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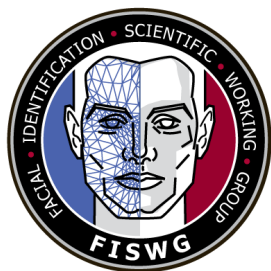
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Guide for Facial Comparison Training of Reviewers to Competency

1. Scope

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

2. Referenced Documents

2.1 ASTM Standards:¹

E2916-13 Standard Terminology for Digital and Multimedia Evidence Examination

E3149-18 Standard Guide for Facial Image Comparison Feature List for Morphological Analysis

2.2 FISWG Standards:²

FISWG Facial Image Comparison Feature List for Morphological Analysis

FISWG Glossary

FISWG Guide for Mentorship of Facial Comparison Trainees in Role-Based Facial Comparison

FISWG Guide for Role-Based Training in Facial Comparison

FISWG Minimum Training Criteria When Using Facial Recognition Systems

FISWG Physical Stability of Facial Features of Adults

3. Significance and Use

3.1 A Facial Reviewer performs a comparison of image(s)-to-image(s) generally resulting from the adjudication of a candidate list generated by a facial recognition system (FRS). The comparison results are often used in either investigative and operational leads or intelligence gathering applications.

¹ For referenced ASTM standards, visit www.nist.gov/osac/astm-launch-code, or the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For Annual Book of ASTM.

² Available from Facial Identification Scientific Working Group (FISWG), <http://www.fiswg.org/documents>.

3.2 The task of facial review includes, but is not limited to, the use of an FRS to review one-to-many galleries. This task may also include the review of outputs from environments involving high volume throughput that require escalation from facial assessment.

3.3 A Facial Reviewer requires a basic level of training to acquire general knowledge and comprehension of the technology, major elements of the facial comparison discipline, and use of available tools (e.g., FRS, editing software).

3.4 The intended audience of this document includes organizations and individuals involved in facial comparison at the reviewer level.

4. Summary of Practice

4.1 This guide provides the minimum criteria for training of facial reviewers and should be read in conjunction with the FISWG Document Minimum Training Criteria When Using Facial Recognition Systems.

4.2 Organizations should include competency testing or a mentoring program as a component of training. Competency testing may help identify opportunities for continuing education and training. Quality assurance programs should also be a component of training as they are a reliable means of measuring the quality of each trainee's ability to perform their tasks.

4.3 Minimum training requirements for facial reviewers include proficiency in the following:

4.3.1 Familiarity with the history of facial comparisons in forensic science to include past methods and their shortcomings.

4.3.2 An understanding of common terminology used in the discipline and should be able to explain the following (including differences and limitations):

4.3.2.1 Human face recognition (familiar/eyewitness)

4.3.2.2 Facial recognition systems

4.3.2.3 Holistic face processing

4.3.2.4 Unfamiliar face matching

4.3.3 An understanding of the basics of image science including, but not limited to:

4.3.3.1 Human vision (e.g., color, perception)

4.3.3.2 Photography (e.g., sensors, distortion, subject to camera angle, illumination)

4.3.3.3 Components of digital images (e.g., pixels, resolution, compression)

4.3.3.4 Detection of alterations within images

4.3.3.5 Properties of video (e.g., limitations, formats, extraction of still images)

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

4.3.3.7 Proper handling of digital media, write protection of that media, and generating working copies.

4.3.4 An understanding of the principles of comparison including, but not limited to:

4.3.4.1 Process of Analysis, Comparison, Evaluation, and Verification (ACE-V)

4.3.4.2 Assessment of facial image quality to determine the value for comparison based on the visibility of facial features.

4.3.4.3 The differences between class and individual characteristics, as well as those of transient and stable characteristics

4.3.4.4 Methods of comparisons. See FISWG Facial Comparison Overview and Methodology Guidelines.

4.3.4.5 Comparison results and the levels of support relevant to facial review (e.g., exclusion, investigative lead)

4.3.5 Familiarity with scientific research related to the validity of facial comparison methods, including their strengths and limitations.

4.3.6 Understanding the complexity in comparing faces and the variability in individual aptitude to perform facial comparison.

4.3.7 Understanding of the practical application and operational uses of facial images.

4.3.8 Overview and effects of bias (e.g., cognitive, confirmation, contextual).

4.3.8.1 Ability to distinguish between relevant and irrelevant task information.

4.3.9 Knowledge of FRS, to include, but not limited to:

4.3.9.1 User input and operation

4.3.9.2 System operation and output

4.3.9.3 Facial recognition algorithm limitations

4.3.9.4 Demographics performance variations

4.3.9.5 Imaging conditions (e.g., image quality, subject to camera angle)

4.3.9.6 Accessories (e.g., eyeglasses, jewelry)

4.3.9.7 Obstructions (e.g., masks, scarves, head coverings)

4.3.10 Familiarity in applying basic image processing operations (e.g., brightness and contrast adjustments, rotations, cropping) and an understanding of the impact of these operations on facial appearance.

4.3.11 Familiarity with the bones that comprise the skull and the overlaying musculature.

4.3.12 Knowledge of the FISWG Facial Image Comparison Feature List for Morphological Analysis (see also, ASTM E3149-18 Standard Guide for Facial Image Comparison Feature List for Morphological Analysis).

4.3.13 Knowledge of and ability to explain the physical stability of facial features in relation to aging, expression, weight changes, health changes; and knowledge of intentional alterations and how they can affect the facial features. See FISWG Physical Stability of Facial Features of Adults.

4.3.14 Knowledge of temporary (e.g., cosmetics, wounds, and abrasions) and permanent (e.g., scars, surgical alterations, tattoos, piercings) changes of the facial features.

4.3.15 Minimum training requirements for facial reviewers that are routinely required to testify in court include competency in the following:

4.3.15.1 Court testimony

4.3.15.2 Their Agency authorities and policies regarding acceptable use and dissemination

4.3.15.3 Relevant judicial decisions including the law governing admissibility of scientific evidence in court.

4.3.15.4 Standards, guidelines, and best practices including but not limited to:

4.3.15.5 Rules of evidence

4.3.15.6 Chain of custody

4.3.15.7 Documentation of notes

4.3.15.8 Reporting of results

4.3.15.9 Technical review

4.3.15.10 Mitigating or exculpatory disclosures

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