Metadata Analysis

Allan Wheelock

University of Advancing Technology

Author Note

This paper was prepared for CFR 105 – File Systems and Structures, taught by Aaron Jones.

Metadata Analysis

In this assignment we were tasked with analyzing a photo’s metadata. I wasn’t exactly sure what metadata in particular to look out for but I found a photo I liked in my camera roll and decided to analyze that one.

The first thing I realized when looking at the exif tool with this photo was that it tells me all the information that I could possibly want to know. It states things as simple as the file type and file size. But then I noticed it also goes into supreme detail as well. Some examples of the more detailed metadata that the exif tool finds are encoding process and the resolution and how it’s measured.

The photo I have chosen is a 60 KB JPEG file that was encoded with Baseline DCT, Huffman encoding. I’m not sure what information to put in this document so I decided to just put a list of everything that I got from the exif tool.

|  |  |
| --- | --- |
| System | |
| File Name | 1843405109.exif |
| Directory | /home/exiftool/public\_html/uploads |
| File Size | 60 kB |
| File Modification Date/Time | 2021:09:27 04:29:45+07:00 |
| File Access Date/Time | 2021:09:27 04:29:45+07:00 |
| File Inode Change Date/Time | 2021:09:27 04:29:45+07:00 |
| File Permissions | rw-r--r-- |
| File | |
| File Type | JPEG |
| File Type Extension | jpg |
| MIME Type | image/jpeg |
| Exif Byte Order | Big-endian (Motorola, MM) |
| Image Width | 828 |
| Image Height | 1240 |
| Encoding Process | Baseline DCT, Huffman coding |
| Bits Per Sample | 8 |
| Color Components | 3 |
| Y Cb Cr Sub Sampling | YCbCr4:2:0 (2 2) |
| JFIF | |
| JFIF Version | 1.01 |
| IFD0 | |
| Orientation | Rotate 90 CW |
| X Resolution | 72 |
| Y Resolution | 72 |
| Resolution Unit | inches |
| Y Cb Cr Positioning | Centered |
| ExifIFD | |
| Exif Version | 0221 |
| Components Configuration | Y, Cb, Cr, - |
| Flashpix Version | 0100 |
| Color Space | sRGB |
| Exif Image Width | 828 |
| Exif Image Height | 1240 |
| Scene Capture Type | Standard |
| IFD1 | |
| Compression | JPEG (old-style) |
| Thumbnail Offset | 316 |
| Thumbnail Length | 5416 |
| Thumbnail Image | (Binary data 5416 bytes) |
| Composite | |
| Image Size | 828x1240 |
| Megapixels | 1.0 |

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Overall, there is a lot of information that can be gathered from this exif tool regarding metadata. It’s important when conducting forensics to be able to understand these tools and how they work. The information that is embedded in metadata can be used to gather important details that you may not otherwise find when just looking at files.

References

Sign In. (2021). Retrieved 26 September 2021, from https://synchronic.uat.edu/courses/4355/assignments/157145?module\_item\_id=402069