C13   Digital Image Recompression Analysis: Twitter®

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After attending this presentation, attendees will have gained insight into the interpretation of embedded data that can be found within the construct of images shared and downloaded via Twitter® and, with this newfound knowledge, be better equipped to analyze and understand differing image file structures as they pertain to particular social media networks.

This presentation will impact the forensic science community by illustrating that, because of the ubiquitous use of social media in this day and age, a higher understanding of data attributed to individual social media networks is necessary for the digital forensic analyst. Research of information provided by and attributed to Twitter® is a stepping stone to understanding how social media networks compare to, as well as differ from, each other in terms of the metadata associated with and attributed to each network.

This presentation offers insight into the identification of the effect of mobile and desktop uploading and downloading of images shared through Twitter®. A hypothesis statement that "useful information pertaining to the location and interpretation of embedded data encoded within digital images can be of aid to forensic digital image analysis" is central to the research conducted in this presentation.

The functionalities and prolific use of social media networks have evolved over time, constantly changing how people connect to and communicate with other individuals around the world. Within the numerous variations of social media networks, a constant function is apparent throughout the uploading and sharing of images to be viewed and, oftentimes, re-shared by friends or those who subscribe to a particular feed.

This research follows a method of looking at metadata, binary data, and quantization tables of image types on image files before the upload process to Twitter®, then looking at the same data on images after the download process. A comparison of the changes between the original and Twitter®-downloaded files will be discussed, as well as the effect on image dimensions throughout the process.

Throughout each instance of submission pertaining to images being uploaded online or through a social media network, some forms of compression are needed in differing sorts of ways. This research seeks to identify as well as interpret the embedded data encoded throughout the compression process within digital images associated with Twitter®. Knowledge gained through this research can be added to a growing database of information attributed to different social media sites.

Image Analysis, Social Networks, Twitter®

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