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Part 4: Biometric sensor function provider interface

Technologies de l'information — Interface de programmation d'applications biométriques —

Partie 4: Interface du fournisseur de fonction du capteur biométrique

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 19784-4 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics*.

ISO/IEC 19784 consists of the following parts, under the general title *Information technology — Biometric application programming interface*:

— *Part 1: BioAPI specification*

— *Part 2: Biometric archive function provider interface*

— *Part 4: Biometric sensor function provider interface*

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Introduction

This part of ISO/IEC 19784 specifies a low-level interface that enables a Biometric Service Provider (BSP) module (see ISO/IEC 19784-1) to interact with a biometric sensor from a different vendor [a Biometric Sensor Function Provider (BSFP) module], using only the specification of the standardized interface. The biometric sensor is a physical device with a small amount of associated software. The interface enables a biometric sensor to interwork with any BSP that is designed to handle the technology supported by that sensor. It also enables the BSP module to be independent of details of the actual sensor, although it will remain dependent on the biometric technology it supports (finger, face, vein, etc.).

Biometric sensors can have very different working principles. Also the data formats vary very much depending on the biometric feature and the sensor type. To cover the resulting different requirements for a generic function provider, normative annexes contain the specific functions and data structures for typical sensor device classes or biometric modalities. The philosophy of this part of ISO/IEC 19784 is to add such normative annexes whenever the existing annexes do not cover the requirements for a typical sensor class.

Currently there are two normative annexes. Annex A provides type definitions and function calls designed to support biometric sensors designed to return images (either still images or a sequence of images). Annex B provides type definitions and function calls designed to support biometric sensors designed to return sequences of pen movements.

The major function of a BSP module performing a capture is to produce a complete Biometric Information Record (BIR) for returning to a biometric application (usually via a BioAPI framework).

The major function of a BSFP is to do a capture and to return data in an identified format, either as a single piece of data (use of BioSFPI_DataTransfer) or as a series of packets (use of BioSFPI_GetPackets) containing the captured information, or via a stream interface (see Annex C).

The BSP is responsible for turning this data into a Biometric Data Block (BDB) within a BIR for returning across the Service Provider Interface (SPI).

Additional (minor) functions relate to control of the biometric sensor and the parameters of its operation.

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Information technology — Biometric application programming interface —

Part 4:
Biometric sensor function provider interface

1 Scope

This part of ISO/IEC 19784 specifies a biometric sensor interface for a Biometric Service Provider (BSP, see ISO/IEC 19784-1). The interface supports a BSP wishing to provide the BioAPI Service Provider Interface (SPI) functions, whilst removing device handling activity from the BSP. This part of ISO/IEC 19784 provides an interface that can be used by all types of biometric sensor, including *inter alia* image streaming sensors (infrared, face, iris, finger, etc.), voice streaming sensors and digital tablets providing dynamic signature data.

It is not in the scope of this part of ISO/IEC 19784 to define security and privacy requirements for capturing and transferring of biometric data across the Sensor Function Provider Interface (SFPI).

2 Conformance

A BSFP shall support all the functions in Clause 8 of this part of ISO/IEC 19784 and all those in the two normative annexes. However, those functions that have a permissible error return of BioAPIERR_FUNCTION_NOT_SUPPORTED can always return this error. Functions that do not list this error as an allowed return are required to perform the function as described, subject to other error returns listed.

3 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 19784-1, *Information technology — Biometric application programming interface — Part 1: BioAPI specification*

ISO/IEC 19794-7, *Information technology — Biometric data interchange formats — Part 7: Signature/sign time series data*

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