

## Specification



FaceVACS-PortraitAcquisition simplifies the process of taking pictures for ID document purposes while delivering high quality facial images, applicable for face recognition. ID document issuing systems cover the whole range of passports, visas, national ID cards, access cards, drivers' licenses, and more. Face Recognition application are most often access control applications, based on those Photo-ID documents to grant access to a country (border control), an event (e.g. sports event, concert) or a company or public facility

### OVERVIEW

FaceVACS-PortraitAcquisition software consists of an Application and an Integrators' Kit.

#### The Application

A graphical user interface application that allows

- acquire high quality portrait images of persons in a convenient and easy way
- check if those images meet requirements for printing on ID documents and requirements for face recognition
- modify some aspects of not fitting portraits images and gain compliance with portrait requirements

#### System Requirements

- Windows XP, SP4 &
- .Net Framework 2.0
- Windows Vista
- .Net Framework 3.0
- Optional: Camera available via DirectShow
- Optional: IDS uEye camera including flash triggering

### INTELLIGENT ACQUISITION

#### Supported Process

- Taking digital portrait photograph snapshots manually or automatically
- Continuous scene analysis to determine the optimal time to take the photo
- Eyes fully visible
- Person is not moving

#### Fast and easy

- Acquisition of the image of a single person requires less than 1 minute
- Simple equipment setup
- Very few components to arrange

#### Highly configurable

- All camera parameters like rotation, exposure, resolution, flash, etc.
- Process parameters like eye distance, motion deviation, timeouts, etc.
- Robust digital configuration storage

#### Technical Facts

- Runs on any Windows XP based computer
- Requires 800x600 display resolution
- Supports digital camera accessible through DirectShow Interface or
- selected set of proprietary cameras supporting flash triggering and parameter modification on the fly

### PORTRAIT ASSESSMENT

Digital portrait photograph assessment visualized graphically

- Software determines portrait characteristics, i.e. analyzes the image, performing acceptance tests according to ICAO/ ISO requirements and best practices for Full Frontal Images

#### Portrait Characteristics Tests

- Finds eye positions, head size and position
- Evaluates pose deviations from frontal
- Evaluates if eyes are visible and open and do not gaze away
- Evaluates if the mouth is close
- Evaluates image exposure
- Evaluates uniform lighting and hot spots on the face region
- Finds glasses and tinted glasses
- Evaluates background homogeneity

#### Assessment of ISO Full Frontal Image Compliance and Best Practice

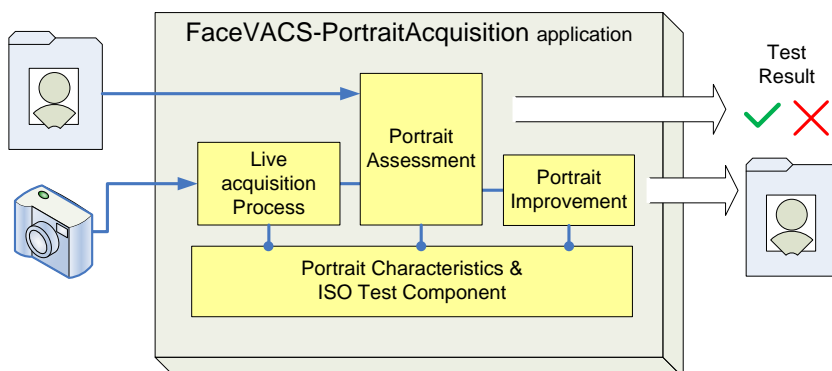
- Head size and position
- Pose deviations from frontal
- Image exposure
- Grey scale / Color density
- Uniform lighting in the face region
- Eyes open / Mouth closed

### PORTRAIT MODIFICATION

Images which do not meet certain requirements and which can be modified and improved without manipulating the identity relevant information of the face area.

#### Supported Modification

- Crop and optionally rotate to ISO-FullFrontal Image type geometry fitting
- Adjust exposure of the image



## Specification for Integrators



### INTEGRATORS KIT

FaceVACS-PortraitAcquisition allows Value Added Resellers and System Integrators a seamless integration into their application through an Integrators' Kit.

The sample source code may be used as a starting point for fast development of specifically tailored ID card issuing solutions fitting into the given infrastructure, while providing all support relevant for portrait image acquisition.

### FaceVACS-Engine – Portrait Characteristics Component

- Run time component for biometric operation and image quality checks
- Handling of various image formats like JPEG and PNG
- Formatting compliant to ISO 19794-5 and ANSI 385 standards
- Image characteristics survey
- Image cropping, downscaling and rotating that result in Token Frontal Type images
- Memory sensitive storage of image files assures that the memory consumption does not exceed a configurable upper limit.

### Documentation

- Api Reference Guide
- User Guide

### C# Source code

- Portrait characteristics tests and compliance assessment
- Use of cameras for live capturing

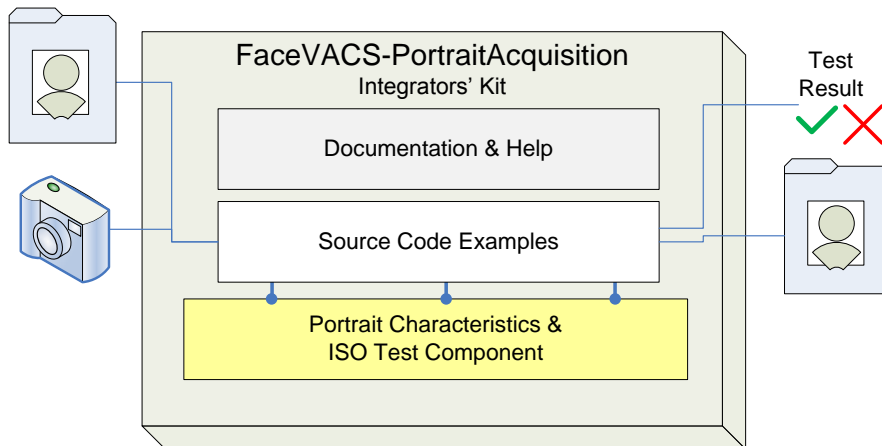
### PREREQUISITES FOR INTEGRATORS

#### System requirements

- Windows XP, SP4
- Microsoft .NET framework 2.0
- Microsoft Visual Studio .NET compiler

### Integrators Kit:

FaceVACS-SDK that includes functionality for portrait characteristics determination and ISO compliance tests and a respective sample application.



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