



From Hollywood to the Real World:

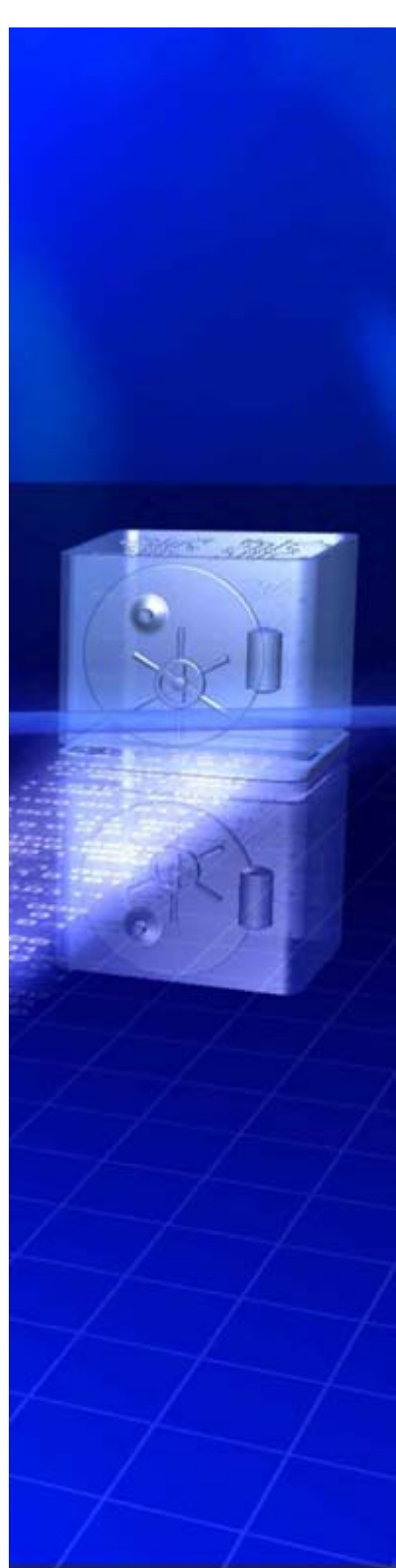
How biometrics will intersect

with ordinary people's lives

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On the Big Screen

2001: A Space Odyssey; 6th Day; Alias; Air Force One; Antitrust; Bad Company; Blade Runner; Bourne Identity; Charlie's Angels; Dark Angel; Demolition Man; Die Another Day; Enemy of the State; First Wave; Gattica; Golden Eye; Hollow Man; La Femme Nikita; Men in Black; Minority Report; Mission Impossible; Mission Impossible II; Mission to Mars; Oceans Eleven; Outbreak; Planet of the Apes; Sneakers; Star Trek II: The Wrath of Khan; The Dead Zone; Tomorrow Never Dies; True Lies; Webmaster; X-Men



The Hollywood Marquee

➤ Minority Report

- ‘Eye’ biometric used for automatic and immediate covert ID for direct advertising in all public places
- Removed eye carried around in ziplock bag and used for access to secure space
- Big brother ‘spider robots’ crawl under door and accost woman in bathtub to read her iris/retina
- Back alley ‘eye replacement’ surgery required to avoid tracking
- Voice verification for home security/room personalization

➤ Gattica

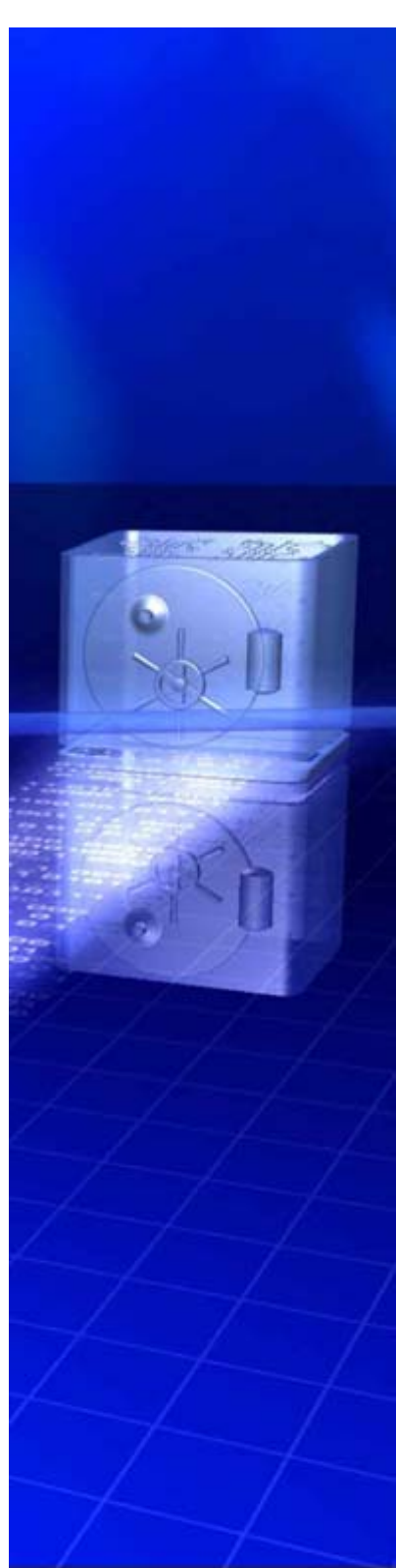
- Instant DNA matching used to discriminate against non-bioengineered humans

Orwellian effect



The Marquee - continued

- Charlie's Angels
 - Large head harness used to position head for biometric screening
 - Far fetched spoof of iris and fingerprint to gain access
- Tomorrow Never Dies (007)
 - Finger print is lifted from the surface of the device, graphically represented on the screen of a cell phone and then presented to the reader
 - Handprint reader spoofed with severed hand
- Enemy of the State
 - Ubiquitous video surveillance with facial recognition used to track down the innocent hero
- 6th Day
 - Retinal scanning of removed eye for building access
- Bourne Identity
 - Palm reader used in bank
- Sneakers
 - “My voice is my passport” spoof
- Demolition Man
 - Disembodied eyeball used for authentication



The Message

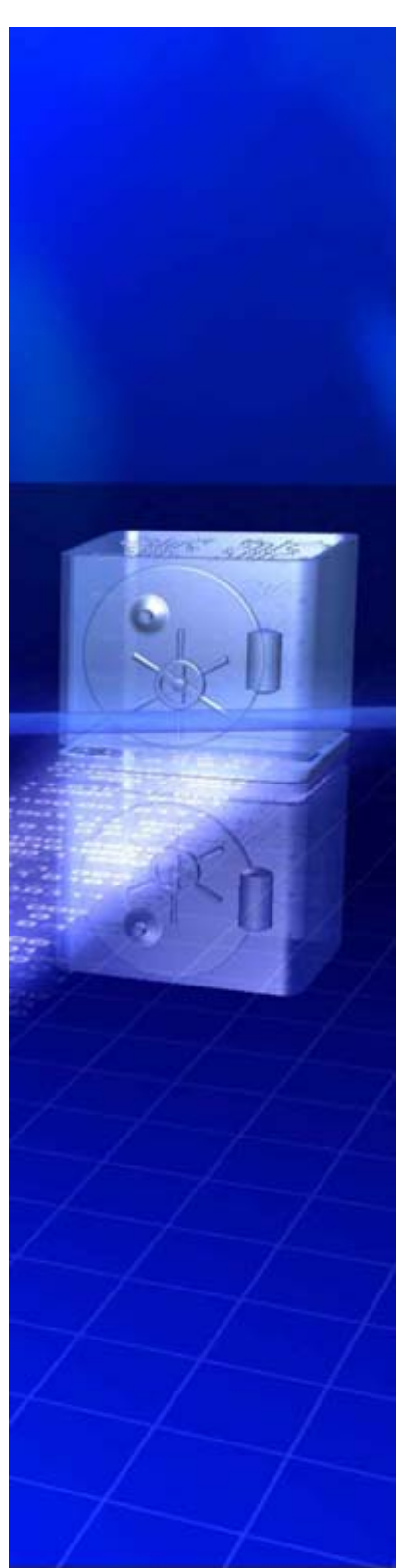
Biometrics are:

James Bond

Big Brother

Star Wars

- Just for spies
- To be feared
- Still science fiction
- Overkill



Myths Perpetrated

➤ Biometrics:

- Can be used to track my every movement
- Can positively identify me anywhere, anytime
- Will take away all my privacy
- Can be used as a database index – allowing access to every piece of electronic data about me
- Are easy to covertly capture and spoof
- Are only used/needed in super-duper high security environments
- Are outrageously expensive

- Aren't used in “real life”



What can biometrics do?

- They can verify the claimed identity of an individual for access to secure areas or computer networks
- They can discover duplicates in a database
- They can be used for background checks
- They can be used in time & attendance systems
- They can help secure financial transactions



Real Life - Today



Enterprise Network Security

Healthcare



Banking/Finance

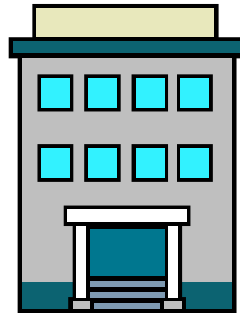


Real Life - Today

Check Cashing



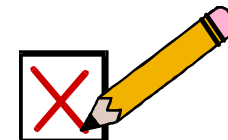
Building Access



Time & Attendance

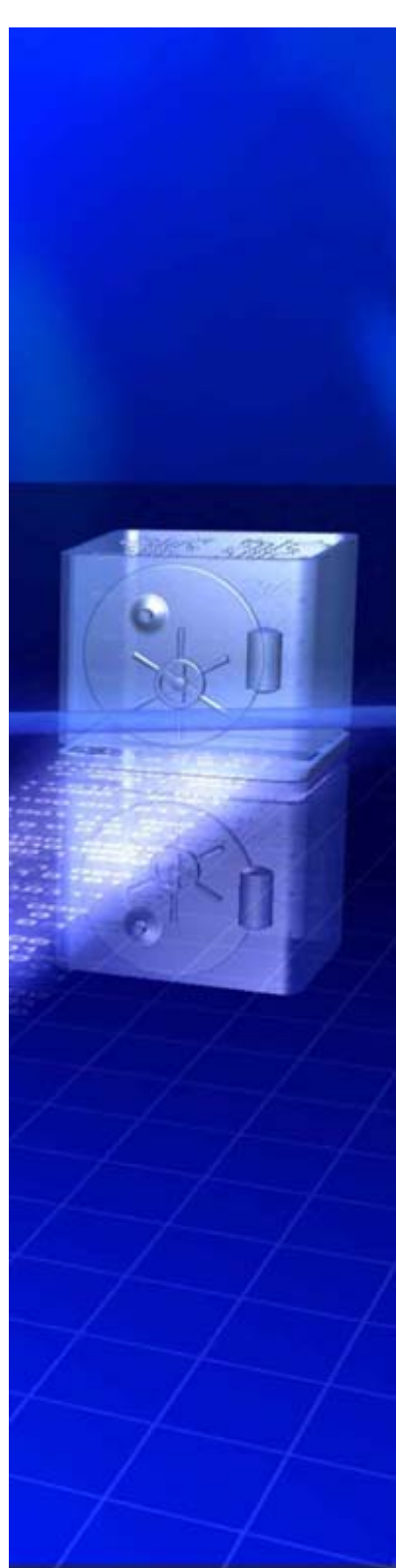


National ID/Voter Registration Systems



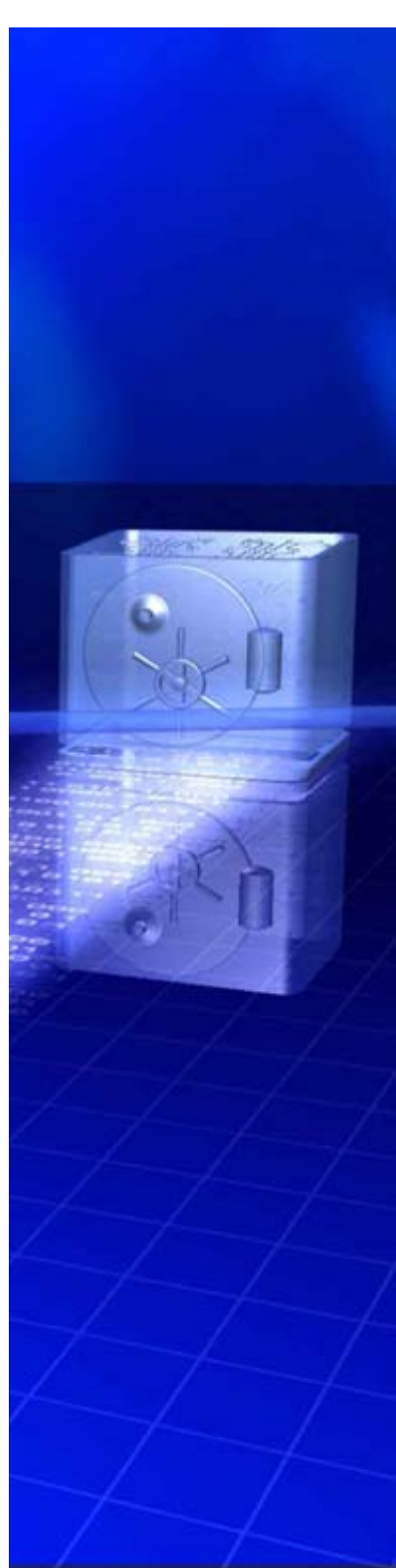
Why are biometrics being used?

- To improve security in the area of positive identification and authentication
- To improve user convenience, process flow, and throughput
- To reduce costs
- And ... yes, to improve national security



Success Stories

- Office of Legislative Counsel at the House of Representatives is using iris recognition for access to the legislative proposals it analyzes
- St. Vincent's Hospital in Indianapolis is using fingerprint authentication at 5000 workstations accessed by physicians, nurses, and staff to protect access to patient medical records
- Two Fortune 100 financial institutions are using biometrics to protect the financial data for which they are stewards
- Pharmaceutical companies are piloting biometrics to help meet FDA requirements
- Schools in Stockholm are saving precious classroom time with student fingerprint login
- Access to dorms at universities, such as WVU



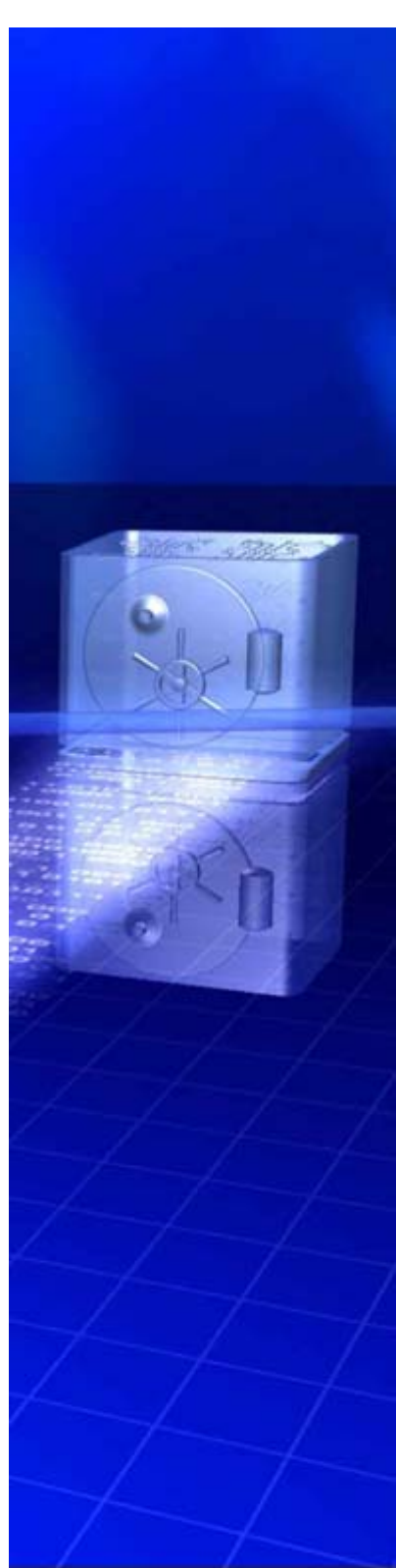
Product Examples

- Sony USB memory stick with built in fingerprint sensor for access to data
- Compaq iPAQ PDA with built-in fingerprint swipe sensor
- Laptops/notebooks with built-in sensors
- Computer mice, keyboards, and other peripherals



Biometrics Tomorrow

- Home and automobile access
- Cell phones
- Guns
- Consumer items
- Television set-top boxes/remotes
- Safes/security boxes
- Operation of heavy machinery, factory equipment, aircraft
- Document signing
- eCommerce (B-B, B-C)
- Authentication services
- Credentialing of emergency service providers



Trends

- Smaller, cheaper, faster
- Use of multiple biometrics
- Younger technologies becoming more robust
- Transition from government to commercial applications
 - Recognition of business benefits, customer service
 - Role in overall security architecture
 - Government -> Business -> Consumer
- Public awareness
 - General knowledge
 - More press coverage
 - Privacy concerns
- Standardization
- Tighter integration with related technologies (PKI, smartcards)
- More embedded implementations



Observations

- Has been a long road to viability and acceptance
- Misinformation leads to a “fear factor”
 - Exaggeration by media and militant privacy advocates
 - Education is key
- Ordinary people will be introduced to biometrics in the workplace
 - This will breed familiarity
 - Familiarity and recognition of benefits will spill over to consumer world



Conclusion

- Biometrics are not just a future possibility
- They provide useful, but mundane, functions for everyday people ...
- Like you and me!



Thanks!

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