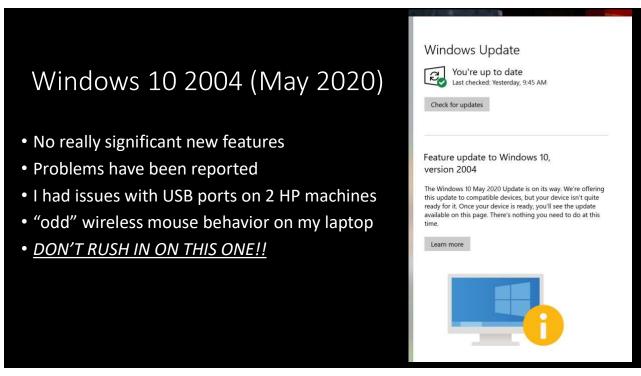
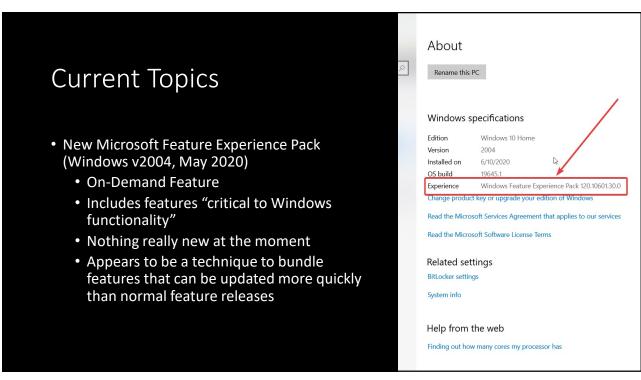


Current Topics

- iOS 13.5
 - Exposure Notification API (Contact tracing apps)
 - Improvements in FaceID based on face masks
 - Immediately display PIN option after FaceID failure
- Facial Recognition Software
 - Amazon and IBM will not sell facial recognition technology to law enforcement until there are Federal regulations on the use of the technology
 - Microsoft also joins and restated their existing policy about not selling facial recognition technology to law enforcement established in April 2019





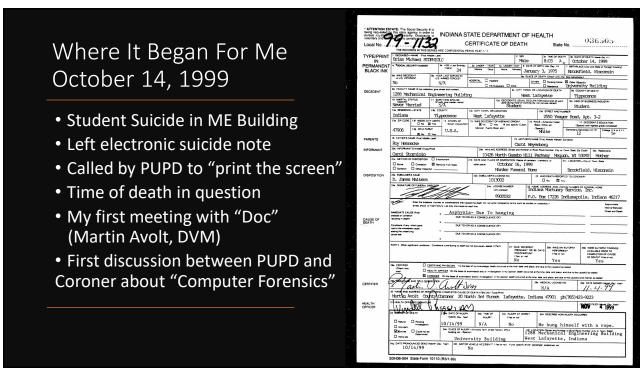




- What happened to Microsoft Cortana?
 - Introduced 5 years ago as a response to Siri and Alexa

Current Topics

- Now Cortana no longer listening for "Hey Cortana"
- Now billed as "Personal Productivity Assistant for Microsoft 365"
- Email for "cortana@microsoft" now part of Microsoft 365 Enterprise daily "Briefing" feature



Locard's Exchange Principle

"Every Contact Leaves a Trace"

The value of trace (or contact) forensic evidence was first recognized by Edmund Locard in 1910. He was the director of the very first crime laboratory in existence, located in Lyon, France.



The Locard's Exchange Principle states that "with contact between two items, there will be an exchange." For example, burglars will leave traces of their presence behind and will also take traces with them. They may leave hairs from their body or fibers from their clothing behind and they may take carpet fibers away with them.

Forensic Mindset

- Digital Forensic Mindset Condensed Definition:
 - Using your skills to determine what has occurred or,
 - What most likely occurred as opposed to what is possible
 - You do NOT work for anyone but the TRUTH!
- The tools used are not nearly as important as the person using them!



History & Development

- Francis Galton (1822-1911)
 - First definitive study of fingerprints
- Sir Arthur Conan Doyle (1887)
 - Sherlock Holmes mysteries
- Leone Lattes (1887-1954)
 - Discovered blood groupings (A,B,AB, & 0)
- Calvin Goddard (1891-1955)
 - Firearms and comparison
- Albert Osborn (1858-1946)
 - Developed principles of document examination
- Hans Gross (1847-1915)
 - First treatise on using scientific disciplines in criminal investigations.
- First FBI CART Team (1984)
- Digital "wing" of the American Academy of Forensic Science (2007)



"The Computer"

- Computer as *Target* of the incident
 - Get to instructor's test preparation
 - Access someone else's homework
 - Access/Change a grade
 - Access financial information
 - "Denial of Service"
- Computer as **Tool** of the incident
 - Word processing used to create plagiarized work
 - E-mail sent as threat or harassment
 - Printing used to create counterfeit material
- Computer as *Incidental* to the incident
 - E-mail/file access used to establish date/timelines
 - Log information to establish date, time, location
 - Stored names and addresses of contacts or others potentially involved in the incident



10

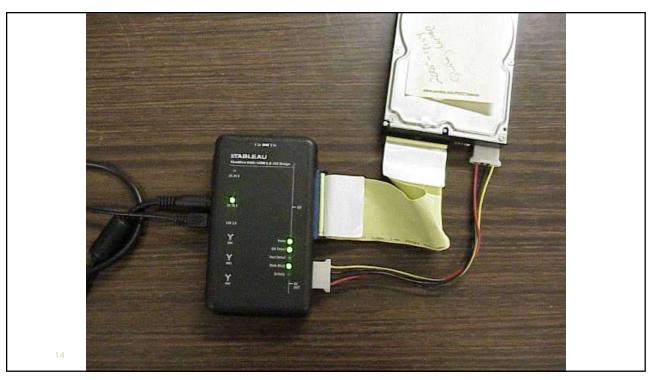
General Types of Digital Forensics

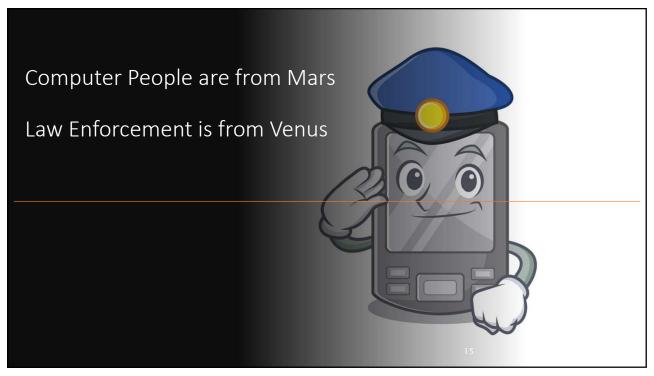
- "Network" Analysis
 - Communication analysis
 - Log analysis
 - Path tracing
- Media Analysis
 - Disk imaging
 - MAC time analysis (Modify, Access, Create)
 - Content analysis
 - Slack space analysis
- Code Analysis
 - Reverse engineering
 - Malicious code review
 - Exploit Review
- The "puzzle" is a combination of all the above pieces











Advantage of Computer People

- Natural curiosity
- "Obsessed" with detail
- Problem/puzzle solving is their profession/passion
- Intuitive thinkers
- Look for "creative" solutions



Advantage of Law Enforcement

- Trained investigators
- Interviewing skills and creativity
- Fact-finding is their life
- Understanding the criminal psyche
- Access to additional resources
- Can tie things to other incidents
- Broad data collection reach







General Defense Strategies

- Not Me Defense (aka SODDI, TODDI)
- Mind-Numbing Detail Defense
- Indict the Examiner Defense (aka Dennis Fung Defense)



A Day I Will Never Forget – August 3, 2001



Sunday, August 5, 2001



Tuesday, August 7, 2001



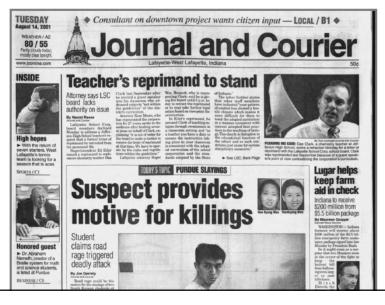
Wednesday, August 8, 2001



Thursday, August 16, 2001







August 16, 2001

Pondering the death penalty

Tippecanoe County prosecutor Jerry Bean said Wednesday that trial rules precluded him from publicly commenting on the plausibility of Yin's "road rage" claim. Because he has yet to receive all police and lab reports from the investigation, Bean said it was still too early to know whether he will seek the death penalty or life imprisonment without parole.

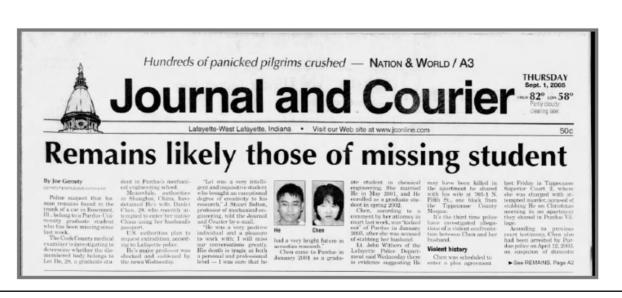
Bean has no deadline to make the decision under state law, but he expects to do so in a matter of weeks, he said.

Yin's claim of road rage would have no bearing on whether he is convicted of the Woo murders. However, if Bean seeks the death penalty or life imprisonment without parole, Yin's defense counsel could cite the road rage as a mitigating factor in the penalty phase of the trial.

September 12, 2004

- June 28, 2002 Judge Don Johnson accepts Yin's plea of guilty but mentally ill of two murder counts, and sentences him to life in prison without parole, plus 42 years for robbery, burglary and attempted arson.
- May 31, 2002 The Yeunkyung Woo Memorial Garden dedication on campus grounds behind Purdue's Lilly Hall of Life Sciences.
- Oct. 12, 2002 About 75 walkers and runners participate in the Woo Memorial 5K Walk/Run.
- Sept. 12, 2004 Yin hangs himself in his prison cell at the Indiana State Prison in Michigan City.





November 24, 2005

Chinese review **homicide** evidence

Chen likely to be prosecuted pending exam



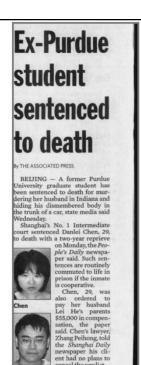


Bejin.

A former Lafayette woman an accused of murdering her husband in Lafayette and then attempting to enter China using his passiport likely will be prosecuted in China.

A delegation of Chinese delegation of Chinese

November 24, 2005







We've come a long way

HTCU Members

Purdue University Cyber Forensics Department
Tippecanoe County Prosecutors Office
Lafayette Police Department
West Lafayette Police Department
Purdue University Police Department
Tippecanoe County Sheriff's Department
Tippecanoe County Community Corrections
Tippecanoe County Probation Department



