



International Telecommunication Union

Telebiometry: Scalar Hierarchy and Security Modular Elements in Telecommunications

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TELEBIOMETRY frames the set of all methods of distant authentication using unique digital biometric records

- o Biometric Information is recorded from many biological sources by sensors.
- o Biometric Elements may be categorized as unique processed complex signals emanating from video, audio, tango and chemo - multimodal manifestations of human presence, enabling identification.



Telebiometric Authentication Modeling and Categorizing

- So many different biometric data types have emerged and more coming...
- Modeling requires highest sort of design: "Architecture of Security Complexity"
- "By a *Hierarchic System*, or Hierarchy, I mean a system that is composed of interrelated subsystems, each of the latter being, in turn, hierarchic in structure until we reach some lowest level of elementary subsystem". H. Simon



SCALAR HIERARCHY is a robust model in Coherence

- ISO/IEC 80000 encompasses tools to use for Most Security Issues Solutions Design.
- Prefixes help to span Time-Space domain and sectorize When and Where Security Issues have to be addressed.
 - In the midscale-range, where human perception occurs, relevant scalar parameters are to be asserted and upper and lower non-biotoxic thresholds to be ascertained.



Cross-Recognition between SIX Billion Interconnected Citizens of the World

- o Cross-recognition is the minimal multicultural requirement for personal identification to be a certitude
- o May be used all sorts of signs of four effective communication types:
 - POSTURAL
 - GESTURAL
 - FACIAL
 - VOCAL / VERBAL / WRITTEN



The Basic Triadic Structure

- o Facing a potentially overwhelming complexity of transactions between entities at different levels, what is the basic minimal set of relationships that would satisfactorily frame the most important ones?
- o Literature on systems reveals the structure:
 - The smallest cluster of levels required to represent fundamental interactive relationships is a triad of contiguous levels, so that we can simultaneously examine some process and the events produced, the context of such events and their causes. - WITHIN; FOCAL; WITHOUT.



The Basic Triad

- o ENGLOBING LEVEL is wrapping
- o FOCAL LEVEL is wrapping
- o ENGLOBED LEVEL
- o CONTIGUITY by Scalar Adjacency (“relatively near and having nothing of the same kind intervening”)
 - SCALAR HIERARCHICAL METHODOLOGY operates then routinely, enabling us to transform any upper level into focal level, so previous focal level becomes the lower level; any lower level into focal level, while previous focal level plays upper level role in the interpretation.



Representing a Dynamic System Hierarchically: The Basic Triadic System

- o What are lower-level constraints in the triadic system?
- o => Realized potentialities. They make possible, they cause the phenomena that do occur.
- o What are upper-level constraints in the triadic system?
- o => Strongly relevant features of the environment of a focal process. They inform and influence focal level processes.



In Telecommunications, Skin Proximity to Device giving Access to Open Networks may be treated with Scalar Hierarchical Methods to ascertain Security Levels

- o HEALTHWISE: no interferences are allowed because of *exactness and precision given with Upper and Lower Safety Thresholds*
- o BIOMETRYWISE: no fraud or impersonation are allowed, securing Telebiometric Service



Fully-Secured Open Networks used by Fully-Authenticated - Telebiometrically- Safeguarded Telecommunicators

- o Telebiometric ScalarLeonardo refers to Personal Privacy Sphere, a Scalable CHRONOTOPIC NATURAL SYSTEM representable in Einsteinian Coordinates
- o SI units and Quantifiers Prefixes span the whole time/space domain (ISO/IEC 80000)

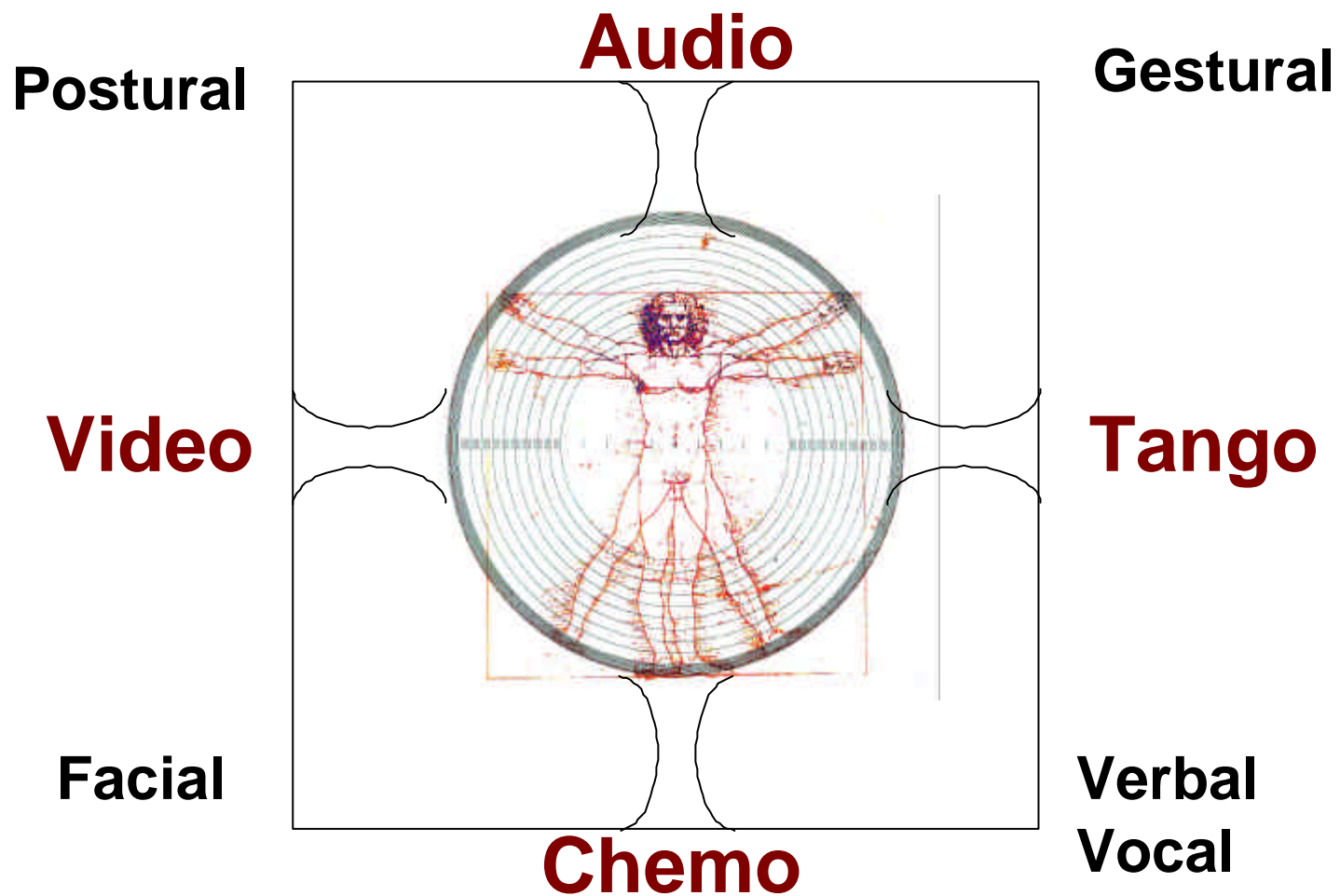


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Telebiometric features





FACILITATION of AUTHENTICATION and Architectural underpinnings for SECURITY

- o Dynamic and Static Biometric Solutions
- o Unimodal, Bimodal, Multimodal Approaches
- o As well as all other Subdivisions of a Complete Categorization of Authentication Methods, Techniques and Services are to be constructs based on Natural Systems Science and Scalar Hierarchy, enabling Scalable Security Modular Elements to be picked at will and added for Adequate Security Level.



ITU-T SG 17 is liaising and contributing to current Harmonized Standard ISO/IEC 80000 for COHERENCE and Optimal Benefits in Safety and Security in all Telecommunicator's acts, at all possible Scalar Levels, as required.

- o WETWARE = the Human Body = 99% H₂O



**ITU-T SG 17 is preparing a
Telebiometric
Recommendation to appear
in series X in accordance and
coherence with Harmonized
Standard ISO/IEC 80000.
Safety and Security in
Personal Identification,
Ecological Sanity,
at all pertinent Scalar Levels!**

- o Blur distinction between Safety and Security!