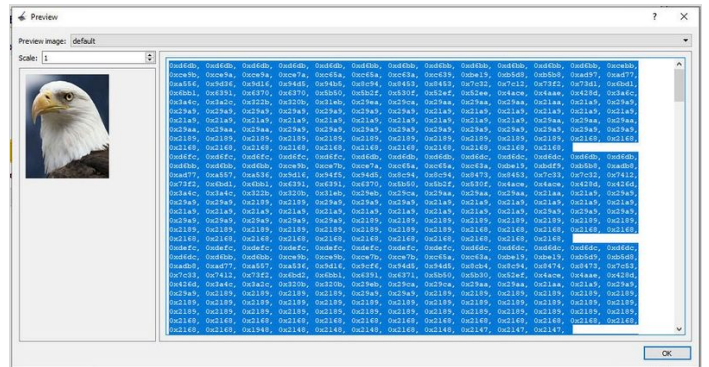
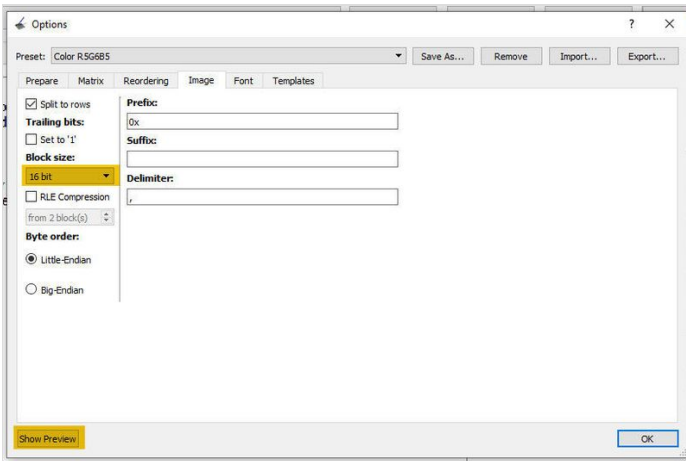
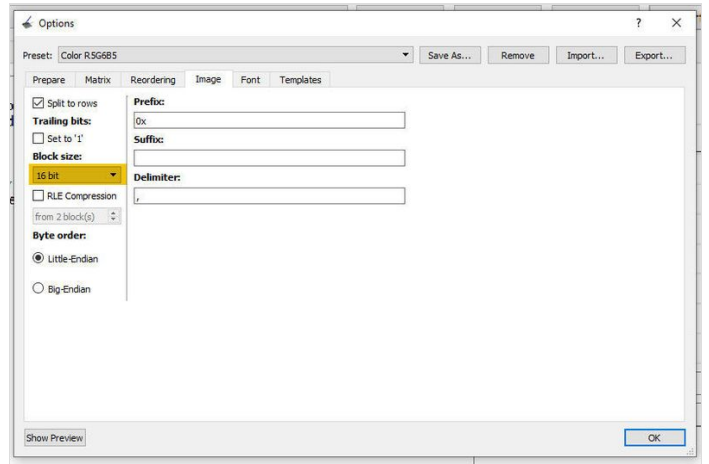
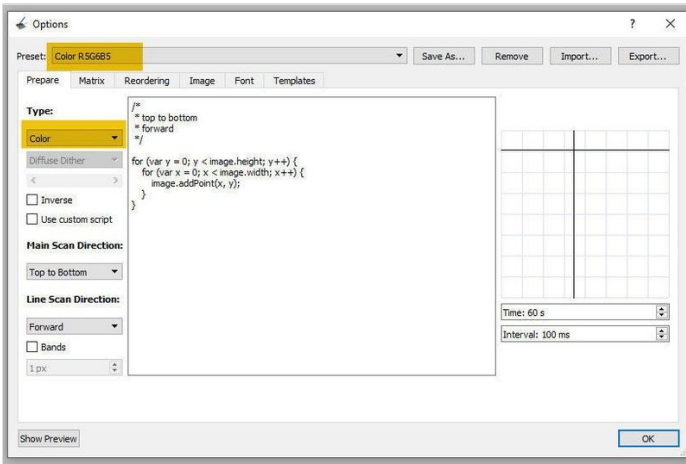
Step 4 - Programming

This photoframe uses internal flash of ESP8266 module. So you don't need any external SD Card. You may convert 128x160 pixel photo to C array with LCDImageConverter. ESP8266's 4MB flash memory is enough to store many photos. You can download software and convert C Array your photos.





Step 5 - Programming Continue...



Step 6 - C Array Photo

You can store your C array photos on photos.h file. Also need Adafruit GFX library and Adafruit ST7735 header file for this application.

