I Know It When I See It

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Jacobellis v. Ohio (1964)

- Justice Potter Stewart stated:
  - "I shall not today attempt further to define the kinds of material I understand to be embraced within that shorthand description; and perhaps I could never succeed in intelligibly doing so. But *I know it when I see it*"

Some Questions

- Do we know it when we see it?
- What is it?
- How is it measured?
- What is its impact on society?
- Who profits from it?
- Who are the users? The producers?
- Should it be tackled ‘at the source’?
- How is it distributed and by whom?
- Are there regulations governing it?
- Has the definition of it changed over time?
- Is it the same for every situation?

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What is the US Government Policy?

- *NSTC Policy for Enabling the Development, Adoption and Use of Biometric Standards* (available on www.biometrics.gov)
  - "The NSTC Subcommittee on Biometrics and Identity Management should develop a set of guidelines to ensure the quality and usability of biometric samples."
- The *Supplement* states:
  - All new USG applications shall compute quality scores of all collected biometric modality samples using a consistent methodology suited for the specific modality. When practical, USG entities must avoid the collection and use of insufficient quality biometric samples, as identified by deployed quality measurement algorithms. Quality measurement algorithm identifiers and quality summary statistics within the range [0-100] shall accompany each biometric sample"

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What are other Governments Stating?

- Argentina: **Fingerprint data quality metric (translation mine)**
  - In each subfield there are 2 elements: The first is the code IDC of the finger and the second is the quality metric of the image according to a technician or entered automatically by the system. The values are entered according to a scale of 0 (poor quality) to 100 (optimal quality) . A value below 50 indicates that manual verification of the results is needed if the receiving system relies upon binning or automatic classification.

Actions Needed (excerpt from Supplement)

- USG shall continue progress towards Quality Score Normalizations Dataset (QSND) standardization methods to ensure a consistent and interoperable interpretation of the quality scores
- USG shall develop technical means for detecting defective biometric samples and assessing biometric sample quality. Such capabilities shall support accuracy-based interoperable standardization of quality values
- USG shall establish procedures for evaluating quality assessment implementations in terms of their relation to matching accuracy.
- All new USG applications shall follow the Recommendations on Biometric Quality Summarization across the Application Domain published as *NIST Interagency Report 7422*

Research & Development

- USG shall foster research, development, test and evaluation, and deployment of methods for
  - the rapid detection of defective samples and the quantitative assessment of biometric quality during the acquisition process. This should be done for, at least, fingerprint, facial, iris and speech modalities.
  - quantifying quality suitable for human examination and review of samples. USG shall support development of methods for appropriate delivery of feedback to users and operators during biometric sample acquisition.
  - evaluation of the impact of quality (probe and gallery) upon interpretation of match results.

Biometrics Data Quality:

Do We Know It When We See It?

What Do We Do Once We Have Seen It?

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