International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

X.1082

Amendment 2

(05/2010)

SERIES X: DATA NETWORKS, OPEN SYSTEM COMMUNICATIONS AND SECURITY

Information and network security – Telebiometrics

Telebiometrics related to human physiology

Amendment 2: Enhancement to support the ISO/IEC 80000-series

Recommendation ITU-T X.1082 (2007) – Amendment 2

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Recommendation ITU-T X.1082

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Summary

Amendment 2 to Recommendation ITU-T X.1082 updates the Recommendation to allow for further development. This amendment adds a sixth modality: "CALOR".

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T X.1082	2007-11-13	17
1.1	ITU-T X.1082 (2007) Amend.1	2009-10-29	17
1.2	ITU-T X.1082 (2007) Amend.2	2010-05-29	17

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at http://www.itu.int/ITU-T/ipr/.

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1) Introduction

Replace paragraphs 3, 4 and 5 of the Introduction with:

The basis for the determination of the quantities and units to be addressed is the taxonomy specified in the telebiometric multimodal model (TMM, [ITU-T X.1081]). In the TMM, twelve aspects of the interaction between the human body and its environment are recognized (modalities). These interactions are assumed to occur at various scales of propinquity and at various intensities across the personal privacy sphere (see Figure 1 of [ITU-T X.1081]).

Using the terminology of the TMM, these interactions (base modalities) are classified as follows:

- TANGO-IN
- TANGO-OUT
- VIDEO-IN
- VIDEO-OUT
- AUDIO-IN
- AUDIO-OUT
- CHEMO-IN
- CHEMO-OUT
- RADIO-IN
- RADIO-OUT
- CALOR-IN
- CALOR-OUT

It is also recognized that the temperature of (parts of) the human body is important both for safe operation of a telebiometric device and for its use in providing telebiometric security. This aspect of the interaction of a human body with its environment uses the modalities TANGO-IN, TANGO-OUT, VIDEO-IN, and VIDEO-OUT, but is sufficiently important that it is defined in the [ISO/IEC 80000]-series as an additional modality.

2) Clause 3.2.1

Replace clause 3.2.1 with:

3.2.1 modality: One of the classifications of the interaction of a human body with its environment based on the physical nature of the interaction or on the human sensory system that it affects (see clauses 3.5.1 to 3.5.12).

NOTE – If the interaction is from the environment to the human body, it is described as an in-modality. If it is from the human body to the environment, it is described as an out-modality.

3) Clause 3.2.2

Delete clause 3.2.2 and renumber clauses 3.2.3 to 3.2.13 as 3.2.2 to 3.2.12.

4) Clauses 3.5.11 and 3.5.12

Replace clauses 3.5.11 and 3.5.12 with:

3.5.11 CALOR-IN: Characterization of any stimulus that can be detected by thermo sensors (cold receptors and warm receptors) in the human skin and mucous surfaces and any kind of heat transfer into the human body.

NOTE 1 – The term CALOR-IN is used both as an adjective applied to a stimulus, but more commonly as a noun referring to a CALOR-IN stimulus.

NOTE 2 – Heat transfer into the human body can occur by conduction of hot surfaces, by convection of air above skin temperature, by radiation from the sun, heat bulbs, thermo cameras, etc., and by microwave radiation.

3.5.12 CALOR-OUT: Characterization of any kind of heat transfer from the human body.

NOTE 1 – The term CALOR-OUT is used both as an adjective applied to a specific output, but more commonly as a noun referring to a CALOR-OUT specific output.

NOTE 2 – Heat transfer from the human body can occur by conduction to cold surfaces, by convection of air below skin temperature, by infra-red radiation to a cold environment and by evaporation.

5) Clause 11.1

Replace the first paragraph of clause 11.1 with:

The modalities of CALOR-IN and CALOR-OUT (see [b-IUPS] and [b-Klinke]) are important because the survival of a human being depends on the capacity of the body to maintain its core temperature within a narrow range centred around 37°C. Any large deviation from this will usually prove to be fatal.

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