

Data Capturing for ePassports



With the new regulations of the United States of America for the Visa Waiver Program and the European regulation (EG) No. 2252/2004 of the council from December 13, 2004 new passports of several countries will carry not only printed features. But electronical chips will also be added with personal data of the holder.

The new biometrical information stored in the chip (face, finger and/or iris) establishes a link between the document and the holder. Travellers moving across borders will in future not only visibly inspected by an officer but they will also use a fingerprint scanner a camera for face recognition.

Our effort contains the integration of the new technologies into already existing processes and infrastructures without producing more effort for an officer during his daily work. The result is a better and more secure control without a time effort for travellers at the border.

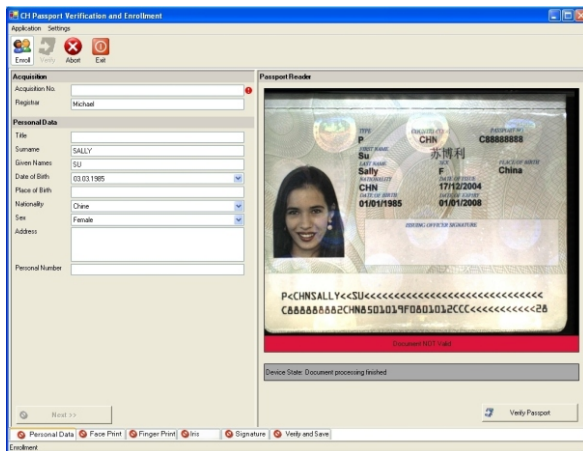
Solutions of ID Travel contain these efforts and more in their products for border control. The three main products, which cover the whole process from manufacturing the document to the use during travelling, work independent from each other in several infrastructures.

The new ICAO specifications for electronic passports require new methods for the enrolment of personal and biometric data. Therefore ID Development AG has developed a new system in order to support governments and authorities in capturing personal and biometric data and in preparing them according to the ICAO guidelines.

eCapture supports the acquisition of photos, fingerprints and iris as well as signature information. Therefore the system is combined with

- › a video camera,
- › a fingerprint sensor (option),
- › an iris camera (option) and
- › a signature pad (option).





Personal Data Processing

The personal data can be entered manually or with a document reader. Usage of a document reader gives the feasibility to read already existing documents and check them for security issues.

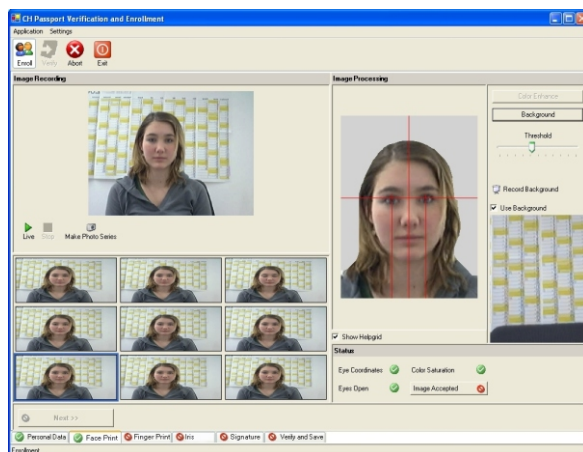
Facial Image Processing

The enrolment for the photo/face is done with a video camera. Already existing pictures can also be scanned with any regular scanner. In the first step several life pictures of the applicant will be captured. The operator chooses the one which is the best according to ICAO guidelines. Alternatively we can also capture the picture from a paper based application form.

The following objectives of our facial image preparation to enhance the quality of the digitized passport photo will run in a fully automated modulus:

- › correction of the original photo's position
- › adjustment to the size, 80% face in format 3:4
- › extraction of the facial contour and removal of background
- › corrections of shadows and the color
- › control of all the ICAO requirements
- › quality log file
- › qualified rejection description

All captured photos can both be printed in the ID document and/or stored as JPEG/JPEG 2000 in regards to ISO 19794-5 in the chip. We also offer to generate a template which can be printed in form of a 2D barcode within the document.



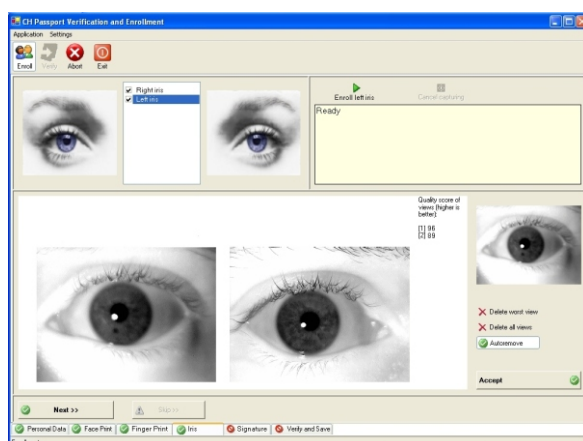
Fingerprint Processing

The enrolment for the fingerprint is done with a fingerprint sensor. All ten fingers can optionally be enrolled individually. All the captured fingerprint images were processed in conformity with ICAO recommended ISO 19794-4 requirements and can be stored as JPEG with or without WSQ compression in the chip or a template can be generated and printed in form of a 2D barcode in the document.

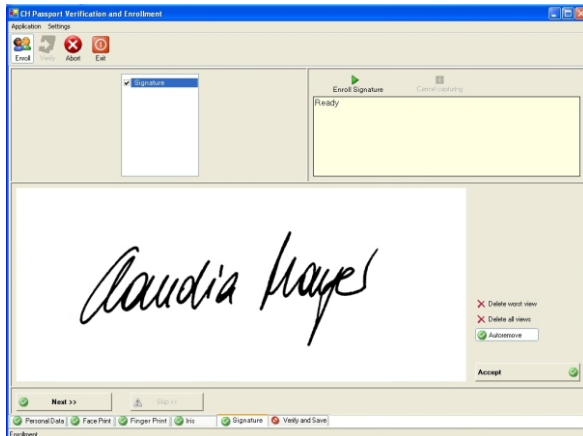


Iris Code Processing

The enrolment for the eye is done with an iris camera. Both eyes can optionally be enrolled individually. All the captured iris images were processed in conformity with ICAO recommended ISO 19794-6 requirements, can be stored as jpeg in the chip or a template can be generated and printed in form of a 2D barcode in the document.



Procedure description

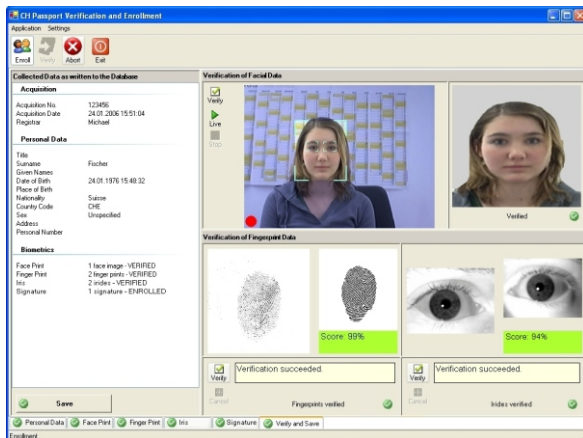


Signature Processing

The enrolment for the signature is done with a signature pad. Signature is not selected by ICAO to be used as biometric information in ID documents. We therefore just capture the signature to adjust it in size and print it out in form of a jpeg picture in the document.

Data Verification

All captured data is displayed on a summary screen. All captured biometrical data has to be verified before sending or storing the data. If the verification fails then the enrolment has to be done once more. Rollback is possible every time. Every step and status is displayed in a plain way. Also the implementation of wizards is possible.



Document Verification

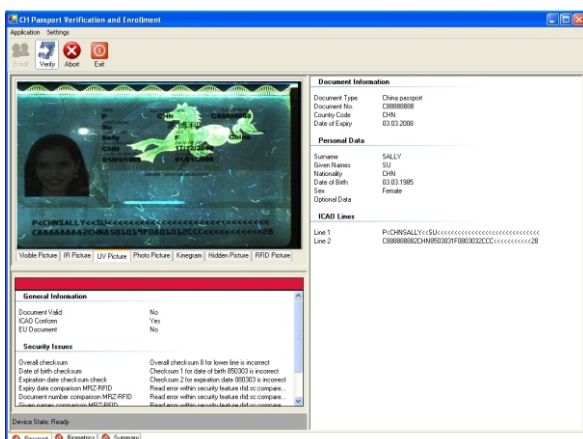
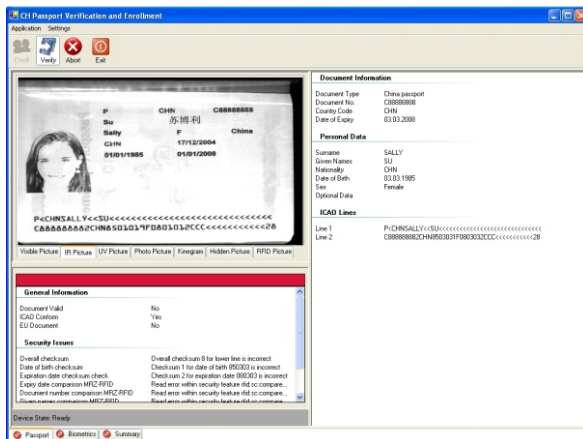
Existing documents can be scanned with a document reader. During this process all data in the machine readable zone are recognized and transferred into the corresponding data fields in the program.

Scanning is done with several light conditions (normal light, UV light, infrared light, ...). Depending to the scanner the security features of the passport can be checked manually or the scanner will do an automatic check of the document.

Manual checks are possible every time. For the help of the agent the known security features and also known forgeries are displayed on the screen as background information.

Pictures and information stored on the RFID-Chip can be displayed on the screen on request (depending on the document reader).

Comparing person, printed picture and electronical stored picture is made really easy.



If the specifications do not require a special output format, all the captured information will be stored and processed in conformity with ICAO/ISO/CBEFF requirements.

If the project needs the support for LDS structure, our software prepare up to the full data block for the personalisation machine before the production. If the personalisation machine uses its own data preparation for LDS, we could send the data in requested formats.

The software is independent from any hardware and biometric technologies.

Integration of this software module in existing applications and the use of it as a stand-alone product is possible. Modification and customizing of the product can be done as well.

Potential areas of application:

- › Data recording for passports
- › Data recording for ID-cards
- › Data recording for visas
- › Data recording for trusted traveller programs
- › Data recording for photo-credit cards
- › Data recording for company cards
- › Data recording for visitor cards
- › Online production of fair-visitor-cards
- › For any application a good photo and biometric information is necessary



Transportation
Security



Laboratory
Security



Infrastructure
Security



Public Safety
and Justice



Border
Control



Data Center
Security



Time and
Attendance



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