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Framework for the development of a scalable android-based forensic investigation process on mobile devices

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There is an increase in the need for mobile forensics because of the prevalence of mobile devices which has become a huge source of electronic evidences in cyber investigation all over the world. Digital forensics is a challenging, fast-paced but interesting field with a powerful impact on various situations. These situations could include external and internal corporate investigations, litigations, investigations of crime and crime scenes, intelligence information gathering, national and international security. Mobile forensics is arguably the fastest growing and evolving digital forensic disciplines, they offer significant opportunities as well as many challenges. Mobile device forensics is a rapidly changing field that poses challenges in trying to retrieve information. In digital investigations, forensics procedure must be followed strictly to achieve maximum result unlike what obtains in other electronic and media technologies. Most basic mobile devices have a proprietary Operating System (OS), although many of the smart phones make use of the same OSs as Computer (or a stripped-down version of the Computer-based OS). These OSs include Linux, Windows Mobile, RIM OS, Palm OS, Symbian OS, Android and, with the introduction of the Apple iPhone, a version of Mac OS X. Typically, phones store system data in Electronically Erasable Programmable Read-only Memory (EEPROM), which enables service providers to reprogram phones without having to access memory chips physically. The development of a scalable android-based forensic investigation process involves the standard forensic procedural way of acquisition and analysis of data from android OS based devices. This is expected to give proper understanding to a forensic examiner or security engineer of the platform and tools to be used in making successful investigation and analysis of Android devices. The developed process is expected to address the rising number of attacks hitting Android-based mobile devices by specifying necessary countermeasures against various attacks on Android-based Mobile devices.

Biography

Chiemeke S C obtained her PhD in Computer Science from the Federal University of Technology, Akure in 2004. She is the Director of Intellectual Property Technology Transfer Office in the University of Benin. She has published over seventy (70) research articles and presented about ten (10) scientific papers at International Conferences held outside Nigeria. She is a member of many recognized professional bodies both in Nigeria and abroad. She is a fellow of Nigeria Computer Society, (FNCS) and a member of Computer Professional Registration Council of Nigeria (CPN). Her research interest in the area of Software Engineering and Digital Forensics.

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