Mobile Identification for the UK Police

Project Lantern

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IDENT1

Strategic Identification Services Platform

Apply Fusion to Improve Identification Rates

Provide Integrated Feature Management

Create Inclusive Framework to Eliminate Dependencies and Improve Accuracy

Simplify Interfacing to External Systems

Support Modular Evolution of System

Provide Timely Information at Point of Decision

Fusion
Other Biometrics
DNA
Mugshots
Fingerprints
Multi-Model
Uni-Model
External Systems
Local Bureau
IND
Scotland CHS
PNC Phoenix CCH
AFR
NEC
Cogent
PrintTrak
SAGEM
EIU
Mobile Users
Web Access
System Components
DBMS
HCI
Image Tools
COTS
IDENT1 Future Potential
- adding FIND & NDNAD

Global Facial Image Repository
Global Finger Image Repository
Global Palm Image Repository
specialist non-global repositories
Global DNA Repository

Transaction Database
Request Processing
Transaction Control

Image Database Access

IDENT1 Service Bus

Facial Search Controller
Finger Search Controller
Palm Search Controller
DNA Search Controller
Search Correlation & Fusion
Response Generation
Enterprise Services

Search Engines
Search Engines
Search Engines
Search Engines

Search Engines
Search Engines
Search Engines
Search Engines

Feature Extraction Engines

generic search processor pool

other ID mgt
Impact PND
DNA forensics
PNC
portal services
finger bureaux
finger livescan
Lantern services
FIND enroll
FIND view

www.npia.police.uk
Lantern Pilot (Phase 2)

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Project Lantern - Objectives

‘To provide the UK police service with the capability to perform real time mobile identity checks against the full national collection of 10 prints’.

• Initial deployment in conjunction with existing ANPR systems
  – Key strategic objective – ‘to deny criminals the use of the roads’.
What is ANPR?
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- Stolen
- No insured driver
- No MOT
- No known owner
- Flagged as being of interest to the police

A hit on the database could mean the vehicle is
- involved in criminality
- trying to evade justice (safety cameras)

...or it could merely be a result of a recent change of ownership

- 60% of drivers stopped as a result of an ANPR ‘hit’ give, or attempt to give, false details to the police.
Expected Benefits of Lantern

• Increased arrests through not releasing wanted persons due to the inability to identify them at the time
• Keeping police officers on the street
• Improving public confidence in the police
  – A visible deterrent
• Reducing bureaucratic overheads
• Reducing the number of wrongful arrests and subsequent litigation

‘Superior knowledge at the point of contact’
Current procedures

• Two flat impressions are taken, one from each index finger of the subject.

• These are then sent to IDENT1 (as Type 4 records) for comparison against the UK National Collection of 10Prints (records of approx 7M individuals)

• Possible matches are sent back to the officer in under 2 minutes
Information Returned

• Possible matches are graded as either ‘High’ or ‘Medium’ confidence
• Any matches will also return File Name, Date of Birth and Gender.
• ‘High’ confidence matches = approx 95% accuracy.
Data Transmission - GPRS

- UK Police tetra network ‘Airwave’ not able to handle image file sizes at present.
  - Fingerprint image file sizes transmitted are 20kb in size
  - But this doubles to 40kb when security overheads added.

- Uses secure VPN via internet

- Could be used across whole of Europe?
The downside of using GPRS

- GPRS is a public network – reliant on the network providers to get good coverage.
- Unlikely to be available in times of crisis (such as 7/7).
- Security software is required to protect communications between the device and central system (not need on Airwave)
Access to Data

- Device has ‘Restricted’ access
- Only suitably trained and authorised officers are allowed to use it
- If an attempt is made to breach security the device is ‘wiped’
- Files held on the device are encrypted
- Biometric data is only stored temporarily on the device (erased at the end of each shift)
- Transmissions are encrypted and digitally signed
Some other uses of Lantern

- Identification of the deceased
  - Able to lift prints electronically at scene or at mortuary.
- Non-designated police stations
  - (no current Livescan capability)
- Major public events
- Special Operations
- Identification of prisoners in transit, suspects on bail etc (Identity Management)
- Immigration / border control checks
The Future...

• Establish real time links to:
  – Police National Computer (PNC)
  – Facial Images National Database (FIND)
    • Return mugshots along with demographic data
    • Incorporate cameras into the devices
      – => Automatic Face Recognition ?
  – Immigration and Nationalisation Directorate
    • Visa applications / Asylum seekers
  – Intelligence databases
    • IMPACT, VISOR, local force systems
The Future...

- Integrate functionality into multi-purpose handheld devices.
- Develop an open interface for connection of mobile Live-ID devices
  - Alignment with the Mobile Data Strategy and for the UK police
- Extend use to whole of UK police service (potential for 100,000 concurrent users!)
- Switch preferred data carrier from GPRS to Airwave

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Some Other Issues.....

- Remote capture and automated submission of latent finger and palm marks – GMCI
- Use of local (on board) databases v central collections
- Sensors – optical / capacitative / ultrasonic
- Robustness and Usability
  - Bright sunlight / rain / heat / cold
  - Use as a weapon
  - Impact of loss / theft of the device (remote de-activation)
  - Battery life – 8 hours continuous use
- Security
- Audit trail – date / time / location
  - User authentication
  - Role based access to data
- Legislative issues
Mobile ID – The Wider Context

Secure Integrated Mobile Applications

Point Solutions

Mobile Data

Mobile Identification

Mobile Biometric Identification

Mobile Fingerprinting Capabilities

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