EPIC Digital Forensics Lab
College of Engineering Undergraduate Research Program
Summer 2017

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Abstract

The increasing growth and severity of attacks, combined with a relatively flat production of degrees in computer security, has led to a dearth of qualified security professionals. In particular, attracting a broad and diverse body of students to digital forensics has been challenging. The perception that digital forensics is the exclusive domain of white asocial males, that the field is devoid of creativity or individual expression, and the clear lack of positive, social impact have all been identified as root causes for disinterest and attrition.

Thus, finding immersive, scenario-based educational materials is critical to addressing the national need for security education and exposing students to security as a potential career. The Engineering Possibilities in College (EPIC) summer program provides high school students from a variety of backgrounds such an opportunity. Our specific contributions created an experimental exercise of network traffic forensics generated from a real life wireless connection using technologies relevant to this audience and combined with a story-driven narrative to capture students interest. By capturing the network traffic on a wireless connection, the students access data about a “target” and their internet usage, demonstrating the major insecurities involved with open networks.

Our preliminary results, as empirically measured through observation and informal student interviews, show that nearly all students found the exercise to be fun, engaging, and able to create new insights between technologies students currently use casually, and potential career paths in digital forensics. This early work lays the foundation for more extensive evaluation, and the further development of similar curricular modules useful in a variety of academic and social settings. We have packaged our curricular materials, and will be releasing them to the public on the website of our umbrella project, TableTopSecurity.com.