Chapter 8
Detection Protocol of Possible Crime Scenes Using Internet of Things (IoT)

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ABSTRACT

Forensics is a science that deals with using scientific principles in order to aid an investigation of a civil or criminal crime. It is a system of procedures that allow an investigator to use as much resources as possible in order to come up with a conclusion for an investigation. Since forensics is a very general term that encompasses an investigation process using scientific knowledge, one can separate a system of investigation based on how it is conducted. This chapter introduces of internet of things (IoT) forensics, IoT application in forensics field. Art-of-states for IoT forensics are provided. The issues for IoT forensics are identified. Also, we have introduced the proposed data classification in Iot forensics protocol. At the end of this chapter, we point out a brief summary and conclusion.

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INTRODUCTION

Forensics is a science that deals with using scientific principles in order to aid an investigation of a civil or criminal crime. It is a system of procedures that allow an investigator to use as much resources as possible in order to come up with a conclusion for an investigation. Since forensics is a very general term that encompasses an investigation process using scientific knowledge, one can separate a system of investigation based on how it is conducted. In this case, digital forensics is one of such branches. Digital forensics is a branch of forensic science that encompass the recovery or retrieval of information coming from digital electronic devices. Most of the time, these devices include but not limited to computers, mobile phones and storage media. Digital forensics is simply a process of uncovering and then interpreting electronic data for the purpose of aiding an investigative strategy. The main goal of the investigator in this field is to preserve any evidence without compromising its integrity. A structured investigation is then implemented using the same digital evidence so that the chain of past events can be reconstructed.

On the other hand, the IoT (IoT) is a notion that encompasses all devices and instruments that can be assigned with an IP address. IoT is a representation of an ever-growing network of distinctly network-addressable physical objects that can communicate with one another over the Internet. The IoT can include different components in the physical world from desktop computers to mobile phones, microchip embedded in animals for monitoring, to pacemakers inside the body of a person. All of these objects may be part of the Internet to form a bigger system referred to as the IoT.

Since broadband proliferation around the world is high, Internet is set to become a basic necessity that will interconnect every little piece of electronic hardware. There are so many possibilities the IoT can make from simple monitoring of one's health to accessing information from outer space. With so many devices that are capable to connect to Internet through Wi-Fi, people and everyday objects will be more integrated than before. In the context of digital forensics, IoT could simply become an avenue to further improve the accuracy and integrity of forensic investigations.

This chapter gives a background of IoT forensics and IoT applications in forensics. State-of-the-art of IoT forensics are introduced and the issues in IoT forensics are identified.