
**Information technology — Cross
jurisdictional and societal aspects
of implementation of biometric
technologies — Biometrics and
children**

*Technologies de l'information — Aspects pangouvernementaux et
pansociétaux de l'implémentation des technologies biométriques —
Biométrie et enfants*

This document is a preview generated by EMS



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols and abbreviated terms	1
5 Background and rationale	2
5.1 Definition of “child” in terms of age.....	2
5.2 Ethical background.....	2
5.3 General considerations.....	2
6 Studies on biometrics for children	3
6.1 General.....	3
6.2 Study on age estimation of children.....	3
6.3 Fingerprints.....	3
6.3.1 Physiology.....	3
6.3.2 Studies concerning the use of fingerprints for children.....	4
6.4 Face.....	4
6.4.1 Physiology.....	4
6.4.2 Study concerning the use of face recognition for children.....	5
6.5 Iris.....	5
6.5.1 Physiology.....	5
6.5.2 Study concerning the use of iris recognition for children.....	5
6.6 Hand geometry.....	5
6.6.1 Physiology.....	5
6.6.2 Studies concerning the use of hand geometry for children.....	6
7 Applications	6
7.1 Identification and protection of newborns.....	6
7.2 Fight against children trafficking.....	6
7.3 Missing children search.....	6
7.3.1 National Missing and Unidentified Persons System (NamUs).....	6
7.3.2 National Center for Missing and Exploited Children (NCMEC).....	6
7.3.3 Children’s Identification and Location Database (CHILD).....	7
7.3.4 Masonic Youth Child Identification Program (MYCHIP).....	7
7.3.5 National Child Identification Program (NCIDP).....	7
7.4 Schools.....	7
7.4.1 Registration.....	7
7.4.2 Library book borrowing.....	7
7.4.3 Cashless catering.....	7
7.4.4 Count of children access to catering.....	7
7.5 Children medical treatment history.....	8
8 Protection of children in using biometrics	8
8.1 Data protection and privacy.....	8
8.1.1 Information to be provided to parents and legal representatives — consent.....	8
8.1.2 Information to be provided to children.....	8
8.1.3 Enrolment — procedures and environment.....	8
8.1.4 Enrolment — right of an updated enrolment.....	8
8.1.5 Enrolment — right to watch.....	8
8.1.6 Opt-out.....	8
8.1.7 Biometric data security.....	8
8.1.8 Biometric data destruction — transfer.....	9
8.2 Psychological protection.....	9

Bibliography **10**

This document is a preview generated by EVS

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 document 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/IEC JTC 1, *Information technology, SC 37, Biometrics*.

Introduction

In the growing involvement of children in biometric systems, several issues concerning their use of biometrics appear more critical than to adults.

Most problems rely on the physical and psychological immaturity of children. The bodies of children are still in a growing phase and this may cause difficulties in the biometric capture and comparison processes. For the children themselves, the usability of a biometric system becomes a crucial factor.

On the other hand, their psychological immaturity implies that there could be situations where parent(s) or legal representative(s) have to support them to use biometric systems, especially when data protection or privacy issues are involved.

In this Technical Report, the definition of “child” is considered from the applicative point of view in [Clause 5](#). In [Clause 6](#), studies on biometrics for children are surveyed for certain modalities because the application of biometrics is heavily dependent on the modality. [Clause 7](#) introduces examples of application of biometrics that are typical to children and present clear benefits. Finally, [Clause 8](#) summarizes various elements concerning the protection of children when using biometric systems with particular reference to data protection and psychological concerns.

Examples of the benefits to be gained by using the Technical Report are the following:

- operational support in using biometrics applied to the context of children;
- enhanced acceptance by subjects of systems (children, parents and legal representatives, tutors,...) using biometric technology;
- improved public perception and understanding of these systems;
- smoother introduction and operation of these systems;
- adoption of commonly approved good privacy practice.

The primary stakeholders are identified as follows:

- parents and legal representatives;
- users of the biometric data;
- developers of technical standards;
- subjects who provide the biometric sample;
- requirements analysts;
- system architects;
- IT designers;
- public policy makers.

Any jurisdiction of the country for which the biometric system is intended to shall be considered.

Information technology — Cross jurisdictional and societal aspects of implementation of biometric technologies — Biometrics and children

1 Scope

This Technical Report builds upon the general recommendations given in ISO/IEC TR 24714-1.

It provides guidance for users (as defined in ISO/IEC 2382-37) of biometric recognition systems on specific requirements in relation to deployments when children are included as subjects in the biometric process.

2 Normative references

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

ISO/IEC 2382-37, *Information technology — Vocabulary — Part 37: Biometrics*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 2382-37 and the following apply.

3.1 child

person below the age of 18, unless the laws of a particular country set the legal age for adulthood younger¹⁾

3.2 friction ridges

ridges present on the skin of the fingers and toes, the palms and soles of the feet, which makes contact with an incident surface under normal touch

4 Symbols and abbreviated terms

BIODEV	Biometrics Data Experimented in Visa (European Commission funded experimentation, 2005)
BKA	Bundeskriminalamt (Federal Criminal Police Office of Germany)
dpi	dots per inch
EC	European Commission
EER	Equal Error Rate
JRC	European Commission Joint Research Center
MYCHIP	The Masonic Youth Child Identification Program (MYCHIP)

1) <http://www.ohchr.org/en/professionalinterest/pages/crc.aspx> [viewed 12 July 2015].