BioICAO SDK

Face detection and verification against international standards

Technical specification

BioICAO SDK enables the compliance verification of a face image with ISO/IEC 19794-5 standard. ISO/IEC 19794-5, according to the specifications released by *International Civil Aviation Organization* (**ICAO**), enforces several requirements that face images must comply with in order to be used in MRTD (Machine Readable Travel Documents) such as e-passports, visas, id-cards.

BioICAO SDK quickly and precisely detects a face in a digital image, and verifies its compliance with the standard. Therefore, besides enabling to validate and correctly crop a face according to *Token* or *Full Frontal* format, it can be used in a variety of applications requiring fast face detection (e.g., surveillance, face tracking, human-machine interfaces).

Features

- Input format: 24bit RBG (or BGR) images
- Face detection in a picture
- Analysis for ICAO photo compliancy
- Detection of poor quality photo
- Warning about face hidden with a veil/scarf or dark glasses or cap

Performance

- High accuracy/speed and low detection errors
- FAST mode enables real-time face detection and face tacking.

Interface and development

- Easy programming interface
- Compatible with all main programming languages (C, C++, C#, VB6, VB.Net, Java)
- Operating Systems: Windows XP/Vista/7/8

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Image Format	BioICAO SDK works on 24-bit color images (RGB or BGR).
Checked Parameters	BioICAO SDK allows to check compliance with ICAO specifications and with quality parameters specified by ISO/IEC 19794-5 standard. As example: • Image focus (to discard out of focus blurred images) • Correct illumination (as chromatic tone and exposure) • Presence of objects that can hide the face (dark glasses, veils, caps) • White background • Neutral facial expression
Eyes Position	BioICAO SDK returns the coordinates of the eyes of the foreground face in a digital image.
Facial Geometry	BioICAO SDK returns the facial coordinates as defined by the ISO/IEC 19794-5 (according to *Token* and *Full Frontal* formats).
Reliability	The tests performed (using a large archive including people from many different ethnic groups) show the high accuracy of BioICAO SDK. The detection errors, for focus, natural skin tone and contrast are two to three times lower than competitor products.
Speed	BioICAO SDK is also about three times faster than competitor products. The FAST mode enables the real time detection and tracking of faces.
Integration and Development	BioCard SDK provides a set of simple and easy to use functions. BioCard SDK supports all main programming languages (C, C++, C#, VB6, VB.Net, Java)