

# Standard SDK

## for Windows

### Introduction

Futronic's MS Windows Fingerprint Recognition Software Development Kit(SDK) is an excellent tool for users to develop their own MS Windows based fingerprint recognition application software. It works seamlessly 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 in MS Windows platform to make your system more secure and user administration easier.

### Who is it for?

Application software developers who want to add secure but convenient fingerprint authentication into any MS Windows 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.

### Major SDK features

The SDK is implemented as Win32 API dynamic-link library (DLL). To make use of it, function call can be made to the DLL from any application program in Windows XP/2003/Vista/2008/7/2012/8 32/64bit environment. It has the following major features:

- Capturing fingerprint image from [FS80](#), [FS82](#), [FS88](#) and [FS25](#)
- Extracting fingerprint characteristics(minutiae) from real time captured image and creating a template which can be used:
  - For registration, the template will be stored in the database
  - For authentication, the template will be matched to pre-registered template
- Matching fingerprint templates(one of the matching templates must be generated from real time captured image) can be done in 1-to-1 or 1-to-many manner
- Recognition accuracy, FAR & FRR, can be adjusted to suit security requirement of different application.
- Support Live Finger Detection(LFD) when using together with [FS80](#), [FS82](#), [FS88](#) and [FS25](#)
- Support WinCE 5.0 and 6.0 for both ARM9 and x86 hardware platforms

Standard SDK package includes example programs with source code to show how to use the SDK for the following development platforms:

- VC6 and VC2012
- VB.Net and C#, including VS2003/2005/2010/2012/2013
- JAVA
- VB6
- Borland Delphi

### 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 a 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).

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