Fingerprint Recognition Software Development Kit (SDK) for MacOS

MacOS USB driver

The MacOS SDK uses standard IO.Framework library to communicate with FS80 USB2.0 fingerprint scanner.

Basics about fingerprint recognition

- A fingerprint must be registered in a system before it can be used for authentication.
- During registration, the fingerprint image is captured by using a fingerprint scanner. Then the system will extract the fingerprint's characteristics(minutiae) from the captured image and create a fingerprint registration template which is stored in any non-volatile memory space.
- To do user authentication, fingerprint is captured again and the system will create an accessing fingerprint template using the same method as creating a registration template. Then it will compare the accessing template with the registration template to determine if there is a "match" or "no match".
- If an user ID is provided, the system will compare the accessing template to the registration template of this particular user ID. This is called verification (1-to-1 matching).
- If a user ID is not provided, the system will compare the accessing template to all the registration templates stored in the system. This is called identification (1-to-many matching).

Introduction

Futronic MacOS Fingerprint Recognition Software Development Kit (SDK) is an excellent tool for users to develop MacOS based fingerprint recognition application software. It works with the Futronic FS80 USB2.0 fingerprint scanner. With the SDK, you can make use of Futronic proprietary fingerprint recognition algorithm without knowing the details of a purely mathematical process. So fingerprint recognition can be integrated into any application program to REPLACE the users' Logon password by a touch of finger to make your system secure but convenient to users and system administrators

Major SDK features

The MacOS SDK has exactly the same function as the Futronic Windows SDK. It includes header file that define API, libraries, and sample code for XCode application.

The SDK is implemented as Mach-O dynamic-link library (dylib)

The MacOS SDK has the following major features:

- Capturing fingerprint image from Futronic FS80 USB2.0 fingerprint scanner
- Extracting fingerprint characteristics(minutiae) from the captured image and creating a template which can be used:
  - For registration, the created template will be stored in the database
  - For authentication, the created template will be matched to pre-stored templates
- Matching fingerprint templates can be done in 1-to-1(identification) or 1-to-many(verification) manner
- Recognition accuracy, FAR & FRR, can be adjusted to meet different security requirement.
- Support Live Finger Detection(LFD) when using together with Futronic FS80 USB2.0 Fingerprint Scanner

Tested MacOS platforms

Futronic MacOS SDK should works on MacOS 10.4 or later. Sample program has been compiled and tested under XCode 3.1.2 for MacOS 10.5.

Who is the SDK for?

Application software developers who want to add secure but convenient fingerprint authentication into any MacOS based application software for easy user management and more secure logon control. The SDK can be used to make application programs for both standalone PC and many PCs connected in any networking environment.

Standard MacOS SDK package includes sample program with source code to illustrate how to use the SDK. Please download the sample program from www.futronic-tech.com to try and contact Futronic for more details

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