C10 An Analysis of Audio Recordings Made Using the Voice Recorder Application on Android™ Phones

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Learning Overview: The goal of this presentation is to explore the user interfaces for four different Android™ phones (HTC ONE®, Samsung™ Galaxy™ S6, S9, and LG® Q6) with four different voice recording application versions.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by explaining that the abilities to properly identify, examine, and verify information from a mobile phone are very important aspects of forensic research. Different applications and their capabilities are also important to research and understand, not just for the scientific community, but also for individuals who use these devices every day. This includes voice recorder applications that come standard on Android™ phones.

Hypothesis: The characteristics of each voice recording version on different Android™ mobile phones can determine whether the recording is authentic with that device and whether the recordings have been changed/edited.

Android™ is one of the two main operating systems for mobile phones and includes an application for voice recording. Since extensive research has been completed on the "Voice Memos" application for iOS®, there remains research to be completed on the default application for the Android™ OS. This presentation explores the user interface for four different Android™ phones: HTC ONE®, Samsung™ Galaxy™ S6 and S9, and LG® Q6, with four different voice recording application versions. Features of the recording application and its limitations as well as editing capabilities, file formats, and atom structure for each phone are discussed. All devices tested allow the ability to share the recordings via messages, email, Android™ Beam, Bluetooth®, and Gmail®. The Samsung™ phones also allow sharing via Outlook®, OneNote®, Samsung™ Cloud Drive, and many others, depending on what other communication apps are installed on the phone. All devices, except for the LG® Q6, allow the files to be renamed, deleted, shared, and a few other options. All devices, except for the HTC ONE®, allow for some type of editing. Testing protocols were created and utilized for the creation of the test recordings. These testing protocols were further established for the LG® and Samsung™ phones since their voice recording apps offer the most features. These recordings included continuous and paused recordings, interrupted recordings, and various ways of saving and storing the recordings.

Each phone with its different Android™ versions and different app versions offered different results based upon whether the recording was edited or unedited, continuous or paused, all of which contain important information when it comes to the analysis of these recordings and the authenticity of these recordings as related to each phone. Given that each phone comprises different user interfaces and different results, it is important for investigators to be aware of the features and limitations for each app. The consistencies between edited and unedited recordings also supply examiners with much-needed information. There are many other aspects of the Voice Recorder app to research, but this presentation provides a plethora of information that was not previously available.

Android™, Audio, Voice Recorder