Disconnects of Specialized Mobile Digital Forensics within the Generalized Field of Digital Forensic Science

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ABSTRACT

The study and practice of forensic science comprises many distinct areas that range from behavioral to biological to physical and to digital matters, and in each area forensic science is utilized to obtain evidence that will be admissible within the legal framework. This article focuses on inconsistencies within the accepted methodology of digital forensics when comparing the current best practices of mobile digital devices and traditional computer devices. Here the authors raise the awareness of this disconnect in methodology, and they posit that some specific tasks within the traditional best practices of digital forensic science are artifacts of ritual rather than based on scientific requirements.

KEYWORDS

Computer Forensics, Digital Forensics, Forensic Science, Mobile Digital Forensics

INTRODUCTION

Within the legal environment, United States courts have ruled that digital data is a form of scientific evidence, and as such, the scientific approach of forensics is necessary to acquire, analyze, and report on evidence derived from digital devices.

Digital forensics, a field of forensic science, addresses the data acquisition, data analysis, and reporting aspects concerned with digital devices (i.e. computer workstations, notebook computers, computer servers, smart phones, tablets, digital cameras, GPS devices, etc.) in order to utilize data from these devices as evidence in legal matters. Traditionally, digital forensics evolved from the field of computer forensics, where the focus was on obtaining evidence from computer workstations and servers. As technology evolved, mobile digital devices became prevalent and perhaps even ubiquitous today.

Along with the rise in usage of these mobile devices is the rise in the necessity to obtain evidence from them for use in litigation, and in order to obtain this evidence from the data within these mobile devices, forensic examiners often are required to utilize specialized methods. Frequently, the specialized methods necessary to obtain and analyze data from these mobile devices include tasks that are prohibited within the traditional methodology of digital forensics best practices.

TRADITIONAL DIGITAL FORENSIC METHODOLOGY

Traditional digital forensics methodology evolved from the need to scientifically gather evidence from computer workstations. The best practice establishes the preferred method to acquire evidence
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