TCS DigiGOV™ FACTS
Biometrics for Identification, Registration and Verification

Awards & Recognition

To know more
Visit the https://www.tcs.com/public-services page on tcs.com
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About Tata Consultancy Services Ltd (TCS)
Tata Consultancy Services is an IT services, consulting and business solutions organization that has been partnering with many of the world's largest businesses in their transformation journeys for over 50 years. TCS offers a consulting-led, cognitive powered, integrated portfolio of business, technology and engineering services and solutions. This is delivered through its unique Location Independent Agile™ delivery model, recognized as a benchmark of excellence in software development.

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The uniqueness and immutability of fingerprints made it a popular choice of biometrics for person identification. Fingerprints have been used extensively for more than a century for criminal identification and scene-of-crime print identification in law enforcement. An increase in security control at different entry points to countries and access to the application creates a common challenge: getting an easy, accurate, fast, and positive identification of every person, especially suspects (local and foreign) and criminals. TCS has carried out pioneering research in fingerprint biometrics for the development of an Automated Fingerprint Identification System. TCS’ Automated Fingerprint Identification Systems (AFIS) has played an important role in forensic applications, law enforcement, and many civilian applications in India and abroad.

Overview
TCS has indigenously developed and designed the DigiGOV™ FACTS (Fingerprint Analysis and Criminal Tracing System) solution, which streamlines the process of identification, registration, and verification of biometrics data. The high matching accuracies of the biometric application will help in the unique identification of people.

DigiGOV FACTS has designed a suite of products to meet the requirements of different types of applications such as law enforcement agencies and civilian applications.

The fingerprint matching solution helps keep law and order in control by correct and quicker identification of criminals to ensure they be put behind bars. FACTS helps the police identify repeat offenders after an arrest. FACTS also helps law enforcement with securing convictions sooner at court.

Fingerprint biometrics captured at crime scenes are sent for identification against the existing fingerprint data in FACTS. It helps fingerprint experts to solve cases accurately and with speed.

For civilian applications, fingerprint biometrics is elementary to the prevention of fraudulent activities in government schemes and the ensuing benefits management. TCS’ DigiGOV FACTS also assists officials to identify and verify citizens based on their unique ID before approving their pension schemes or background verification etc.

Our Solution
TCS DigiGOV FACTS suite comes with the following modules:

- **FACTS Core Engine**: FACTS 7 software assists the police in faster identification of criminals through fingerprints. Police can conduct the following type of searches on the core engine of FACTS 7:
  - Person Identification Searches (PIDs) wherein all Ten Prints of a person are available for identification on a record as in case of an arrested criminal
  - Updates of convicted criminals’ records to the database
  - Scene-of-Crime Searches (Latent / Chance Print) wherein partial fingerprints from the crime scene are used to search against ten-print records in a database

FACTS 7 software provides civilian applications to perform the following searches on the core engine:

- **Enrolment/Registration of the person** wherein the person's fingerprints are captured along with the other attribute information in the application and does de-duplication, before storing the information into the database. This will ensure each enrolment is unique and duplicates present.

- **Authentication/Verification of the person (1:1 search)** wherein it identifies the user identity with the ID CARD or the unique identification number along with the biometrics presented with the biometrics available in the database against the unique number.

- **Identification (1: N search)** wherein the captured fingerprints of the person will be searched against the entire database of known and unknown prints.

- **De-duplication (N: N Search)** wherein all the captured prints will be matched against all the prints in the database
  - Matching biometric template of each record in the database to every other record
  - Used to know whether the individuals are represented more than once in the database

Benefits
**FACTS@PS**: A solution to capture fingerprints using live scanners from police stations, and submit searches from police stations. FACTS@PS allows submission of Personal Identification searches on the central database soon after capturing a suspect’s fingerprints at a police station. The search results are then shared with the police, including criminal attribute details.

**Lights Out Search (LOS)**: Fingerprints captured and submitted during police patrol can be searched against the database, and results in shortlisted candidates with attribute details.

**Palmprint Identification and Criminal Tracing System (PACTS)**: For identification of criminals using their palmprints.

**Criminal Attribute Database (CADB)**: A browser-based application, used for storing criminal attribute details.

**Easy Access**: The web-based Automated Fingerprint Identification System comprises an intuitive interface that can be accessed from anywhere and anytime.

**High Performance**: FACTS performs high-speed fingerprint matching and handles large volumes of fingerprint search requests. FACTS application is scalable both horizontally and vertically.

**Enhanced Accuracy**: This comes about because of its ability to match against the entire database having multiple fingerprint impressions.

The TCS Advantage
With about 600+ successful installations at district and police station levels in India, and other countries like Mauritius, Zambia, and Tanzania. DigiGOV FACTS has a proven track record in identifying criminals. It is a field-proven solution for both law enforcement and civilian applications. TCS’ experience in its deep domain knowledge across industry verticals, contextual knowledge, and design studios to build innovative industry-centric solutions help to provide complete end-to-end answers for the given requirement.
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