



**Overview of
Department of Justice
RDT&E Activities
in Biometrics**





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A Little Bit of Background

Who is NIJ?

The National Institute of Justice (NIJ) is the research and development agency of the U.S. Department of Justice and is the only Federal agency solely dedicated to researching crime control and justice issues. NIJ provides knowledge and tools to meet the challenges of crime and justice, particularly at the State and local levels. NIJ's principal authorities are derived from the Omnibus Crime Control and Safe Streets Act of 1968, as amended (42 USC §3721-3722).

Why NIJ?

Public safety is mostly carried out at the local level. In the U.S. today there are ~2,500,000 public safety first responders

- 29,000 Fire and 6,000 EMS Departments
 - 960,000 firefighters
 - 830,000 emergency personnel
- 19,000 Law Enforcement Agencies
 - 750,000 Law Enforcement Officers



Biometrics Technology

Research, Development, & Evaluations

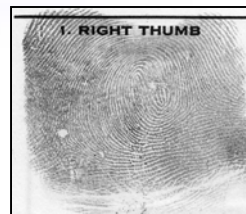
FACE RECOGNITION
VENDOR TEST 2002

www.frvt.org

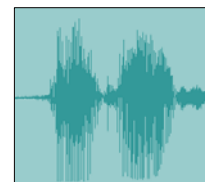


InterNational Committee for
Information Technology Standards

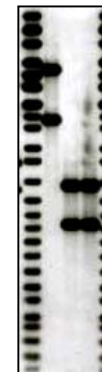
www.incits.org/tc_home/m1.htm



Fingerprint



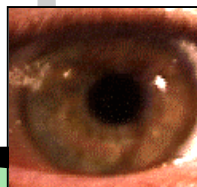
Speech



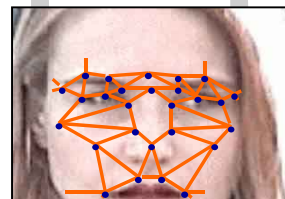
DNA

Laboratory
Dev. & Evals.

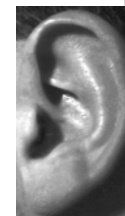
Law Enforcement
Scenario Evaluations



IRIS



Face



Ear Shape

Law Enforcement
Operational Evaluations



Face



Corrections
Access Portals



IRIS



School Access



Finger
& Face



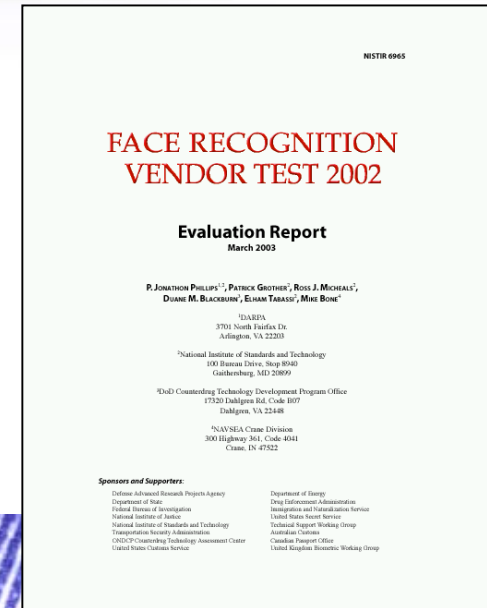
Wireless ID & Booking



Technology Evaluations

Face Recognition Vendor Test 2002

- Co-sponsored by NIJ, FBI, DARPA, Dept. of State, NIST, Transportation Security Administration (TSA) & DoD Counterdrug Program Office
- 14 Participating Companies
- Results available in March 2003 at www.frvt.org



FpVTE

Fingerprint Vendor Technology Evaluation

Fingerprint Vendor Technology Evaluation

- Conducted by NIST in October & November 2003 on behalf of the Justice Management Division (JMD) of the U.S. Department of Justice
- Independent Assessment of 18 vendors fingerprint algorithms to meet large-scale and small-scale real world applications requirements
- Multiple tests with combinations of fingers and different types and qualities of operational fingerprints
- Report available in June 2004 at <http://FpVTE.nist.gov>



Teacher-Parent Authorization Security System (T-PASS): Evaluating the Use of Iris Recognition Technology in Schools



Received Positive Press from New Jersey News Media and other National News Reports



Interior System



Exterior System

Plumstead, NJ Schools

- Eleven, Single-Eye LG Electronics IrisAccess 2200 Iris Recognition Cameras Evaluated
 - 6 cameras within closed areas in 3 schools
 - 5 cameras were located outdoors with fabricated protective closures
- 9,412 transactions occurred in 3 months.
- 78% (7300 transactions) were successful
- Unsuccessful attempts mostly due to camera capture errors (16%) and access attempts by unknown users (5.8%)
- Included an Evaluation of User Acceptance and Development of Training Materials
- Issues remaining include:
 - Tailgating (accepted users holding door open for others)
 - Ability to Capture Iris Outdoors (lighting)



IBIS - Mobile Integrated Biometric Identification System

Remote Data Terminal (RDT) Features

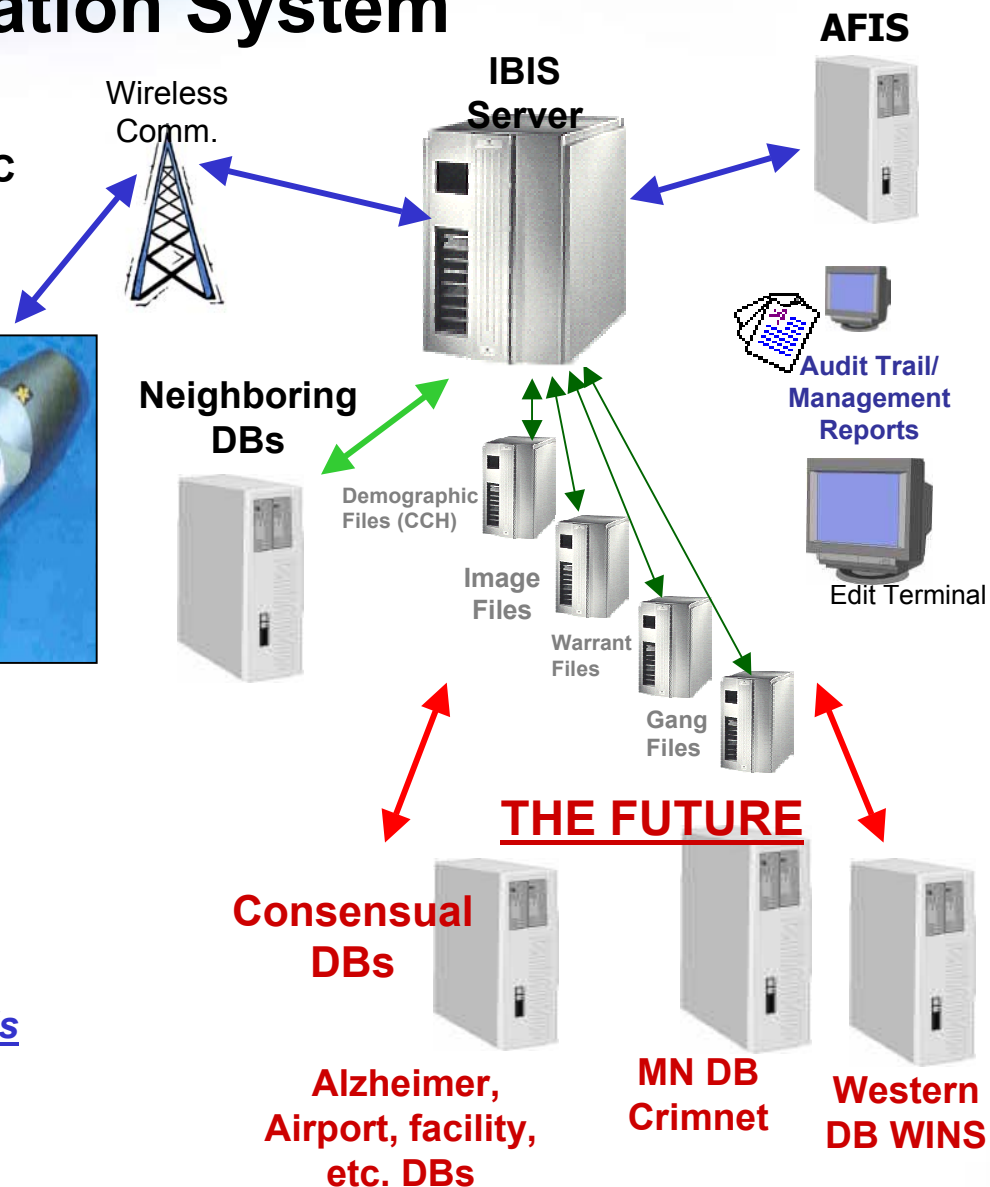
- Optional RF Connection from RDT to car's PC
- Adaptable to Existing Car PCs
- IQS Equivalent Fingerprint Capture
- Camera With Real-Time Display
- Supports Fingerprint Biometrics and in the future Facial
- Configurable (PCMCIA) Wireless
- Single Hand Operation



Performance

- Average Capture Times: 75 seconds
- Average Hop Times
 - Handheld to Central Site 38 seconds
 - Central Site Processing 73 seconds
 - Central site to RDT 36 seconds
- Average End-to-End Time: 147 seconds

NIJ Program Manager - Joe Cecconi

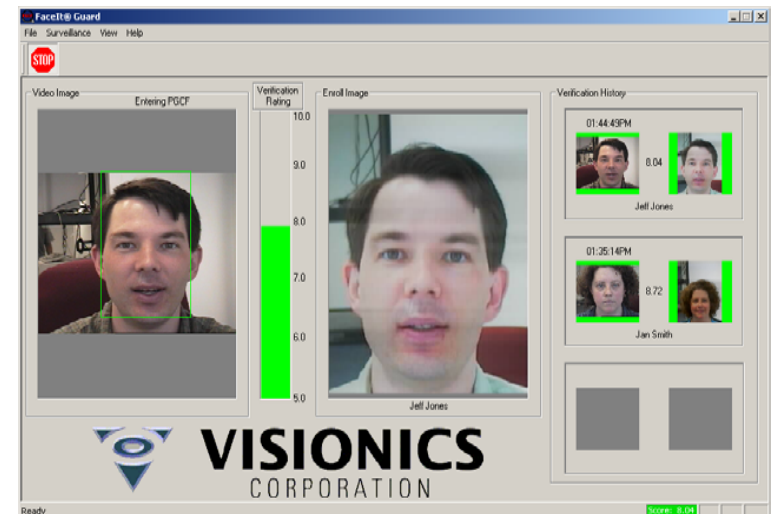




Biometrics in Corrections

Demonstration and Assessment of Facial Recognition Technology at Prince George's County Correctional Facility

- Visionics (now Identix) system installed based on results of FRVT 2000
- Interfaced with Staff and Volunteer Access Control System
- Augments manned access control station
- Required re-work of room lighting, addition of camera lights, and training of staff and system users.





Biometrics in Corrections

Demonstration and Assessment of Biometric Technologies for Inmate Movement Control & Enhanced Inmate Accountability

- Multi-phase effort at Naval Brig. Facility in Charleston, S.C.
- Phase 1 - Design and Development Completed in Dec. 2001
 - Inmate Scheduling Software Created and Integrated with Biometrics
 - Facility Operational Policies and Procedures modified
- Phase 2 - Biometric Evaluation Completed in May 2002
 - Tested fingerprint, hand geometry, finger geometry reader, facial and iris recognition, and voice verification
 - Selected fingerprint and hand geometry based on cost, throughput time, user friendliness, and suitability to environment
- Phase 3 - Operational Evaluation in Progress
 - 19 Biometric Readers installed (5 fingerprint, 14 hand geometry)
- Phase 4 - Planned Evaluation in State Correctional Facility





Standards Groups Involved in Biometrics

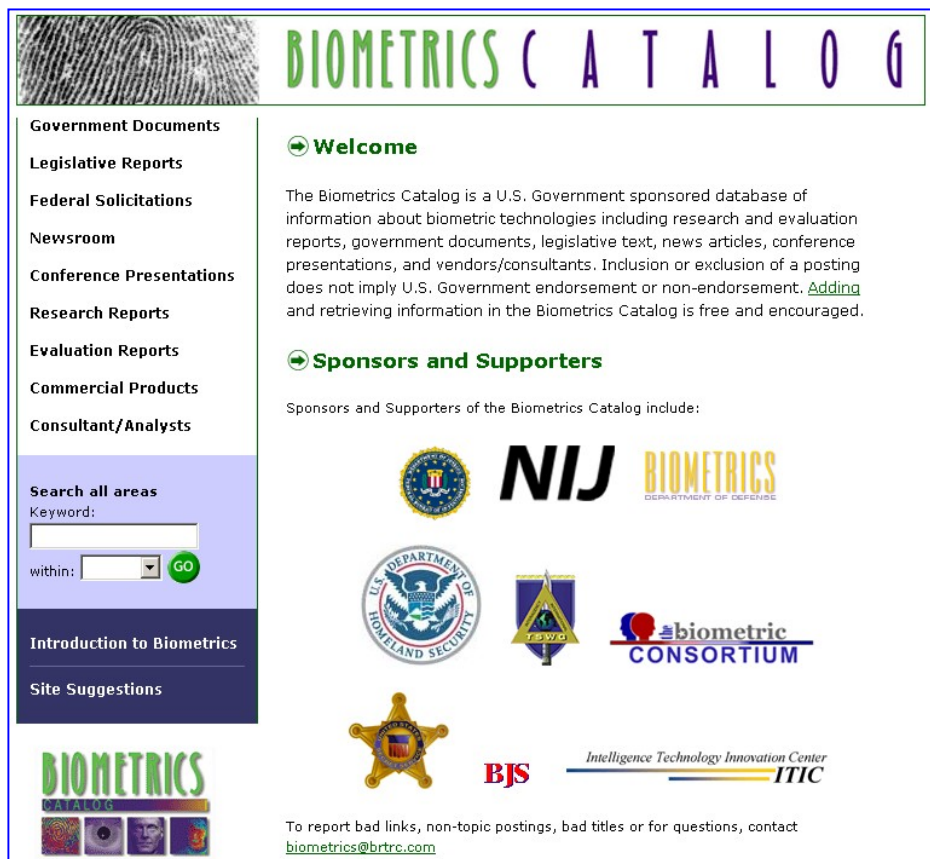
- ISO – International Organization for Standardization www.iso.org
 - JTC1/SC17: Cards & Personal ID
 - **JTC1/SC37: Biometrics**
 - JTC1/SC27: IT Security
 - TC68: Financial Services
- INCITS – International Committee on IT Standards www.incits.org
 - B10: Cards & Personal ID
 - **M1: Biometrics**
 - T4: Security Techniques
- Informal Bodies
 - **BioAPI Consortium** www.bioapi.org
 - JavaCardForum (JCF) www.javacardforum.org



Biometrics Catalog

www.biometricscatalog.org

- The Biometrics Catalog was developed as a service to the biometrics community and potential users of biometric technology.
- Designed to provide multiple search options.
- Many sponsors including National Institute of Justice and the FBI.



BIOMETRICS CATALOG

Government Documents
Legislative Reports
Federal Solicitations
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Research Reports
Evaluation Reports
Commercial Products
Consultant/Analysts

Search all areas
 Keyword:
 within: **GO**

Introduction to Biometrics
Site Suggestions


BIOMETRICS CATALOG


Welcome


The Biometrics Catalog is a U.S. Government sponsored database of information about biometric technologies including research and evaluation reports, government documents, legislative text, news articles, conference presentations, and vendors/consultants. Inclusion or exclusion of a posting does not imply U.S. Government endorsement or non-endorsement. [Adding](#) and retrieving information in the Biometrics Catalog is free and encouraged.


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 **BJS**

 **Intelligence Technology Innovation Center ITIC**

To report bad links, non-topic postings, bad titles or for questions, contact biometrics@brtc.com

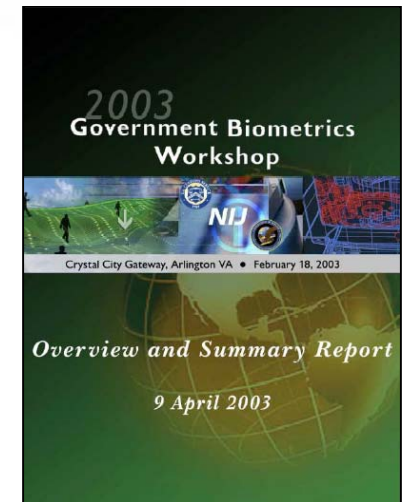
BIOMETRICS
CATALOG





Interagency Partnerships: A Brief History

- Biometrics Consortium (1992-present)
 - Biometric Interoperability, Performance and Assurance Working Group (2000-2002)
 - Government-only task force
- Aviation Security Biometrics Working Group (2001-2002)
- Government Biometrics Workshop (2003)
- National Science and Technology Council (NSTC) Interagency Working Group on Biometrics (2003-present)
- Justice Biometrics Cooperative (2004)
 - Chair: Vahid Majidi, OAG Science Advisor



NSTC IWG

- Co-chairs
 - Office of Science & Technology Policy
 - DHS Science & Technology Directorate
- Participants
 - Executive Office of the President
 - Department of Homeland Security
 - Department of Justice
 - Department of Commerce
 - Department of State
 - Department of Defense
 - Department of Transportation
 - Intelligence Community
 - National Science Foundation
 - National Labs



DOJ Areas of Particular Interest

Biometrics with broad application to State and Local agencies and to the Federal agencies of the Bureau of Prisons, Drug Enforcement Agency, Federal Bureau of Investigation, U.S. Attorneys, and U.S. Marshals Service.

Applications of biometric technologies:

- Identity fixing/baselining of individuals such as:
 - Identify management across law enforcement, courts, and corrections
 - Common ID Card for DOJ Federal Employees and Contractors and extension of that Common ID Card to State and local Criminal Justice employees
- Identification from video surveillance
- Tracking of evidence through a chain of custody
- Logical and/or physical access control
- Real-time and/or post event identification from audio surveillance.

Particular technologies of interest for these applications:

- Evaluation of iris recognition
- Fusion of facial and iris, facial and fingerprint, and/or fingerprint and iris
- Temporal processing of facial images
- Processing of high resolution 2D facial images
- Evaluation of facial recognition and/or voice/speaker recognition performance



Fast Capture Finger/Palm Print Solicitation

- Joint effort of the NIJ, FBI, DEA, and Justice Management Division of the Department of Justice; and the U.S. Departments of Defense, Homeland Security, and State
- Seeking proposals to improve and advance the current state of technology for the capturing of 10 rolled-equivalent fingerprints OR 10 rolled-equivalent fingerprints and palm prints
- A few of the selection criteria:
 - 15 seconds or less for all 10 fingers
 - 1 minute or less for both palms
 - Meet or exceed FBI & NIST Image Specs.
 - Reduced failure-to-enroll rate
 - Working device suitable for independent test
 - Affordable, rugged, portable, relatively unobtrusive in size, and deployable in the near future
- Due by: November 8, 2004, 8:00 p.m. EST
- Available online at: www.ojp.usdoj.gov/nij/funding.htm

QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.



Legal Implications of Face Recognition IACP 2001 Legal Officers Section Meeting

“The plain view doctrine provides for an exception to the general rule that an officer must have a search warrant to seize evidence in a constitutionally protected area. When an officer, for whatever reason, is legally in such an area and views something which he has probable cause to believe is either evidence, fruits or an instrumentality of a crime or contraband, he may seize such item without first procuring a search warrant.” Arizona v. Hicks, 480 U.S. 321 (1987).

“Officers responding should consider this information to amount to reasonable suspicion, not probable cause.”

“A police officer can stop, detain, for a reasonable period of time, and question a person even though the officer lacks probable cause to arrest. If the officer has a reasonable suspicion that the person is either engaged in or is about to engage in criminal behavior.” Terry v. Ohio, 392 U.S. 1 (1968).

Attorney Elliot B. Spector,
Connecticut Criminal Law Foundation's Center for Police & Security Training



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