Working Between Disciplines

Issues in Building
the Digital Forensics Bridge
From Computer Science to Judicial Science

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University of Louisville Panel

- **Dr. Deborah Wilson**, (Department Chair), Justice Administration Department, College of Arts and Sciences
- **Mr. David Elder**, S.A.C. (retired), FBI, Kentucky, visiting professor, Justice Administration Department, project manager, Kentucky RCFL
- **Dr. Adel Elmaghraby** (Department Chair), Professor, Computer Engineering and Computer Science Department, Speed School of Engineering
- **Dr. S. Srinivasan**, Professor, Computer Information Systems Department, School of Business
Digital Forensics
& The Admissibility of Digital Evidence

“Digital forensics is the scientific study of the processes involved in extracting, analyzing and preserving all forms of electronic evidence.”

IFIP Working Group 11.9 Digital Forensics
Concerns


- Facts of digital evidence that impact use and rules of evidence (reliability & persuasion)

- “We’re still staffing this as if it’s still 20% [of our caseload]” [Anonymous, DFRWS 2006]
The Bridge
From
Justice Administration <=> Computer Information
Systems <=> Computer Science
Or perhaps just trying not to fall...
The Intersection of Disciplines

justice administration (JA)
computer information systems (CIS)
computer science and engineering (CS)
It’s Not Just Us,

- Others have issues with the study, investigation and legal use of digital evidence
  - Lindsey, *Comment on Issues with Usability & Visualization*, DFRWS 2006
The view from the end of the bridge

- We will review as to digital forensics futures
  - Managerial/administrative,
  - educational/training and
  - judicial/legal issues
Regional Computer Forensics Laboratories

- Issues in implementing a reliable computer forensics laboratory for justice purposes, including
  - administrative,
  - financial
  - and liaison with law enforcement, courts and the academy.
Teaching and Training

- Challenges for introducing digital forensics into academic education,
  - pedagogy,
  - training and
  - adult education.
Action and response issues within the justice system itself, including
- the “presumption of reliability,”
- authentication challenges v. expert evidence challenges and
- “weight” along the evidentiary spectrum (the bridge from suspicion to conviction).
Judicial/Legal Considerations
for electronic evidence

- Discovery battles
- Sufficiency determinations
- Privilege determinations
- Relevance determinations
- Authenticity determinations
- Weight determinations
  - Trial
  - Pretrial
    - Search warrants, EPO, ECO
Conclusion

- We’ve still got a long way to go,
- But we’ve got a good start.
Resources

- www.krollontrack.com
- www.dfrws.org