

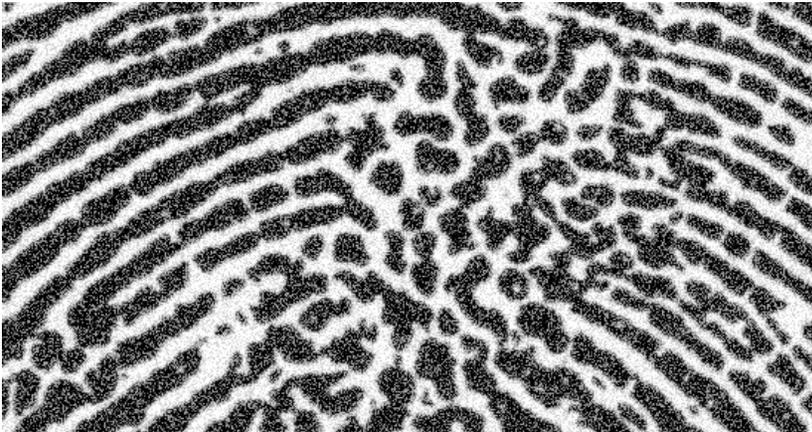
Latent Quality Survey

Austin Hicklin

7 November 2007

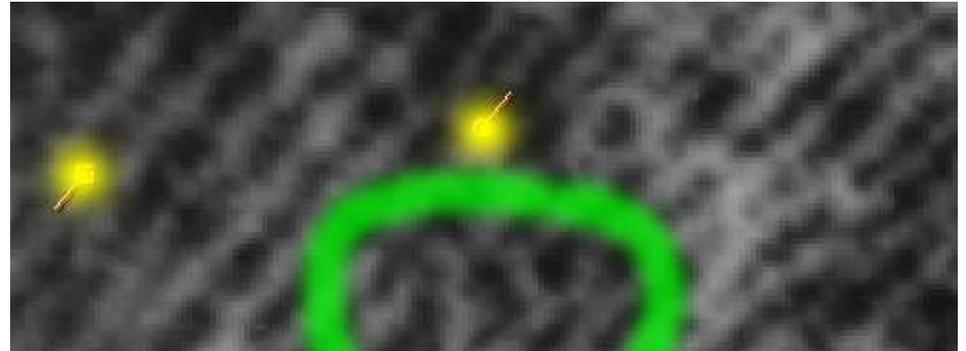
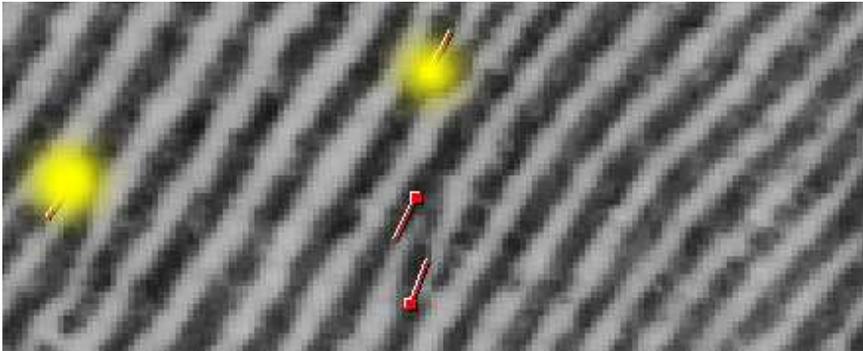


What does quality mean?



- Is this poor quality?
 - For most automated matchers:
 - *Poor*
 - For a latent examiner:
 - *Very good*
- Quality depends on how the fingerprints are being used

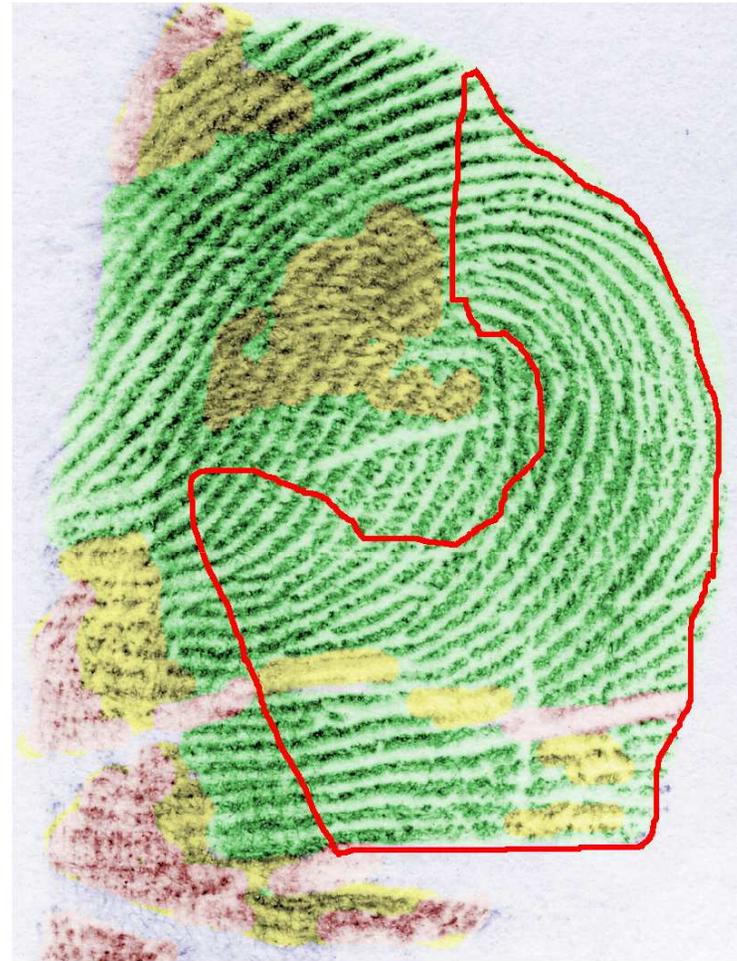
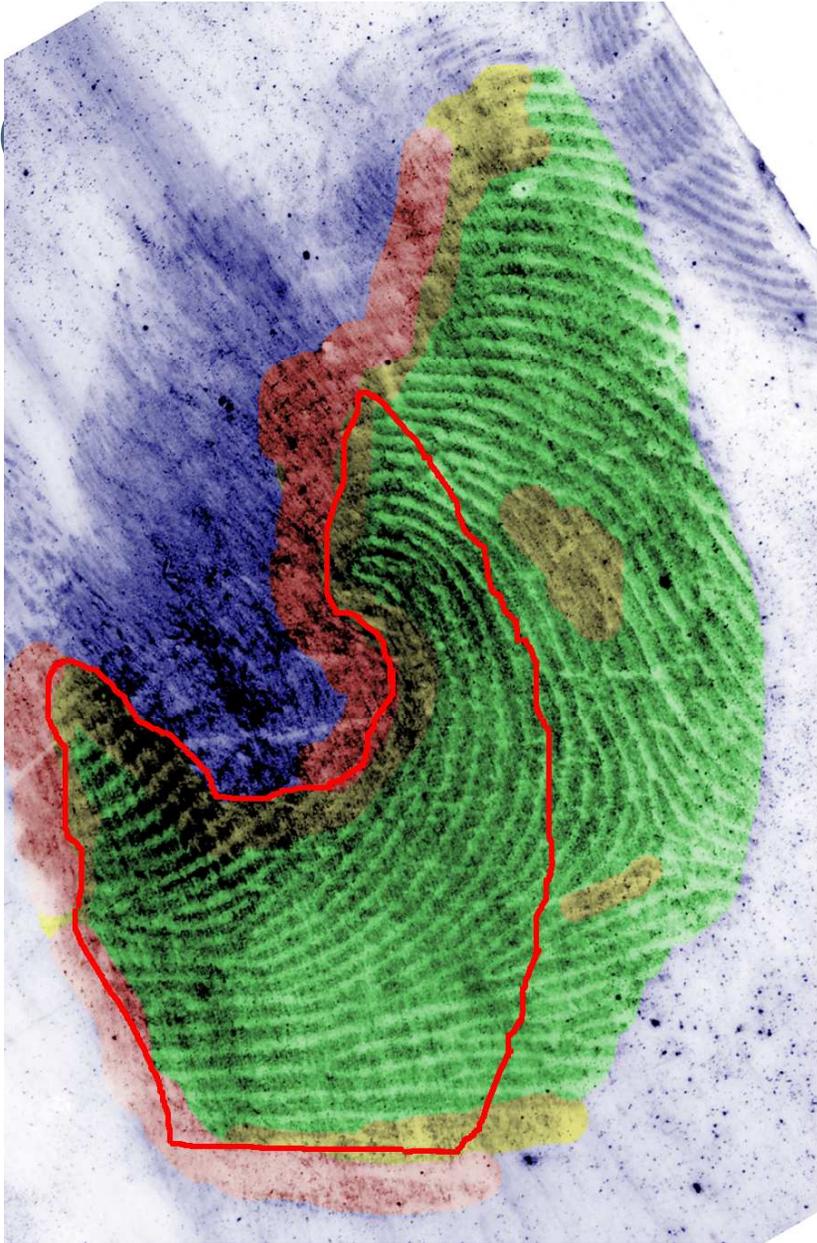
Latent Quality as a Measure of Confidence



Quality for human latent comparisons

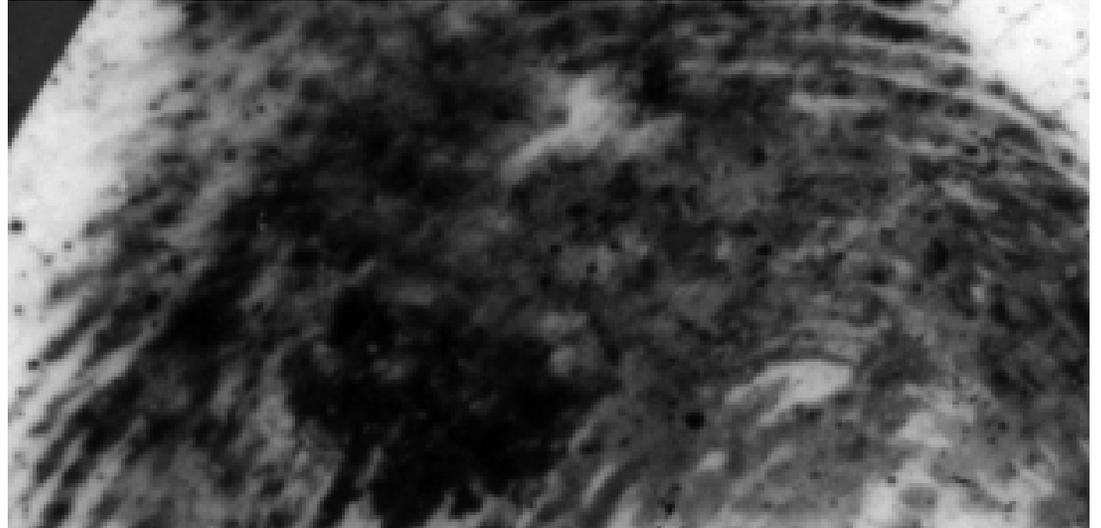


- The ability to perform a fingerprint comparison (*effect an individualization or exclusion*) depends on
 - The ability of the examiner to discern the features of the image (quality)
 - The presence or absence of discriminating features (quantity)
 - The sufficient correspondence of quality and quantity of features in the images being compared



High – **Medium** – **Low** - **None**

Quantity vs. Quality



Quality Metrics for Friction Ridge Impressions

- Project in progress, sponsored by FBI Laboratory
- Composed of two tasks:
 - Latent Quality Survey
 - Latent Quality Metrics

Latent Quality Survey

- A software-based survey in which latent fingerprint examiners mark up a number of latent and exemplar fingerprints by quality, defined in terms of confidence

Status: Results still coming in

Examiner 99, Image 28 of 70 (L228.obs) 125% (500 ppi)

Level 1

Level 2

Level 3

Overall
(Next)

Save & Go To
Next Image

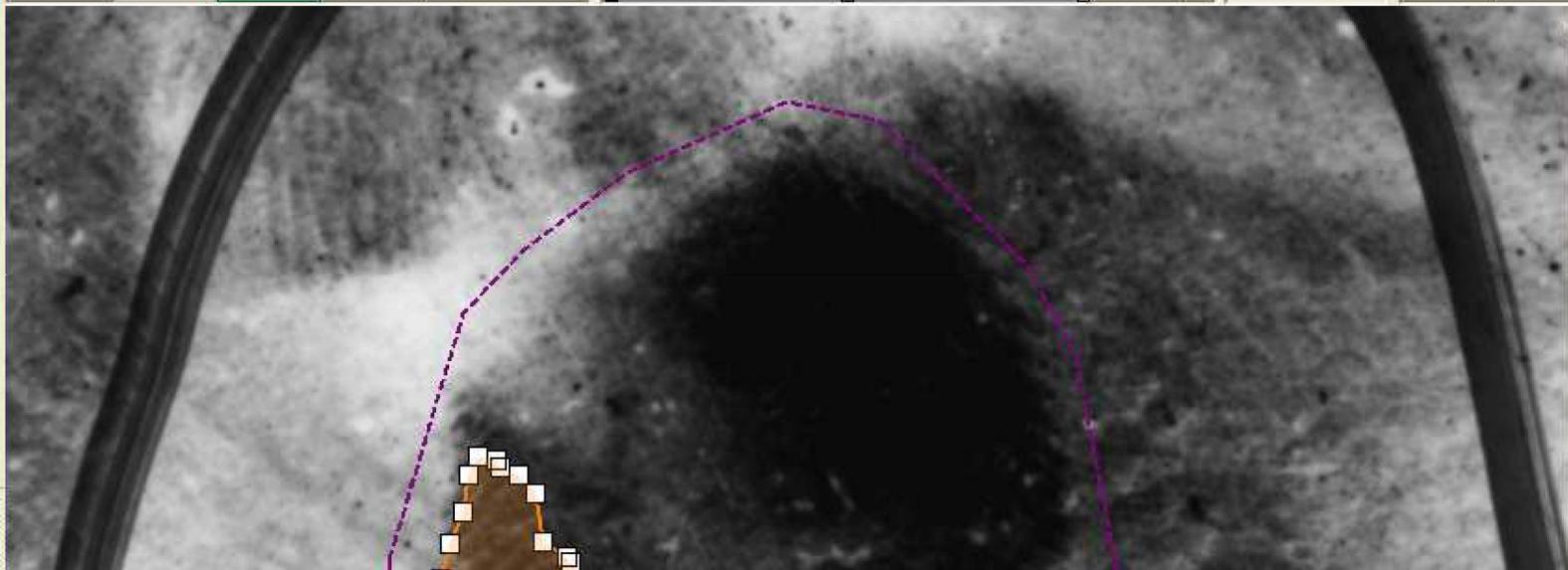
Zoom
125%

+
-

Show Lines
 Show Color

Poly
Style

Help



Latent Quality Metrics

- Quality assessment software tools are being developed based on the results of the survey, designed specifically for use by latent fingerprint examiners, to allow objective, repeatable assessments of the quality characteristics of a latent or exemplar friction ridge image

Status: Under development

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