Workshop I - Future of NFIQ

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NFIQ – test of time

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- Novel definition of biometric quality
  - performance related
  - accepted by the community
- Interoperability
  - uniform interpretation
  - tuned to a class of matcher
- Open source
- Extensively examined
  - by NIST and others
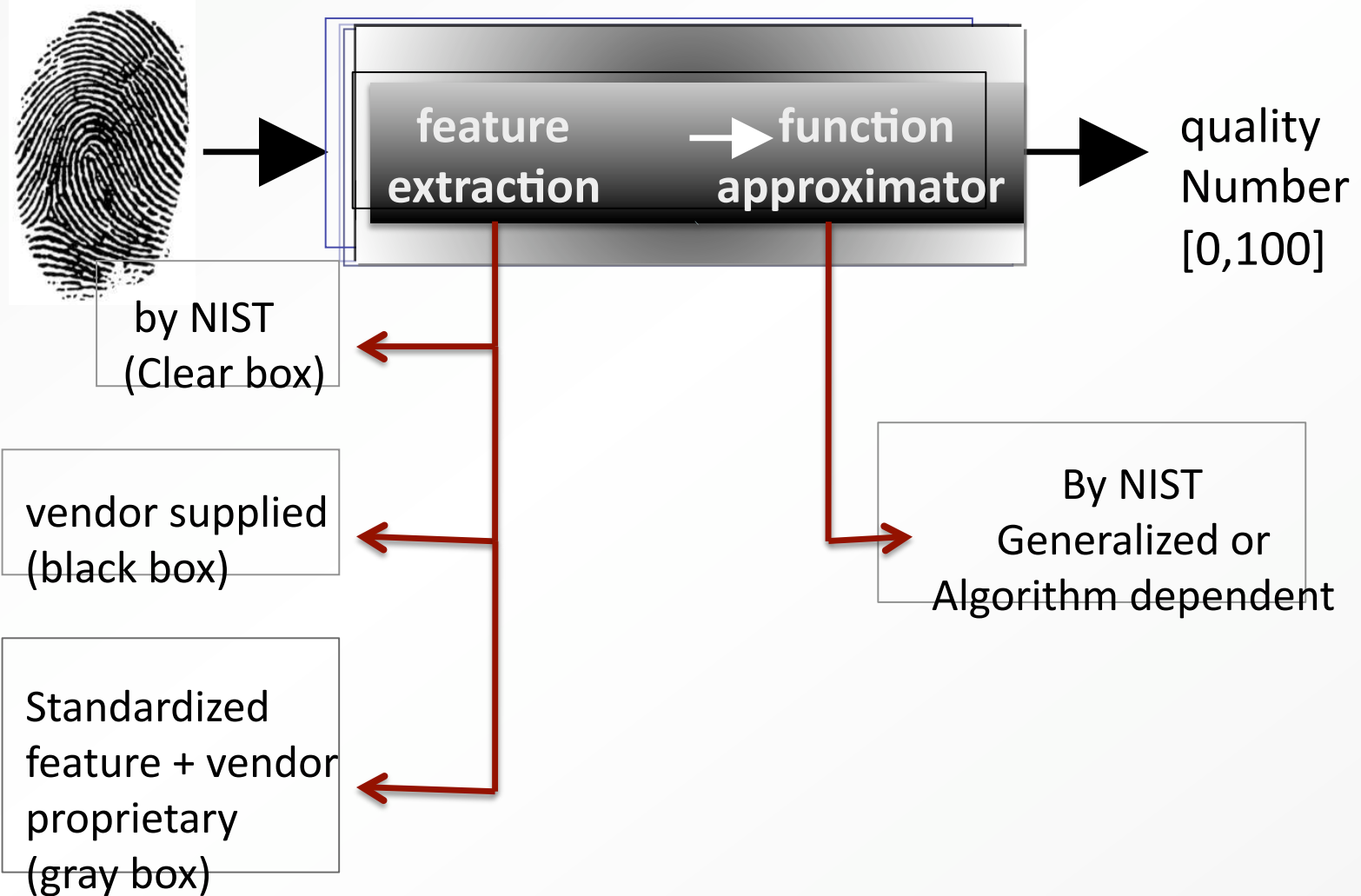 - tools for quality summarization, slap, …

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- Aging
  - recognition technology has advanced since 2004.
- Efficiency
  - ~300 msec per image - not fast enough for real time
  - takes 4 times for 4-finger slap
- Not enough levels
  - Still statistically significant
- Not enough NFIQ 4

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Options for NFIQ 2.0 - 1

± Do nothing!

± Incremental updates to NFIQ towards NFIQ 2.0
  - An improved NFIQ, generalized vanilla flavor
    - feature extraction, training data, machine learning algorithm are all done by NIST
  - No ability to customize it to a particular application
  - Limited collaboration with industry

± Modular NFIQ 2.0
  - Plug-and-play feature vector
    - Improves efficiency in field operations
  - NIST does the training using its large sets of data
    - Generalized or specialized to a particular comparison algorithm
    - Feedback to vendors
  - Expands the marketplace of interoperable products
    - Calibrated quality in standardized range [0,100]

We like to hear your comments, suggestions.

options for NFIQ 2.0 - 2

feature extraction → function approximator → quality Number [0,100]

by NIST (Clear box)

vendor supplied (black box)

Standardized feature + vendor proprietary (gray box)

By NIST Generalized or Algorithm dependent

We like to hear your comments, suggestions.