# Biometrics in Private Industry

## Fraud Prevention in the GMAT® Exam


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Outline

- GMAC and the GMAT exam
- Why biometrics?
- Digital Fingerprints
- Technical and Legal Challenges
- New for 09: Palm Vein Reader
- Biometrics in Europe

# What are GMAC® and the GMAT®?

## Graduate Management Admission Council® (GMAC®)

- Not for profit, comprised of 160 member schools
- Mission: To create access to graduate business education worldwide

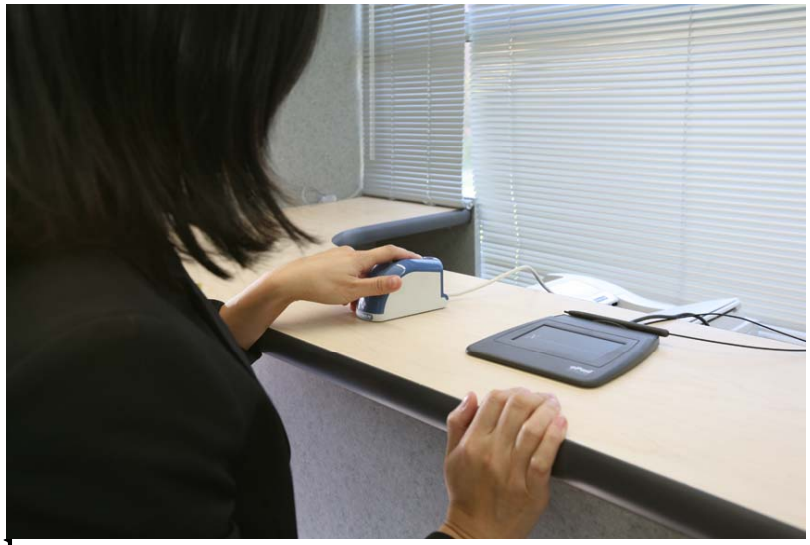
## Graduate Management Admission Test® (GMAT®)

- Used in admissions' decisions by 1900 schools in over 70 countries
  - From Harvard and London Business School, HEC-Paris, to Indian School of Business, Chinese University of Hong Kong
- Administered in Pearson VUE test centers over 260,000 times in 2008 in 110 countries worldwide
  - From US, across Europe to Brazil, India, Kenya, Camp Victory Iraq

***GMAT facilitates the movement of talent around the world.***

# Why Biometrics?

***High GMAT score provides an unsurpassed opportunity for advancement.***



- GMAT fraud = fraud on schools
- Unethical applicant gets into school, honest applicant left out
- 2003, 6 individuals had taken GMAT for 185 applicants
- Test security goals:
  - Maintain the integrity of the GMAT
  - Help ensure that test taker is same person who enrolls
  - Level playing field/fairness for all test takers
- Balancing security with test takers' rights

# Digital Fingerprint Collection

- 2006 began collecting digital fingerprints
- Process: First-time test taker provides fingerprint at test center. Two comparisons against this original:
  1. Upon returning from break, new fingerprint compared to original.
  2. If person re-tests, new fingerprint is compared to original fingerprint.
- If no match, manual review; may not test. Other action may be taken.

# Technical Challenges with Fingerprints

- Works well if B-school applicant takes GMAT, then hires imposter. No match, no test.
- Doesn't work well if applicant never takes GMAT, but only hires imposter.
- Need 1:N matching to catch imposters – not currently workable.

# Legal Challenges with Fingerprints

- **United States**: No right to privacy codified in US Constitution.
  - Laissez-faire. Fine to collect/process data at will, until a problem.
  - Problems led to reactive laws, patchwork of sector and state laws.
- **Europe**: Strong sensitivity to fingerprints; Nazis, secret police.
  - Right of privacy "fundamental human right," essential to civil society, rule of law and democracy.
  - Embedded in national constitutions, European and EU law.
  - Data collection, use and transfer out of EU highly regulated.
  - EU Data Protection Directive 95/46/EC, implemented in each country, often differently.
  - Data protection authorities (DPAs), with varying powers.
  - Laws/regulators check private industry and government.

# Legal Challenges with Fingerprints

***Often need DPA authorization to collect biometrics.***

- EU principles relevant to biometrics:
  - Notice/Consent: Clear notice and explicit, freely given consent from user required before collecting personal data. (Exceptions exist.)
  - Proportionality:
    - Suitability -- Will biometric truly fulfill intended purpose?
    - Necessity -- Is there a less intrusive means to achieve same purpose?
    - Appropriateness -- Does collection of a biometric stand in a reasonable relationship to the intrusion it will cause?
  - Security: encryption, strong security required.
- GMAC: industry leader in privacy compliance worldwide.
- But, approval by DPAs challenging. Fingerprint rejected in rare cases.

# Now: Implementing Palm Vein Technology

**Enhances GMAT security:**

- 1:N matching on the horizon.

**Designed to meet EU requirements:**

- User leaves no trace on device
- No surreptitious collection
- No image stored
- Encrypted
- Unique Fujitsu-Pearson VUE algorithms:
  - Non-reversible,
  - Not interoperable with other palm vein systems.

In compliance in 99 countries, 10 of which are in Europe.

***For GMAC, palm vein offers better balance between test takers' rights and test security needs.***

# Tips on Biometrics in Continental Europe

**France, "CNIL" (Commission nationale de l'informatique et des libertés)**

- CNIL's decisions followed by other EU countries
- Independent authority with stronger powers than other authorities
- Proportionality a key concern
- Interest being served is important – private/commercial or public?
- Strong security, encryption is critical
- Wary of central databases; may accept biometric card in user's control
- Only store as long as necessary; will need to justify
- Approved finger vein pattern biometric system:
  - A "traceless" biometric process, compared to DNA and fingerprints
  - No surreptitious collection possible

**See also, Belgium, Privacy Commission, advisory opinion on "the processing of biometric data for the authentication of persons," 9 April 2008.**

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Sources:

- American Bar Association, *International Guide to Privacy*, Jody Westby, ed. (2004).
- BNA, Inc., Privacy & Security Law Report, *EU Data Protection, Proportionality Principle,* Vol. 7, No. 44, 11/10/2008.
- CNIL 2007 Annual Activity Report.
- National Conference of State Legislatures.

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