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Guide for Facial Comparison Awareness Training of Assessors

Purpose

The purpose of this document is to describe the guidelines to develop an awareness training program for assessors.

1. Scope

1.1 This guide is intended to provide a minimum set of criteria for training of personnel who will conduct facial comparisons at the assessor level.

2. Referenced Documents

2.1 American Society for Testing and Materials (ASTM) International Standard¹ E2916-13 Standard Terminology for Digital and Multimedia Evidence Examination (<https://www.astm.org/Standards/E2916.htm>)

2.2 FISWG Glossary

2.3 FISWG Minimum Training Criteria for Assessors Using Facial Recognition Systems

2.4 FISWG Guide for Role-Based Training in Facial Comparison

2.5 FISWG Facial Image Comparison Feature List for Morphological Analysis

2.6 FISWG Physical Stability of Facial Features of Adults

2.7 FISWG Effects of Printing Methods on Facial Images used for Comparison

2.8 FISWG Standard Guide for Scanning Facial Images

¹ For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

3. Terminology

3.1 Definitions:

3.1.1 *facial assessor, n*—a human conducting a comparison in a high throughput environment.

3.1.2 *aptitude, n*—natural talents, special abilities, or the capacity to learn—traits that are considered highly stable over a long period of time.

3.1.3 *assessment, n*—a quick image-to-person or image-to-image comparison typically conducted in a high throughput environment (e.g., screening and access control applications or field operations).

3.1.4 *comparison, n*—the second step of the ACE-V method; the examination of two or more samples to establish similarities and dissimilarities.

3.1.5 *face matching, n*—a type of face identification task requiring a mere perceptual decision whether two simultaneously presented faces (photo, video, live) depict the same person or different people.

3.1.6 *face recognition: n*—see facial recognition.

3.1.7 *facial recognition: n*—(1) the human cognitive process by which an observer identifies a person as being one they have seen before, (2) the automated searching of a facial image (probe) against a known collection resulting in a list of candidates ranked by computer-evaluated similarity score. This automated process is commonly referred to as a one-to-many comparison.

3.1.8 *familiar faces, n*—faces of people known to an observer. This includes the faces of family, friends, and colleagues, but also the faces of celebrities and people we encounter regularly (e.g., barista at a café). Familiarity is largely developed over multiple, separate encounters. 3.5 Unfamiliar faces: Faces of unknown or recently learned people. Unfamiliar faces characterize almost all of face identification decisions, as the observer has no previous history with the person, they are required to identify.

3.1.9 *holistic process, n*—the innate human ability of comparing faces by looking at the face as a whole without specifically considering the component parts in isolation.

3.2 Acronyms:

3.2.1 *ACE-V—Analysis, Comparison, Evaluation - Verification. A scientific method utilized in most comparative processes*

3.2.2 *FR—Facial recognition*

4. Significance and Use

4.1 The task of facial assessment is defined as a quick image-to-person or image-to-image comparison typically conducted in a high throughput environment (e.g., screening and access control applications or field operations). This task may be

conducted by personnel during the course of their duties, to generate lines of enquiry or by a point of entry controller for a restricted area.

4.2 Due to time constraints, assessment is the least rigorous of all of the facial comparison categories. The role requires an awareness of the major elements and limitations of the facial comparison discipline and training in the use of available tools.

4.3 Assessors who adjudicate candidate lists from a Facial Recognition (FR) Systems should meet the minimum requirements in the FISWG document Minimum Training Criteria When Using of Facial Recognition Systems.

5. Summary of Practice

5.1 This guide provides the minimum criteria for training of facial assessors and should be read in conjunction with FISWG document Guide for Role-Based Training in Facial Comparison.

5.2 Minimum training requirements for facial assessors includes awareness of the following:

5.2.1 The practical application and operational uses of facial images.

5.2.2 Common terminology used in the discipline.

5.2.2.1 The differences between human face recognition (familiar/unfamiliar).

5.2.2.2 Automated facial recognition.

5.2.3 The distinction between holistic face processing, and unfamiliar face matching (e.g., person to image, juxtaposed image comparison), including differences and limitations.

5.2.4 The difficulty in comparing faces and variability in individual aptitude to perform facial comparison.

5.2.5 The principles of comparison (specifically, the morphological analysis methodology) and the differences between class and individual characteristics.

5.2.6 The basics of image science including, but not limited to:

5.2.6.1 Human Vision (e.g., Color, Perception)

5.2.6.2 Photography (e.g., Distortion, Pose, Illumination)

5.2.6.3 Impact of digital imaging, scanning, and printing on facial features

5.2.7 The Facial Image Comparison Feature List for Morphological Analysis document (which lists the features of the face) and the the variable nature of the human face over time and the physical stability of individual features as they relate to expression, time-related changes, weight change, changes in health and intentional alterations.

6. Keywords

6.1 facial assessor, training, facial identification, facial comparison

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