**DIGITAL FORENSICS LAB**

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| Exercise 6 | |
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| Date | 21st September, 2021 |

**AIM**

To write about some file extensions.

**EXTENSIONS**

A few extensions are listed out and described below.

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| EXTENSION | FILE TYPE | OPENS WITH | CROSS-PLATFORM | DESCRIPTION |
| JPG/JPEG | Image | Any photo viewer (like Photos) | Yes | * It uses lossy compression * Used for images commonly and digital photography * Other extensions .jpe, .jif, .jfif * Degree of compression can be adjusted |
| PNG | Image | Any photo viewer | Yes | * Stands for Portable Network Graphics * It supports lossless compression * Designed for images to be transferred over the internet * Non-RGB colour spaces not supported * Contains encoded pixels in a series of “chunks” |
| GIF | Image | Any photo viewer | Yes | * Stands for Graphics Interchange Format * Supports up to 8 bits per pixel * Compressed using the lossless data compression technique LZW * Can contain up to 255 colours |
| TIF / TIFF | Image | Any photo viewer | Yes | * Stands for Tag Image File Format * Uses lossless (LZW) or no compression * Can be used as a container for JPEG and PNG files |
| BMP | Image | Any photo viewer and graphics application | Yes | * Stands for Bitmap file * Has a file header size of 14 bytes * Older GUIs use bitmaps in their built-in graphics subsystem * Large file size due to low ratio or no compression |
| ART | Image | Image Viewer apps | Yes | * Highly compresses an image * Designed to facilitate quick download |
| PCX | Image | Image viewer apps | Yes | * Stands for Picture Exchange * Not used a lot anymore * Uses little endian byte ordering |
| WMF/EMF | Image | Image viewer apps | Yes | * Originally not device independent * Now is cross platform * Acts similar to SVG files * EMF+ is an extension to these * Consists of a series of records played to produce graphical content |
| DWG | Binary | Any CAD programs like AutoCAD | Yes | * Used to store two- and three-dimensional design data and meta data * It’s licensed by AutoCAD and is trademarked |
| PSD | Image | Photoshop, Illustrator, CorelDRAW | Yes | * Stands for photoshop document * Can hold layers with masks, alpha channels, text etc |
| RTF | Text | Word processors | Yes | * Stands for Rich Text Format * Standard RTF consists of only 7-bit ASCII characters with escape sequences |
| XML | Document (plain text) | Browsers | Yes | * Stands for eXtensible Markup Language * Uses tags to describe components in a file |
| HTML/HTM | Document (plain text) | Browser | Yes | * Hyper Text Markup Language * Used with CSS, JavaScript and other web content files |
| PHP3, PHP4, PHTML | Plain-text file for code | Code or text editors (VS Code) | Yes | * Used to develop web applications * Processed by a PHP engine on web browser * Can also be executed with command line |
| SHTML | Document (plain text) | Code or text editors | Yes | * It’s an HTML file that includes server instructions * Similar to ASP file |
| EML | Email | Mail programs like Outlook | Yes | * Standard for Outlook Express * Used to store email files * Stores each message as a file |
| DBX | Email | Outlook | Yes | * Contains messages for a mailbox * Created by Outlook Express |
| PST | Message and mail | Microsoft Outlook, Exchange Client and Messaging | Yes | * Personal Storage Table * Used to store copies of messages, calendar events etc. |
| XLS | Spreadsheet | Microsoft Excel and other spreadsheet programs | Yes | * Native to Microsoft Excel * Can be opened by almost any spreadsheet program using APIs * Newer versions use xlsx |
| DOC/DOCX/DOT | Word document | Word processors | Yes | * Native to MS Word * But can be opened with other processors like Google Docs, Libre etc * Docx uses open XML format * Doc is older * Docx is smaller and easier to store * DOT extension files are templates created by MS Word to have preformatted settings for generation of doc and docx files |
| PPT/PPS | Slideshow | MS PowerPoint and any other slide show program | Yes | * PPT are PowerPoint files * PPT files are used to design slide shows * PPS files open in Slide Show mode when opened |
| PDF | Document | Any PDF viewer like Reader, Okular | Yes | * Portable Document Format * Developed by Adobe * Encapsulates a description of flat document * Contains 7-bit ASCII characters * Format is a subset of Carousel Object Structure (COS) |
| ZIP | Archive | Any compression program | Yes | * Can contain directories * Losless data compression * DEFLATE is the most commonly used algorithm * Minimum size of a zip file is 22 bytes |
| RAR | Archive | WinRAR | Yes | * Proprietary format * Supports error correction * Creates smaller files than ZIP |
| GZ | Archives | Any compression tool like PeaZip | Yes | * Created by GNU zip compression algorithm * Uses DEFLATE, a combination of LZ77 and Huffman coding |
| BZ2 | Archive | Compression tools like WinZip | Yes | * Made with open source BZIP2 compression method * Produces smaller files |
| ARJ | Archive | Tools like 7-Zip, WinRAR | Yes | * Stands for Archived by Robert Jung * Creates high-efficiency compressed files * Used to store backup of multiple files |
| WAV | Audio | Audio player | Yes | * Developed by IBM and Microsoft * Used for uncompressed as well as compressed audio |
| AVI | Audio/Video | Media Player like VLC | Yes | * Audio Video Interleave * Proprietary format by Microsoft * Derivative of Resource Interchange File Format (RIFF) |
| RAM | Audio | RealPlayer | Yes | * Contain URLs to other RealMedia files like RM files * Developed by RealMedia |
| RM | Only audio or video | RealPlayer | Yes | * Used with RAM files * Stores either only audio or video or both |
| MPG/MPEG | Audio and video | Any media player like VLC | Yes | * Most commonly used format * Used for video and audio compression |
| MOV | Audio/Video | Media players like VLC | Yes | * Developed by Apple * Acts as container vor audio, video and text |
| ASF | Audio/Video | Media player | Yes | * Developed by Microsoft * Doesn’t specify how the audio/video must be encoded, only their structure |
| MID | Audio | Media player | Yes | * Part of a standard that describes a communications protocol related to musical instruments and audio devices * Small file sizes and easy to modify * Can be modified to sound like any other instrument |

**CONCLUSION**

Thus, a sundry of file formats have been discussed above.