

IDKit Mobile SDK

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Fingerprint SDK for Mobile and Embedded Devices

IDKit Mobile SDK is a software development kit designed to provide fast fingerprint recognition on:

- Mobile devices such as personal digital assistants, rugged handhelds and cellphones
- Embedded devices such as physical access control terminals or points of sale

IDKit Mobile SDK takes as input a fingerprint image, and enables developers to:

- Extract the fingerprint template from the image,
- Verify the template's similarity with other registered templates locally on the device,
- Identify the fingerprint by sending it to IDKit PRO Matching Server for search against a database of registered templates.

Features and Benefits

- IEngine™ core - Speed and accuracy

Innovatrics

world-class fingerprint recognition algorithm ensures speed, accuracy and reliability of the template extraction and matching. The algorithm core uses only fixed point operations, resulting in high speeds on less powerful platforms as well.

- Image input - Sensor independence

IDKit Mobile SDK takes as input a raw fingerprint image (.BMP format). A parameter can be set to select the sensor-specific image processing, which improves the accuracy of the recognition.

- Fingerprint quality - Better recognition rates

Fingerprint

quality is linked to the total number of distinctive features found in the fingerprint image. Higher quality fingerprints are preferable as they lead to a better recognition rates. Fingerprint quality check returns a value ranging from 0 to 100.

- Local fingerprint database - Ease of use

Local

database (SQLite3) is included to store and manage user records with fingerprints. The user record contains multiple fingerprint templates from the user and, if required, the corresponding fingerprint images and custom user attributes such as username, address, e-mail, etc. The local database is provided for convenience and simplifies programming as developer can directly match two users without needing to match fingers one-by-one and combine similarity scores.

- Data encryption - Security

For enhanced security, the database can be encrypted. In this case, all fingerprint templates, images and custom data are automatically encrypted by AES (Advanced Encryption Standard) cipher when they are stored in the database. When the data is loaded back from the database, it is automatically decrypted. The 256bit cipher keys can be set by the developer.

- Client-server network and data compression - Remote identification

Multiple mobile devices can connect to a central Matching Server to quickly search the same fingerprint database. In this case, all fingerprint identification functions are performed on the matching server; only fingerprint template extraction is done locally. The communication is carried over the network (physical or wireless). The size of messages, being exchanged between mobile device and the server, can be reduced by data compression. This enables developers to quickly develop client-server applications for remote identification of an unknown person, or for remote check against black-lists or white-lists.

How it works

IDKit Mobile SDK takes as input a fingerprint image (.BMP), which can come from any scanner.

Supported scanners:

Innovatrics has created partnerships with these market leading vendors who provide fingerprint scanners for mobile and embedded devices:

UPEKATMEL

www.upek.com
www.atmel.com

Supported handhelds:

IDKit Mobile SDK was developed on HP iPAQ hx2750 and HP iPAQ hx2790. In addition to HP iPAQ, our customers have been using IDKit Mobile SDK with the following devices:

HP iPAQ hx2790DAP CE3240Symbol M70Intermec 751GMaxID iDL

hp.com
daptech.com
symbol.com
intermec.com
maxidgroup.com

- and other proprietary hardware devices and terminals...

IMPORTANT:

- When purchasing handheld with integrated fingerprint scanner, ask the handheld vendor for image acquisition API. You will need it to extract the fingerprint image from the scanner on the handheld, before using it as input into the IDKit Mobile SDK.
- When purchasing USB fingerprint scanner that you plan to connect to an existing handheld, ask the scanner vendor for driver and image acquisition API for your handheld. You will need it to communicate with the scanner and extract the fingerprint image from the scanner on the handheld, before using it as input into the IDKit Mobile SDK.

Typical applications

Mobile software:

- PIN code replacement by fingerprint
- Application log-on and data protection by fingerprint
- Wireless client-server identification when used in conjunction with Innovatrics IDKit PRO Matching Server product.

Embedded software:

- Access control terminals
- Time and attendance terminals
- Points of sale terminals and cashier desks

Software package

IDKit Mobile SDK package contains:

- DLL libraries for development PC,
- idkit.ARM.CAB installation for mobile device,
- Documentation in PDF to enable printing and in CHM to enable browsing,
- 2 Samples with source code in Microsoft Visual C++,
- Innovatrics License Manager.

Technical specifications

Specification
Description

Processor
Intel XScale (StrongARM) 270, 255

Operating Platform
WinCE (Windows Mobile 2003, Windows Mobile 5.0)

Programming environment
Any language capable of calling standard Windows .dll library.

Available APIs
C/C++

Extraction speed
300ms (*)

Matching speed
30ms (*)

Total code space
130kB

Required memory space (RAM)
365kB

Template Size
< 1kB

Image I/O
BMP

Sensors compatibility
Any available sensor

Mobile device support
HP iPAQ hx2750, HP iPAQ hx2790, DAP CE3240, DAP CE3240B, Intermec 751G

(*) Intel XScale PXA 270, 624MHz

Prices and Ordering

SDK and license prices are available upon request .

IDKit Mobile SDK may be ordered directly from Swift Biometrics by calling, sending an order e-mail through our online form or by ordering in our online catalog .