Grove - Fingerprint Sensor

Release date：   9/20/2015

Version：   1.0

Wiki: http://seeedstudio.com/wiki/Grove_-_Finger_Print_Sensor_V1.0

Bazaar: http://www.seeedstudio.com/depot/Grove-Fingerprint-Sensor-p-1424.html

Document Revision History

Revision	Date	Author	Description
1.0	Sep 21, 2015	Victor.He	Create file

Document Revision History

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Disclaimer

For physical injuries and possessions loss caused by those reasons which are not related to product quality, such as operating without following manual guide, natural disasters or force majeure, we take no responsibility for that.

Under the supervision of Seeed Technology Inc., this manual has been compiled and published which covered the latest product description and specification. The content of this manual is subject to change without notice.

Copyright

The design of this product (including software) and its accessories is under tutelage of laws. Any action to violate relevant right of our product will be penalized through law. Please consciously observe relevant local laws in the use of this product.

1. Introduction

The Finger Print Sensor is one optical fingerprint sensor which will make fingerprint detection and verification adding super simple. There's a high powered DSP chip AS601 that does the image rendering, calculation, feature-finding and searching. You can also enroll new fingers directly - up to 162 finger prints can be stored in the onboard FLASH memory. There's a red LED in the lens which will light up during taking photos so that you know its working condition. It is easy to use and by far the best fingerprint sensor you can get.

2. Specification

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Supply voltage	3.6~6.0 V
Operating current(Max)	120 mA
Fingerprint imaging time	1.0 S
Match Mode:	Compare Mode 1:1
Search Mode	1:N
Storage capacity	162 templates
False Acceptance Rate	0.001% (Security level 3)
False Reject Rate	1.0% (Security level 3)
Baud rate	9600, 19200, 28800, 38400, 57600bps (default is 57600)
Interface	TTL Serial
Interface	TTL Serial

3. Interface

Pin number	Name	Type	Function Description
1	Vin	in	Positive Power Supply Input Terminal(Line color:Red)
2	TD	out	Serial data output, TTL logic levels(Line color: Yellow)
3	RD	in	Serial data input, TTL logic levels(Line color: White)
4	GND	-	Signal ground(Line color: Black)

4. Demonstration

The Finger Print Sensor module is typically used in safes - there's a high powered DSP chip that does the image rendering, calculation, feature-finding and searching. Connect to any microcontroller or system with TTL serial, and send packets of data to take photos, detect prints, hash and search. You can also enroll new fingers directly - up to 162 finger prints that can be stored in the onboard FLASH memory. There's a red LED in the lens which will light up during taking photos so that you know its working condition.

- Connect the Sensor to the Digital Port 2 of the Grove - Base Shield.

- Plug the Grove - Base Shield into Arduino and connect Arduino to PC by using a USB cable.

When you plug in the power, you can see the red LED blink which indicates the sensor is working.
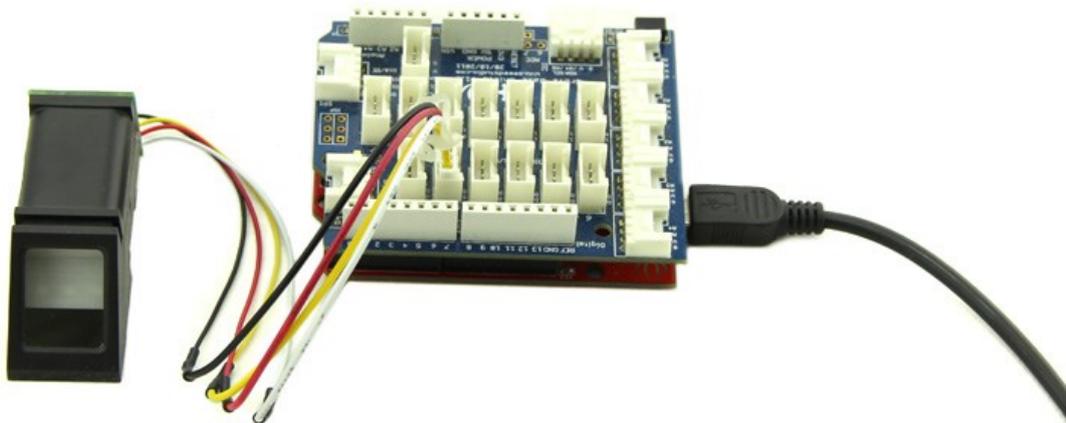

- Download the Finger Print Sensor Library and Unzip it into the libraries file of Arduino IDE by

  the path: ..\arduino-1.0.1\libraries.

The library can enroll and search so it is perfect for any project. It can help you get running in under 10 minutes. There are basically two requirements for using the optical fingerprint sensor. First one, you'll need to enroll fingerprints - which means assigning ID #'s to each print so you can query them later. Once you've enrolled all your prints, you can easily 'search' the sensor, asking it to identify which ID (if any) has currently been photographed.

- Open the enroll code directly by the path: File -> Example ->FingerPrint->Enroll.

- Upload the code into Arduino. Please click here if you do not know how to upload.

- Startup Serial Tool and Select the ComNum and BuadRate used by the Arduino.

- Select the "SendNew" option. Send the ID # you want to use. You can use up to 162 ID numbers. And it will ask you to press the finger to the sensor. At the moment, you should see the red LED blink.
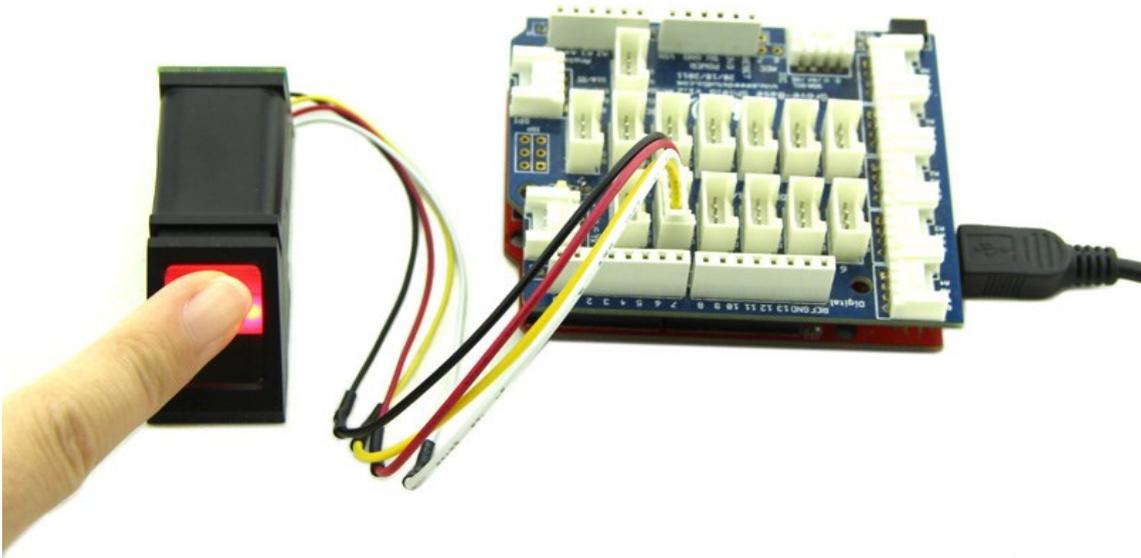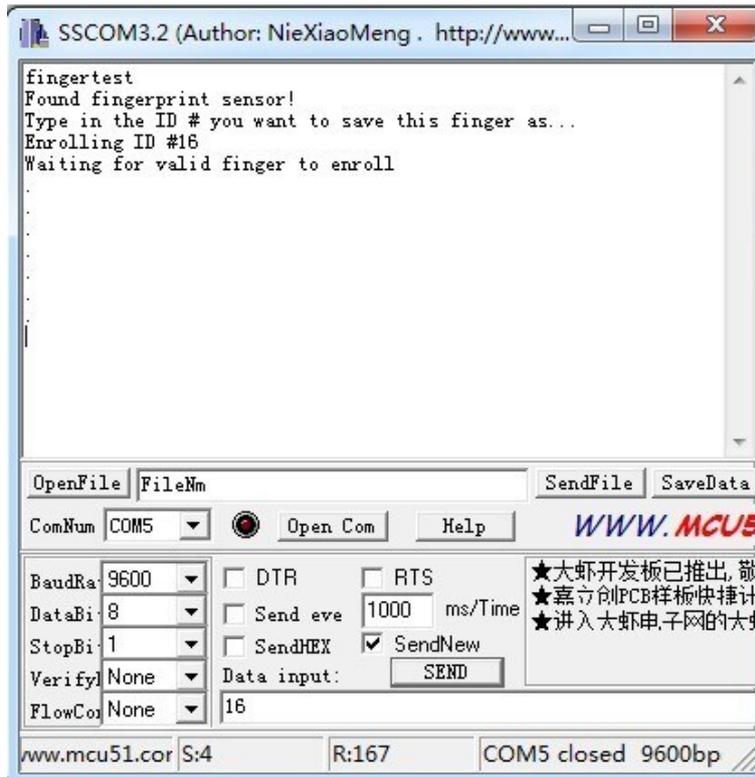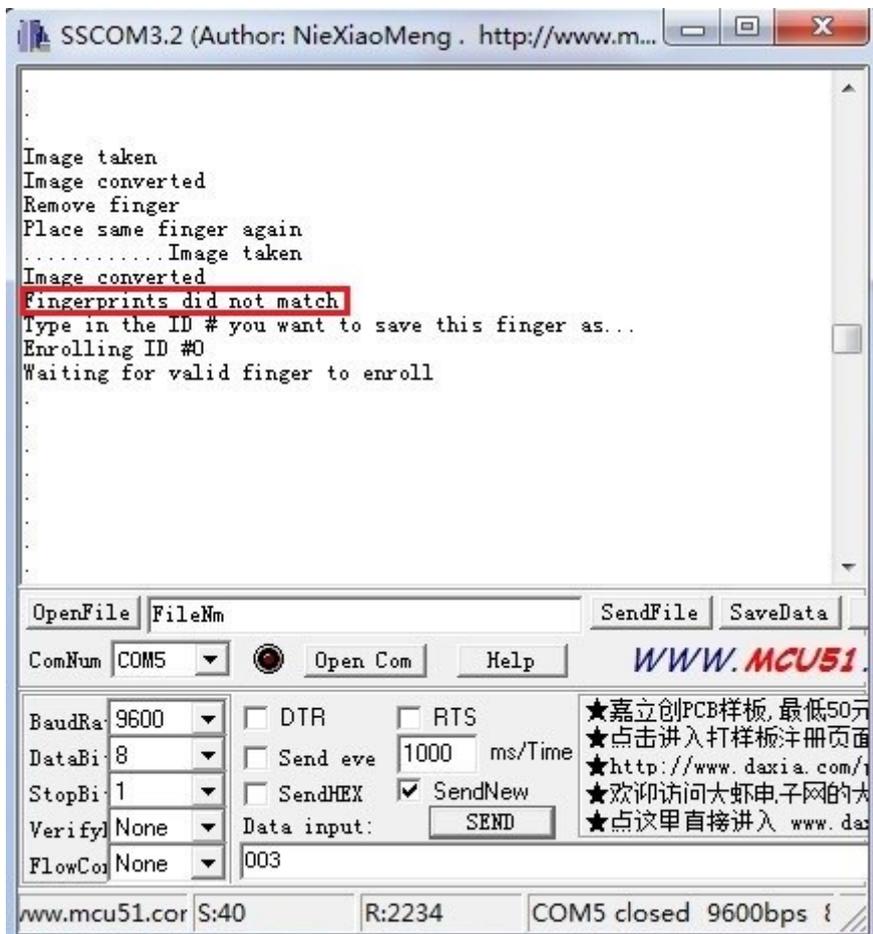
- If your press is OK, you could see the following message. You will then have to repeat the process, to get a second clean print. Use the same finger! On success you will get notice.
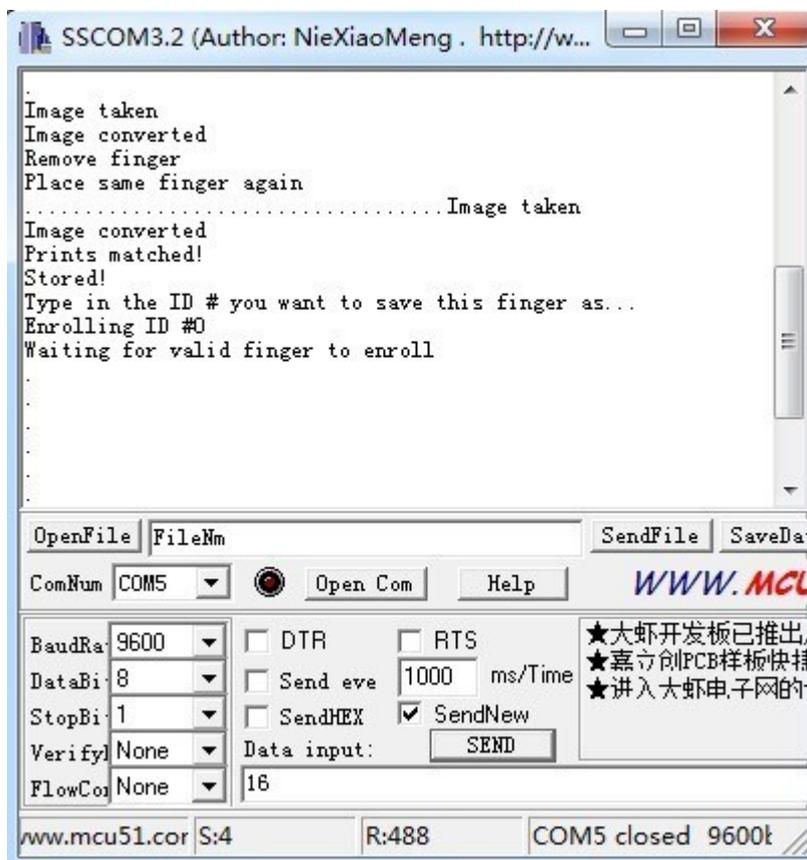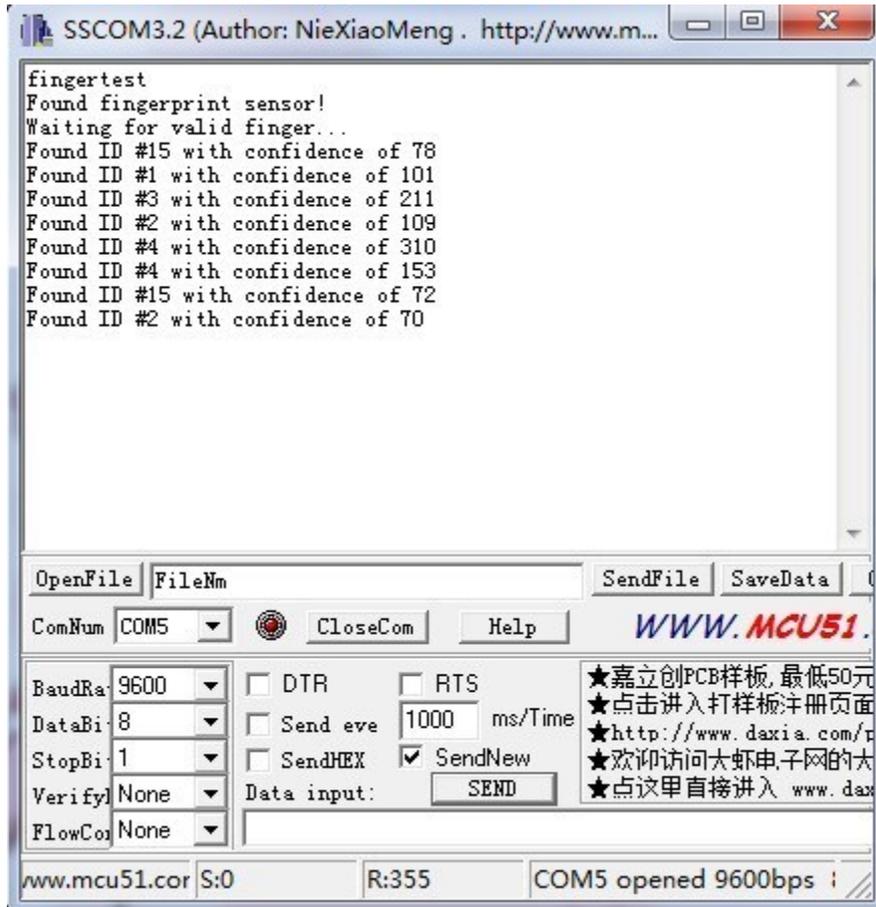
- If there's a problem such as a bad print or image, you'll have to do it again.

Once you have the finger enrolled, it's a good idea to do a quick test to make sure it can be found in the database.

- Open the demo code: fingerprint and upload it.

- When prompted, press a different/same finger to the sensor. If it is the same finger, you should get a match with the ID # as show below.

- If it is not a finger in the database, this serial port will output nothing.

5. Resource

[Finger Print Sensor Library File](#)

[Finger Print Sensor Datasheet](#)

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное   производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:
moschip.ru   moschip.ru_6
moschip.ru_4   moschip.ru_9