ISO/IEC JTC 1/SC 37 Biometrics Working Group 3

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To
Expert Members of the dactyloscopic community

Subject: Support for Fingerprint Standard Conformance Testing Darmstadt - March 16, 2009

Dear Sirs,

I refer to my recent communication with Mr. Wolfgang Krodel, who is heading the forensic AFIS activities at the German Federal Criminal Police Office (BKA), and recommended you as a contact point. He indicated to me that you might be able to contribute with your expertise and your personal resources to our effort to establish a ground truth database for semantic conformance testing of finger minutiae data.

Let me briefly describe the context of this activity: Within the scope of the standardization efforts in ISO/IEC JTC1 SC37 Working Group 3, this WG has developed a series of interchange formats. Among those standards is the feature based standard ISO 19794-2:2005 Biometric data interchange formats - Part 2: Finger minutiae data, which is relevant for numerous eID cards and - for signal based data exchange - the ISO 19794-4:2005 Biometric data interchange formats - Part 4: Finger image data, which has been incorporated in the ICAO passport specification.

The current focus of the working group is to develop for all interchange formats a conformance test. The goal of this conformance test is to attest for a specific product of interest that interchange records generated by the product are not only field-by-field conformant to the ISO standard but also conformant in a semantic manner. This is specifically relevant for the minutiae interchange standard as it is necessary to test that the extracted feature data is indeed a faithful representation of the biometric characteristic.

For semantic conformance testing it is precondition to have a sufficient database with ground truth data, such that in the conformance test one can compare the automated extracted minutiae data with the ground truth data. Thus the first step is to compose such a ground truth database consisting of three segments: tenprint card fingerprint images, live scan images and latent print images (from crime scenes).

In order to make this research a success we are seeking dactyloscopic experts from different forensic institutes around the world that could contribute to the ground truth database and analyze some or all of the above mentioned data segments. Those experts will define for the image material the minutia coordinate, angle and associated metadata (i.e. quality level). For the first data segment (tenprint cards) the image data with 5000 image pairs has kindly been composed by the U.S. National Institute of Standards and Technology (NIST) as extract of the special databases 14 and 29. The BKA has volunteered to go ahead and to analyze this data with nine experts working in parallel. This process has been started recently.

With this letter, I ask you to consider, whether you could join this activity and thus provide the basis for reliable and successful exchange of minutia data in many applications. If you have any question regarding the activity, please do not hesitate to contact me.

With kind regards

Christoph Busch
- ISO SC37 WG3 convenor -