Teaching Case

Something that Works: The Evolution of a Steganography Exercise

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Abstract

Technology affects most aspects of people in the modern world. The number of new systems and data created grows constantly and need to be secured using cybersecurity proactively and cyber forensics reactively. There is large and growing gap between people aware, interested, and skilled enough to meet the needs. The United States is working to create a pipeline of learners that go into cyber related fields. This case study is an example of an exercise that gains the attention, interest, and positive feedback of students from middle school to college graduates. The exercise is a demonstration of steganography and only requires a computer and free software. The activity is tailorable for each audience with little preparation. The concept is simple, take a file, hide a message inside that is undetectable, then have the learners find the hidden information using software and passwords. Although the exercise is simple, it effectively gains students' attention and interest into the fields of cybersecurity and forensics and becomes the catalyst to have them imagine a new future. This case study discusses how to execute the exercise, the evolution of this exercise over the last decade, and how to use the case to allure new learners into the cyber field of study.

Keywords: forensics, cybersecurity, steganography, learning, case study

A full version of this case may be found at https://cppj.info