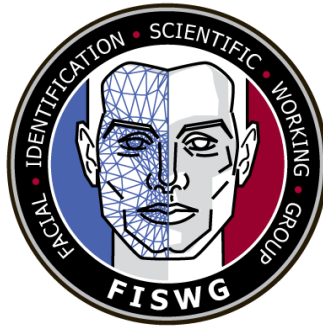




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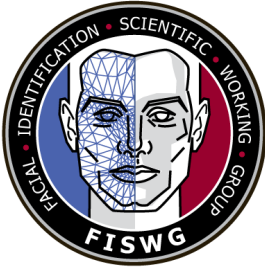
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Guide for Facial Comparison Training of Reviewers to Competency

1. Scope

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

2. Referenced Documents

2.1 *ASTM Documents*¹:

E2916 Standard Terminology for Digital and Multimedia Evidence Examination

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

2.2 *FISWG Documents*²:

FISWG Glossary

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>.

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

FISWG Minimum Guidelines for Facial Image Comparison Documentation

FISWG FRT Responsible Use Principles

FISWG Systems and Capture Operational Assurance Series

FISWG Facial Comparison Overview and Methodology Guidelines

2.3 Other Standards:

OSAC 2022-S-001 Standard Guide for Image Comparison Opinions³

3. Significance and Use

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

³ Available from the NIST Organization of Scientific Area Committees for Forensic Science (OSAC) at <https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry>

3.2 The task of facial review includes, but is not limited to, the use of a Facial Recognition System (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 a facial assessment.

3.3 A facial reviewer performs a comparison generally resulting from the adjudication of a candidate list generated by an FRS. The comparison results are often used in either investigative and operational leads or intelligence gathering applications.

3.4 A facial reviewer requires 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).

4. Procedure

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

4.2 Organizations should include competency testing and a mentoring program as a component of training. Competency testing may help identify needs 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 The history of facial comparisons in forensic science to include past methods and their shortcomings.

4.3.2 Common terminology used in the discipline and ability to explain the following (including differences and limitations):

4.3.2.1 Human face recognition (e.g. Familiar vs unfamiliar, eyewitness testimony).

4.3.2.2 Facial Recognition Systems.

4.3.2.3 Holistic face processing.

4.3.2.4 Unfamiliar face matching.

4.3.3 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 Image quality (e.g., compression, scanning, printing, intentional alterations).

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

4.3.4 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 difference 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 Scientific research related to the validity of facial comparison methods, including their strengths and limitations.

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

4.3.7 The practical application and operational uses of facial images.

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

4.3.9 Ability to distinguish between relevant and irrelevant task information.

4.3.10 FRS, to include, but not limited to:

4.3.10.1 The practical use of FRS generated investigative leads for investigative purposes and the ability to convey their associated limitations.

4.3.10.2 User input and operation.

4.3.10.3 System operation and output.

4.3.10.4 Facial recognition algorithm limitations.

4.3.10.5 Demographics performance variations.

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

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

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

4.3.11 Applying basic image processing operations (e.g., brightness adjustments, rotations, cropping) and an understanding of the impact of these operations on facial appearance.

4.3.12 The bones that comprise the skull and the overlaying musculature.

4.3.13 The ASTM E3149 Standard Guide for Facial Image Comparison Feature List for Morphological Analysis.

4.3.14 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 facial features.

4.3.15 Temporary (e.g., cosmetics, wounds, and abrasions) and permanent (e.g., scars, surgical alterations, tattoos, piercings) changes to the facial features.

4.4 Minimum training requirements for facial reviewers include competency in the following:

4.4.1.1 Courtroom testimony.

4.4.1.2 Agency authorities and policies regarding acceptable use and dissemination.

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

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

4.4.2.1 Rules of evidence.

4.4.2.2 Chain of custody.

4.4.2.3 Documentation of notes.

4.4.2.4 Reporting of results.

4.4.2.5 Technical review.

4.4.2.6 Mitigating or exculpatory disclosures.

FISWG documents can be found at: www.fiswg.org