

CSE 4004

Digital Forensics

**Lab
Session 6**

TOPIC: Identifying file types

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Slot: L49 + L50

Date: 20-September-2021-Monday

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AIM: Exploring and identifying file types given their extensions

INSTRUCTIONS:

Forensics investigators often encounter file types that are not known to them. They have to be careful since even though a file has a particular extension it does not mean that is the true format of the file.

For the following file extensions identify the type of files e.g. image file, audio file, text file etc. and include a brief description. Neatly classify them.

Refer https://en.wikipedia.org/wiki/List_of_file_formats Do a Web search if needed.

Jpg jpeg png gif tif tiff bmp art pcx wmf emf dwg psd rtf xml html htm php3 php4 phtml shtml eml dbx pst xls doc docx dot ppt pps pdf zip rar gz bz2 arj wav avi ram rm mpg mpeg mov asf mid

Additional resources:

- 1) https://en.wikipedia.org/wiki/List_of_filename_extensions
- 2) <http://www.cryer.co.uk/file-types/>
- 3) <http://dotwhat.net>
- 4) <https://fileinfo.com>
- 5) <https://www.file-extensions.org>

PROCEDURE:

The list of file types in the website <https://www.file-extensions.org/filetypes> was used to classify the above extensions. It may be slightly different from sources to sources but the general description and the fundamental file type would be the same. Some can be classified as more than one file type depending on the situation - according to the reference link, some of the extensions were found under many categories - and they are mentioned wherever it is the case.

OBSERVATION:

N	Extension	File type	Description
1	Jpg	Bitmap image file	A JPG file is an image saved in a compressed image format standardized by the Joint Photographic Experts Group (JPEG)
2	jpeg	Bitmap image file	JPEG bitmap image is the most common image format predominantly used by digital cameras
3	png	Bitmap image file	PNG stands for “Portable Graphics Format”. It is the most frequently used uncompressed raster image format on the internet. Generally used for transparent background images
4	gif	Bitmap image file	A GIF or Graphical Interchange Format is a type of highly compressed image and it can function as a compressed animated clip consisting of a small number of frames
5	tif	Bitmap image file	Adobe Tag Image File Format, abbreviated as TIFF, or TIF, is a computer file format for storing raster graphics images that is popular among graphic artists, the publishing industry, and photographers. TIFF is widely supported by applications such as scanning, faxing, word processing, optical character recognition, image manipulation, desktop publishing, and page layout.
6	tiff	Bitmap image file	
7	bmp	Bitmap image file	The BMP file format, also known as bitmap image file, device independent bitmap (DIB) file format, and bitmap, is a raster graphics image file format used to store bitmap digital images that are independent of the display device, and is most commonly found on Microsoft Windows and OS/2 operating systems.
8	art	Bitmap image file	ART is a proprietary image file format used mostly by the America Online (AOL) service and client software. The ART format (file extension ".art") holds a single still image that has been highly compressed. The format was designed to facilitate the quick downloading of images, among other things.

N	Extension	File type	Description
9	pcx	Bitmap image file	ZSoft created this raster image format, which became one of the first bitmap image formats for the DOS/Windows platform. It supports 24-bit colour images, 8-bit grayscale and indexed colour images, and 1-bit black and white images, and it is compressed using RLE encoding.
10	wmf	Bitmap image file	Microsoft-developed proprietary Windows graphic format; contains a series of drawing operations, including commands for drawing lines, circles, and rectangles; may also include bitmap drawing operations; primarily used for vector images, but can also include raster graphics.
11	emf	Bitmap image file	Many image-editing applications recognise this Windows vector graphics format; it is essentially a 32-bit version of the original Windows Metafile Format (.WMF), which only supports 16-bit data; it saves image data in RGB format and does not support CMYK data.
12	dwg	Drawing file	It is of the AutoCAD Drawing file (DWG) Family, and is a proprietary binary file format for storing two- and three-dimensional design data and metadata DraftSight, AutoCAD, BricsCAD, IntelliCAD (and its variants), Caddie, and Open Design Alliance compliant applications all use it as their native format.
13	psd	Bitmap image file	A PSD file is an image file created by Adobe Photoshop, a professional image-editing tool commonly used to improve digital pictures and create online graphics. It is the native format for saving files in Photoshop. PSD files may contain picture layers, adjustment layers, layer masks, annotations, file information, keywords, and other Photoshop-specific components. They are frequently made and shared among graphic designers.

N	Extension	File type	Description
14	rtf	Document file	An RTF file is a popular text file type that supports ""rich text."" It provides a variety of text formatting options, such as bold type, italics, various fonts and font sizes, and custom tab settings. RTF files may also store objects and pictures, such as.JPG and.PNG files, within the text file.
15	xml	Internet related file/ Document File	An Extensible Markup Language (XML) file has the. xml file extension. These are simply plain text files with custom tags that define the structure and other aspects of the document, created by the World Wide Web Consortium (W3C) to define a syntax for encoding documents that both humans and machines could read
16	html	Internet related file	HTML stands for Hypertext Markup Language, and HTML files are commonly used to create static web pages. HTML may be used to include precise formatting and layout standards into the content of these Web pages.
17	htm	Internet related file	An HTM file is an HTML website that web browsers like Google Chrome, Microsoft Edge, and Mozilla Firefox use. It may include hyperlinks and markup language, which specifies a webpage's features and layout.
18	php3	Internet related file	Web page containing PHP 3 code; the PHP code on the page is processed by a PHP engine on the Web server, which dynamically creates HTML that is transmitted to the user's Web browser; frequently used in conjunction with a database, such as MySQL.
19	php4	Internet related file	Web page containing PHP 4 code; the PHP code on the page is processed by a PHP engine on the Web server, which dynamically creates HTML that is transmitted to the user's Web browser; frequently used in conjunction with a database, such as MySQL.

N	Extension	File type	Description
20	phtml	Internet related file	This was the standard file extension for PHP 2 programs- This page contains little (if any) data logic and the most part of it is presentation-related
21	shtml	Internet related file	Web page written in HTML with server-side includes; processed (or parsed) by the Web server before being delivered to the user's browser; can refer to other files on the server, such as ""header.shtml"" or ""_footer.shtml".
22	eml	Internet related file/ Email related data file	An EML file is a stored email message from an email client, such as Microsoft Outlook or Apple Mail. It includes the message's content as well as the topic, sender, recipient(s), and date. EML files can also include one or more email attachments, which are files that are delivered with the message.
23	dbx	Email related data file	A DBX file is a folder that Outlook Express, a Microsoft email application, creates. It is a collection of email messages for a single mailbox. DBX files are normally kept in the Documents and Settings user directory, but they may be moved to another location to backup email messages.
24	pst	Data storage file/ Document file	Personal Storage Table (.pst) is an open proprietary file format used by Microsoft applications such as Microsoft Exchange Client, Windows Messaging, and Microsoft Outlook to store copies of messages, calendar events, and other information.
25	xls	Data storage file/ Document file	An XLS file is a spreadsheet file that was generated with Microsoft Excel or another spreadsheet software, such as OpenOffice Calc or Apple Numbers. It includes one or more worksheets that store and show data in table format. Mathematical functions, charts, styles, and formatting may all be stored in XLS files.
26	doc	Document file	Microsoft Word document (prior version 2007)
27	docx	Document file	Microsoft Word Open XML document

N	Extension	File type	Description
28	dot	Document file	Microsoft Word document template (up to Microsoft Word 2003 version)
29	ppt/pptx	Document file/ Presentation file format	Microsoft PowerPoint 97 to 2003 presentation. The main difference between PPT and PPTX files is the fact that the XML version are considered “open source”. This means that it is much easier for other types of presentation programs to open files saved in the PPTX format.
30	pps	Document file/ Presentation file format	Microsoft PowerPoint 97 to 2003 complete slide show.
31	pdf	Document file	Adobe Portable document format is used to document a text file in a portable way
32	zip	Archived and compressed file	WinZIP Compressed ZIP archive
33	rar	Archived and compressed file	WinRAR RAR compressed archive
34	gz	Archived and compressed file	GZIP compressed archive
35	bz2	Archived and compressed file	bzip2 compressed file archive
36	arj	Archived and compressed file	high-efficiency compressed file archives
37	wav	Audio and sound file	WAVE PCM Sound, standard Windows sound format
38	avi	Digital video and movie file	Audio Video Interleave is a proprietary multimedia container format and Windows standard introduced by Microsoft
39	ram	Audio and sound file	Real Audio metafile is used for streaming of video and audio files
40	rm	Digital video and movie file	RealMedia multimedia
41	mpg	Digital video and movie file	MPG file is a common video file that uses a digital video format standardized by the Moving Picture Experts Group (MPEG)

N	Extension	File type	Description
42	mpeg	Digital video and movie file	MPEG movie is a video file that uses a digital video format standardised by the Moving Picture Experts Group (MPEG)
43	mov	Digital video and movie file	Apple QuickTime digital video
44	asf	Audio and sound file	Advanced Systems Format (ASF) This is an extensible file format designed primarily for storing and playing synchronised digital media streams and transmitting them over networks.
45	mid	Audio and sound file	MIDI audio (Musical Instrument Digital (MID) Interface file)