

Dubai, UAE: Fast Immigration Clearance with Fingerprint Biometrics

Fast and convenient airport check in and immigration processing using smart cards with biometrics is now ready to take off. Take it from one of the most cosmopolitan cities in the world and one of the richest in the Middle East.

In 2002, the Dubai Naturalisation and Residency Department (DNRD) and the Department of Civil Aviation launched a hi-tech e-gate project to allow frequent Dubai flyers fast access through immigration via electronically controlled gates at the Dubai International Airport.

The Challenge:

Dubai International Airport is one of the world's largest airports and is the gateway to the important Middle East market with global corporations establishing their regional operations in the emirate. Based on the most updated statistics for 2003, airport gets an estimated traffic of 18 million passengers. This number represents an increase of 13% from the previous year and a jump of 218% from a decade ago. Projections place this number at 60 million passengers by 2010.

In line with the accelerating growth rate of passenger traffic, Dubai's civil aviation agency is undertaking various initiatives to accommodate future traffic and make it convenient for travelers to fly in and out of Dubai.

One of these projects is an entry-exit system for frequent flyers via electronic gates. The Dubai Airport E-Gate project is a strategic initiative to process immigration clearance at the airport from the usual 10 minutes to a few seconds.

The Solution:

Dubai Civil Aviation and DNRD officials wanted to install a fast track frequent traveler facility that would allow frequent flyers to enroll into the system to become trusted travelers when approved and be able to enter and leave the UAE in a secure and convenient manner through automated barriers. The facility aims to replace the existing manual immigration check for these trusted travelers.

The Dubai Electronic Immigration Clearance System works by using smart contactless cards with Identix fingerprint biometric authentication technology to prove identity in conjunction with integrated databases, access control barriers, and other proprietary technology for checks and security. The project, which was started in 2001, was integrated by Datel Systems and Software FC LLC using resources from Target Automation FCZ.

The system is designed to check automatically the nationality and residency status of visitors coming in and out of Dubai, and be able to match fingerprints in quick succession with the passport/visa holder to clear immigration at Dubai airport quickly.

The Results:

The first stage of the project achieved this successfully by making the clearance process possible within a minute. After three years, the system is performing in 4-5 seconds.

“Identix has proven products that have shown their worth in time of high traffic and usage. In the last three years of operation, the products have withstood air passenger traffic at the Dubai International Airport, one of the fastest growing in the world in terms of volume of passengers and the normal wear and tear that would have meant complete overhaul with other systems. However, in the case of the Identix DFR® 2080 single finger reader and BioEngine® technology we are still going strong. The system today has over 60,000 users, and is under expansion to match the demands of the increasing E-Gate users and air passenger traffic at the airport,” said Prkash Ivaturi, speaking on behalf of Datel.

“We have been getting very positive feedback from UAE citizens, residents and visitors from other countries. We have significantly reduced entry/exit procedures, before the system it was done in 3-4 minutes. The Dubai E-Gate project is getting recognized worldwide as viable and efficient system to improve passenger services. Because of the success of our project the International Air Transport Association (IATA) has made DNRD an advisory member of its Simplifying Passenger Travel (SPT) group,” says Lt. Col. Khalid Lootah, DNRD assistant director of IT & Quality.

IATA is the official airline trade association that controls approximately 280 airlines globally, while SPT is IATA’s initiative to bring together key parties involved in the passenger’s journey and make travel secure and hassle-free. SPT members include frequent fliers, airlines, airports, immigration control authorities and technology suppliers.

The system can be upgraded to integrate other biometric components such as face recognition in the future.

The Dubai E-Gate Solution Simplified

Enrollment

Applicant applies for E-Card and provides passport, photo, personal information, and payment. Applicants are also asked to enroll two fingers into the system. At this stage, immigration officers perform a one to many search against watch lists and other databases for matches against the applicant's fingerprint images.

Verification

While passing through the E-Gate, the system verifies cardholder's identity by reading personal and fingerprint data from the card. The system then verifies the information with the Central database. This helps ensure that the visitor/cardholder is not blacklisted or has not committed fraud or identity theft

E-Gate/Barriers

The retractable panel pedestrian barrier is a user-friendly access barrier developed for the fast processing of travelers. Once verification is complete, the barriers allow the passenger to enter/ exit.

Operations & Monitoring Center

To ensure smooth operations, the system is monitored from a control room located in the airport. In addition, travelers can seek assistance from a monitoring desk set up by the Immigration Department adjacent to the gates.

About BioEngine® Technology

Identix BioEngine technology is a minutiae-based algorithm that analyzes the fingerprint image for endings, splits and bifurcations in the ridge patterns. The strength of the BioEngine® algorithm comes from its ability to discern fingerprint images over an extended period of time. BioEngine® SDKs allow developers to create custom one-to-one verification and one-to-many identification applications, such as time and attendance, transaction verification, physical access, information security and ID programs. Identix® technology has issued more than 100 million BioEngine fingerprint templates around the world for various large-scale identification programs.

About the DFR® 2080 Single Finger Reader

Used for large scale enrollment and verification applications, the DFR® 2080 is a high quality, next generation 500 dpi single fingerprint reader that delivers unparalleled imaging at a competitive price.



CASE STUDY

About Identix Incorporated

Identix Incorporated (Nasdaq:IDNX) is the world's leading multi-biometric technology company. Identix provides fingerprint, facial and skin biometric technologies, as well as systems, and critical system components that empower the identification of individuals in large-scale ID and ID management programs. The Company's offerings include live scan systems and services for biometric data capture, mobile systems for on-the-spot ID, and backend standards-based modules and software components for biometric matching and data mining. Identix products are used to conduct background checks, speed travel and commerce via secure identification documents, prevent identity fraud in large-scale government and civil ID programs, and control access to secure areas and networks. With a global network of partners, such as leading system integrators, defense prime contractors and OEMs, Identix serves a broad range of markets including government, law enforcement, gaming, finance, travel, transportation, corporate enterprise and healthcare.