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Information technology — Cross-jurisdictional and societal aspects of implementation of biometric technologies — Pictograms, icons and symbols for use with biometric systems —

Part 4: Fingerprint applications

Technologies de l'information — Aspects sociétaux et trans-juridictionnels de la mise en oeuvre des technologies biométriques — Pictogrammes, icônes et symboles pour utilisation avec les systèmes biométriques —

Partie 4: Applications des empreintes digitales

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/IEC JTC1, *Information technology*, Subcommittee SC 37, *Biometrics*.

A list of all parts in the ISO/IEC 24779 series can be found on the ISO website.

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Introduction

A major public application of biometric recognition today is likely to be passports, but in the near future, it is probable that biometric recognition will be used in other public devices. These devices will be located in a variety of environments including unsupervised, a device supervised by an attendant or only partly supervised — for example, an attendant supervising a number of devices or devices observed via CCTV and an audio link. Language-independent pictograms, icons and symbols that indicate the biometric modality and illustrate actions and behaviour required will be particularly important for occasional users. In general, it is desirable for there to be more than one mode of presentation (e.g. visual and audible or tactile). Only visual presentation is addressed in ISO/IEC 24779.

It is recommended that pictograms, icons and symbols are used in the enrolment process, so that the subject becomes familiar with their meaning.

A standard family of pictograms, icons and symbols is required since in the absence of widely used standard pictograms, icons and symbols, manufacturers will adopt their own proprietary printed pictograms, icons and symbols for display on screens. This is likely to lead to confusion for public users of self-service devices.

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Information technology — Cross-jurisdictional and societal aspects of implementation of biometric technologies — Pictograms, icons and symbols for use with biometric systems —

Part 4: Fingerprint applications

1 Scope

This document contains a set of symbols, icons and pictograms to help the general public understand the concepts and procedures for using electronic systems that collect and/or process fingerprints. This set of symbols, icons and pictograms is designed to be used to

— identify the type of biometric device,

— provide static instructions related to a fingerprint device,

— display dynamic real-time information related to the fingerprint device, and

— indicate the status of the fingerprint device.

To provide this functionality, the set of symbols, icons and pictograms includes both directional symbols, icons and pictograms and real-time action or feedback symbols, icons and pictograms. The fingerprint device symbols, icons and pictograms can be categorized as

— finger/hand general biometric,

  — kind of finger, four fingers or hand device,

— finger/hand placement,

  — biometric position and impression which needs to be presented next,

  — hand orientation (switched hands),

— finger/hand quality feedback,

  — press (more or less),

  — raise/lower angle,

— finger/hand positioning,

  — hand/finger orientation,

  — necessary finger/hand movement (forward, backward, lateral),

  — rotation,

  — change angle, and

  — rolling finger(s).

Although the symbols, icons and pictograms are presented individually, it is intended that the symbols, icons and pictograms be combined to fully illustrate the fingerprinting interaction.

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Alternative illustrations might be used; for example, in a customs or immigration environment, procedures constructed from the individual symbols, icons and pictograms could additionally be presented as

— a series of posters while waiting to use the biometric system,

— a series of transitional frames in a biometric booth,

— an animated video or series of transitional frames while waiting to use the biometric system, and

— instructional leaflets to read while waiting to use the biometric system.

This multi-part International standard focuses on communication with the data capture subject. Operators could use this International standard, but they might need additional symbols and information.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

4 Individual symbols, icons and pictograms

4.1 General

The symbols and icons for aiding the fingerprint presentations are shown in the following figures.

The symbols, icons and pictograms included in this clause have undergone usability testing[1)]. The symbols, icons and pictograms were tested with representative users using two different methods. The first round of testing used interviews. Using this approach, the interviewers described the context in which the symbols, icons and pictograms were to be used and asked each participant to identify the meaning of each symbol, icon or pictogram. This testing was followed by operational testing or task-based testing where participants were asked to take actions and interact with fingerprint devices based on the symbols, icons or pictograms. A more detailed description of the testing procedures and results are presented in Annex A.

4.2 General symbol indicating fingerprint application

The following symbol should be used to indicate that a fingerprint application is in place.

1) Research conducted by the National Institute of Standards and Technology (NIST).

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