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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 26237.4-2014

**Information technology -- Biometric data interchange formats --
Part 4: Finger image data**

信息技术 生物特征识别数据交换格式 第4部分：指纹图像数据
(English Translation)

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Foreword

GB/T 26237 "Information technology - Biometric data interchange format" is divided into the following 14 sections.

- Part 1. Framework;
- Part 2. minutiae data;
- Part 3. Finger pattern spectral data;
- Part 4. Finger image data;
- Part 5. Face image data;
- Part 6. Iris image data;
- Part 7. Signature/signature time-series data;
- Part 8. skeleton type fingerprint data;
- Part 9. Vascular biometric image data;
- Part 10. Hand-shaped contour data;
- Part 11. treated signature/signature dynamic data;

--- Part 12. face shape characteristic data;

--- Part 13. Sound data;

Part --- Article 14. DNA data.

This section GB/T Part of 426,237.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This section uses redrafted law reference ISO/IEC 19794-4:2005 "Information technology - Biometric data interchange formats -Part 4. Finger image data "compiled with the ISO/IEC 19794-4:2005 is equivalent to the degree of non-conformity.

Please note that some of the content of this document may involve patents. Release mechanism of the present document does not assume responsibility for the identification of these patents.

This part of the National Information Technology Standardization Technical Committee (SAC/TC28) and focal points.

This section drafted by. China Electronics Standardization Institute, Changchun Hongda Guang electronic and biometric identification technology Co., square Positive Software International Limited.

Introduction

In the area of justice, often using automated fingerprint identification system, fingerprint information needs to be exchanged. Fingerprint image acquisition and Transmission is the main content of fingerprint information exchange. However, the use of biometric technology, user authentication and authorization applications, from Hardly exchange of fingerprint information between the different supply-side equipment. Part of the reason for this phenomenon is between the supplier of the information collected in Set the number and type of collection method and content of the exchange there was no need to form a common agreement.

This section GB/T 26237 is biometric systems interoperability and data exchange standards part. The standard specifies A solution used in various biometric identification application complexity requirements, whether used in an open system environment, or a single secret Closed system. For more information about this standard, see GB/T 26237.1-2010 "Information technology - Biometric data interchange formats Part 1. Framework. " this section is for the original need to exchange or treated refers to a variety of applications/palmprint image enacted, these images can not count According to limit storage space or transmission time and other resources. This section applies to both contain a detailed fingerprint image pixel information exchange, Also apply to processed, including the exchange of a small amount of pixels and/or with less gray levels of the

fingerprint image data. compared to 26237 format other parts of the GB/T definitions applicable to such details, pattern or fingerprint feature other variables exchange of fingerprint image You need more storage space. However, according to GB/T 26237 standard in any other format information recording portion not to be against another Outer type of information design algorithm used. In other words, details of the data can not be applied pattern matching algorithms, pattern data can not be details Ratio of the algorithm used.

Will produce different intermediate output details, other than the mode or method of treatment based on the way, these methods should first collection of high-quality Fingerprint image, and then reduce the image size (in bytes) or a set of features extracted from the image data. The collected images, or the image is too supply-side processing to use, without having to consider the supply-side used is based on the details, or pattern, or based on other than the operator law. So that the data collected by the fingerprint image can be obtained by selection or combination of developers than to provide more technical aspects of the algorithm free space. For example, the registered image is stored in the identification document contactless chip, the owner of such documents in the future based on either Details alignment algorithms, but also in the pattern matching algorithm recognition system identity discrimination based. Represented by the image of fingerprint information, will not by detail, pattern or other forms of pre-defined influence. This is collected by the implementers to use different devices, with different sizes, and an image having a different resolution, gradation depth provides flexibility. Therefore, the use of the fingerprint image can allow each supplier to achieve his their own algorithms to determine whether two fingerprint records from the same finger.

Information technology - Biometric data interchange formats Part 4. Finger image data

1 Scope

This section GB/T 26237 provides for a used one or more from compliance with ISO/IEC 19785-1CBEFF data structure Finger/palm print image storage area for data recording, the recording and transmission of information interchange format, can be used for data exchange and fingerprint image Comparison. This section defines the measurement content, format, and units fingerprint image data can be used to exchange authentication and individual identification. This information consists of Some will constitute options and options, including scanning parameters, compressed or uncompressed images and information provision for parties, and may use automated Equipment and systems to be exchanged between the identification and authentication based on fingerprint image regional organizations. Compile and format in accordance with this section of the information can be recorded or transmitted using data communication facilities on machine-readable media.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 17235.1-1998 Information technology continuous-tone still images - Digital compression and coding - Part 1. Requirements and guidelines (ISO/IEC 10918-1:1994, IDT) GB/T 26237.1-2010 biometric data interchange formats - Part 1. Framework (ISO/IEC 19794-1:2006, MOD) ISO/IEC 15444 (all parts) IT JPEG2000 image coding system [Information technology - JPEG2000 image coding system (All parts)] Portable Network Graphics ISO/IEC 15948 Information technology - Computer graphics and image processing (PNG). Functional specification [Information technology - Computer graphics and image processing - Portable Network Graphics (PNG). Functional specification] ISO/IEC 29794-1 Information technology - Biometric sample quality - Part 1. Framework (Information technology - Biometric sample quality - Part 1. Framework)

3 Terms and Definitions

GB/T 26237.1-2010 and as defined in the following terms and definitions apply to this document.

Acquisition equipment spatial sampling rate capture device spatial sampling rate the number of pixel sensors or equipment acquisition unit acquiring the original images used in the distance.

Fingerprint image Between the nails on both sides of the finger and the first joint and mastoid region between the ends of the fingers.

NOTE: known as the "fingerprint", which contains the unique ridge and valley information.