Cyber Security Initiative for Nevada Teachers (CSINT)

Joseph Genung/Steven Fisher • Dr. Shamik Sengupta, Dr. David Feil-Seifer, Nancy LaTourette

Cyber Security Implementation

Mission:

Explore cyber security concepts by engaging students through online discovery activities and in person cyber team problem solving.

Where applicable, provide optional route to earn assignment credit using concepts of cyber security.

Target: Students, Staff & Administration.

Desired Outcome: Develop problem solving skills through the acquisition of cybersecurity knowledge.

Cyber Team : Exploration

Ethics: Formal discussions and debates on the efficacy of ethical hacking and cyber citizenship.

Coding : Introduction to computer languages.
(Hour of Code/Code Academy/Code Combat)

Digital Forensics

Time Tool Validating, Hashing, Metadata, Web Artifacts, Thumbnails, Event Logs, Registry, Shell Bags, File Carving, Key Logger, Write Blocking Imaging

Networking & Communications

Packets, IP & MAC address, ICMP Protocols, LINUX, Virtual Machine, Virtual Networks.

Biometrics

Verification & Identification, Automatic recognition, Biometric Traits, Applications, System Steganography

Robotics

Order of Operations, Coding, Human/Robot relations, Data Security

In Class : Enrichment

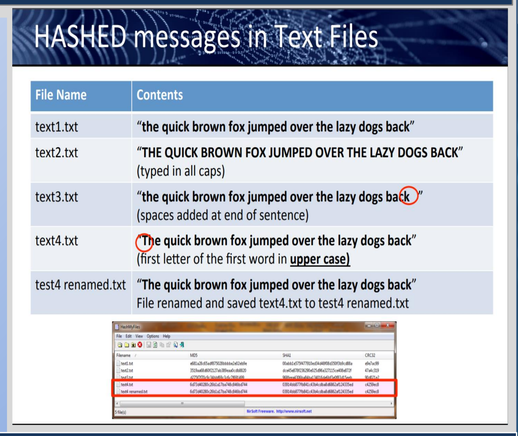
Concept: Weekly cybersecurity lessons hosted on-site and cast in the live lesson room.

Prospective Courses: Computer Applications, Emergent Computer Technologies, Intro to Law, Intro to Criminal Justice, Photography, Digital Media, Art History, Career Exploration

Hashing - Validation

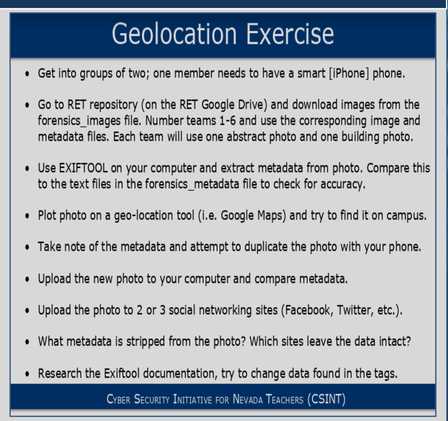
Exploration into the significance of hash. Proceeded by write blocker, registry and image software exposure.

Applicable uses : HASH validates downloaded files and forensic uses to work with data.



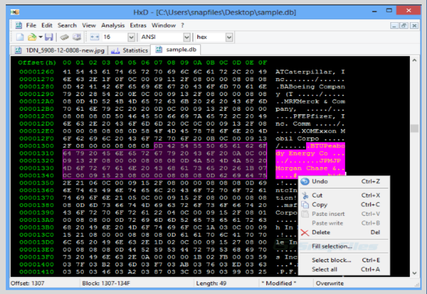
Geolocation Scavenger Hunt

Using EXIFTOOL students will investigate metadata and privacy considerations via a scavenger hunt on campus. In person activity may be modified to include off-campus field trip locations to engage students in team building activities as well..



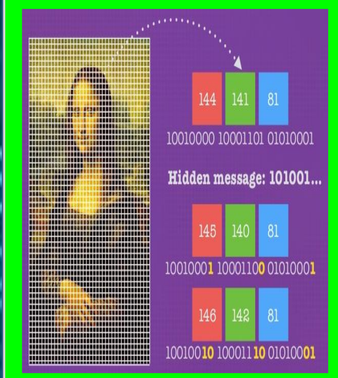
File Carving

Recover deleted files on a drive. Students will use hex editing software file types to recover various images, audio and video files.



Stegan#graphy

Introduction to various methods of Anti-Forensics, create and decode secret messages in files.



Resources

Linux
OverTheWire
We're hackers, and we are good-looking. We are the ITs.
Code.org
FTK Forensic Toolkit
SCRATCH
CFReDS
CTF365
ExifTool
HxD
TeachEngineering
STEM curriculum for k-12
CYBERPATRIOT
NICERC
PuTTY
codecademy
SANS
CSO from IDG
python powered
HASH MY FILE

Assessment Methods

Pre-Assessment Survey/Test/Quiz → Exploration & Enrichment Exercises → Post-Assessment Survey/Test/Quiz

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