

Ensuring National Security with Face Recognition

Pakistan is Fighting Identity Fraud in the Country's Electronic Passport and National ID Program with the Largest Face Recognition Database in the World

In the wake of heightened concerns over the misuse of identity and identity documents, the government of Pakistan has taken a proactive approach to the problem by implementing smart, machine readable radio frequency ID (RFID) passports and national ID cards that integrate multiple biometrics. The new program, headed by the National Database and Registration Authority (NADRA), an independent corporate organization in Pakistan, and sponsored by the Pakistani Government, was designed to mitigate terrorism and ethnic violence by helping the country enhance national security and prevent problems related to identity theft, fraud and the use of unauthorized identity documents.

Project Challenges

Before the program's implementation, NADRA requested that applicants fill out hard copy applications and attach their photograph to

"After an extensive evaluation of various face recognition options, we selected Viisage based on the strength of its technology, the overall company approach and responsiveness to our needs."

-Brigadier (Retd). Saleem Ahmad Moeen, chairman of NADRA.

the completed application for passport or national ID card. The photograph of the applicant was scanned into the system and sent to the data warehouse. NADRA had no way of checking for duplicate images in their database or compare current photo to the previous applicant's images. The authorities at NADRA performed identity proofing thorough data specific checks. For example, to proof

the individual's claimed identity, the applicant had to answer questions about his date of birth, address, and father's name. However,



NADRA posts an ad in Pakistan's major English newspaper asking those holding fraudulent identity documents to return them

this proofing methodology wasn't preventing fraudulent applications from entering the database.

NADRA tried switching to digital passports and ID cards, but the quality of the produced credentials wasn't acceptable. With the support of the Pakistani government, NADRA instituted new secure credentials with multi-biometric features, and became a leader in implementing a countrywide electronic passport and national ID program.

Face Recognition Solution from Viisage

NADRA selected Viisage to implement the company's state-of-the-art technology into the smart passport and national ID program for database cleansing. The first phase of the project was to implement FaceTOOLS® SDK (Software Development Kit) into NADRA's new passport and national ID system. FaceTOOLS SDK, designed for non-distributed environments, allowed NADRA's developers to create face recognition application with image acquisition, template generation, verification and identification, significantly improving image capture process. Today this proprietary application runs behind every NADRA's image camera.

Ensuring National Security

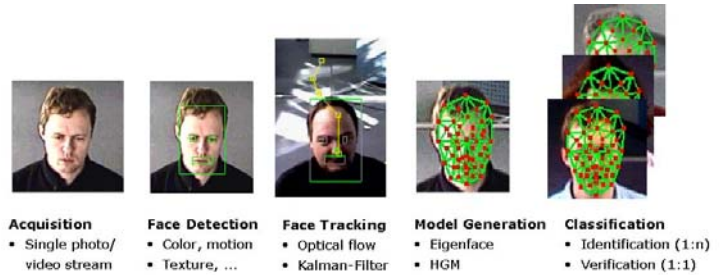
The next step of the project was the installation of Viisage's FaceEXPLORER® for 1:n (one-to-many) comparison of database images. This involved training of NADRA's staff in Viisage's offices as well as implementation of the system by Viisage's engineer in Pakistan. While NADRA has been also using fingerprint identification system, effectiveness of Viisage's FaceEXPLORER became the primary tool used by Pakistani authorities to fight identity fraud.

Viisage enrolled 34 million existing images within one month following implementation. After enrollment, a partial set of images was scanned for duplicates for database cleansing. FaceEXPLORER detected numerous cases of identity fraud that had been previously unknown to the authorities.

"Viisage's FaceTOOLS® and FaceEXPLORER® products are powerful investigative tools for exposing fraud in our national ID and passport programs. In less than a year, this solution has helped us define the extent of the identity fraud problem in Pakistan and increase the security for the country."

-Brigadier (Retd). Saleem Ahmad Moeen, chairman of NADRA.

in the national database to validate the applicant's claimed identity. In addition, Viisage's FaceEXPLORER is being used on a daily basis for 1:n image verification to cleanse the data warehouse by identifying duplicate images. This process ensures that all the images are screened against watch lists and duplicates are uncovered.



NADRA has uncovered multiple instances of fraud to date. The Pakistani authorities are catching up to 250 fraudulent records daily, thereby blocking the processing of these fraudulent applications. NADRA subsequently issued a country-wide alert in July 2005 through Pakistan's leading newspapers, notifying those holding fraudulent identity documents that they had been caught and will be pursued if they do not turn in their identity cards.

Using the Viisage solution, NADRA was able to enroll 34 million existing images and scan partial subset for duplicates, all in the space of three months. This approach has helped Pakistan uncover existing identity fraud in the country's passport and national ID program and to head off future instances.

Today, Pakistan's national ID database contains more than 38 million images and is expected to grow to 50 million records, making this the largest face recognition project in the world to date.

National Database and Registration Authority (NADRA)

Industry	Biometrics
Website	http://www.nadra.gov.pk
Applications	Identity Solution combining multi-biometric applications, FaceTOOLS and FaceEXPLORER
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