Practical –

Aim: Explain in brief RTF, TIFF, MIDI & AVI.

RTF

The Rich Text Format (often abbreviated RTF) is a proprietary[6][7][8] document file format with published specification developed by Microsoft Corporation since 1987 for Microsoft products and for cross-platform document interchange.[citation needed]

Most word processors are able to read and write some versions of RTF.[9] There are several different revisions of RTF specification and portability of files will depend on what version of RTF is being used.[7][10] RTF specifications are changed and published with major Microsoft Word and Office versions.

It should not be confused with enriched text (mimetype "text/enriched" of RFC 1896) or its predecessor Rich Text (mimetype "text/richtext" of RFC 1341 and 1521); nor with IBM's RFT-DCA (Revisable Format Text-Document Content Architecture) which are completely different specifications.

TIFF

TIFF (originally standing for Tagged Image File Format) is a file format for storing images, popular among graphic artists, the publishing industry,[1] and both amateur and professional photographers in general. As of 2009, it is under the control of Adobe Systems. Originally created by the company Aldus[2] for use with what was then called "desktop publishing", the TIFF format is widely supported by image-manipulation applications, by publishing and page layout applications, by scanning, faxing, word processing, optical character recognition and other applications.[3] Adobe Systems, which acquired Aldus, now holds the copyright to the TIFF specification. TIFF has not had a major update since 1992, though several Aldus/Adobe technical notes have been published with minor extensions to the format, and several specifications, including TIFF/EP (ISO 12234-2), TIFF/IT (ISO 12639),[4][5][6] TIFF-F (RFC 2306) and TIFF-FX (RFC 3949)[7] have been based on the TIFF 6.0 specification.

MIDI

MIDI (play /ˈmɪdi/; short for Musical Instrument Digital Interface) is an electronic musical instrument industry specification that enables a wide variety of digital musical instruments, computers and other related devices to connect and communicate with one another.[1] It is a set of standard commands that allows electronic musical instruments, performance controllers, computers and related devices to communicate, as well as a hardware standard that guarantees compatibility between them. MIDI equipment captures note events and adjustments to controls such as knobs and buttons, encodes them as digital messages, and sends these messages to other devices where they control sound generation and other features. This data can be recorded into a hardware or software device called a sequencer, which can be used to edit the data and to play it back at a later time.[2]:4 MIDI carries note event messages that specify notation, pitch and velocity, control signals for parameters such as volume, vibrato, audio panning and cues, and clock signals that set and synchronize tempo between multiple devices. A single MIDI link can carry up to sixteen channels of information, each of which can be routed to a separate device. The 1983 introduction of the MIDI protocol revolutionized the music industry.[2]:7-8

MIDI technology was standardized by a panel of music industry representatives, and is maintained by the MIDI Manufacturers Association (MMA). All official MIDI standards are jointly developed and published by the MMA in Los Angeles, California, USA, and for Japan, the MIDI Committee of the Association of Musical Electronics Industry (AMEI) in Tokyo.

AVI

Audio Video Interleaved (also Audio Video Interleave), known by its initials AVI, is a multimedia container format introduced by Microsoft in November 1992 as part of its Video for Windows technology. AVI files can contain both audio and video data in a file container that allows synchronous audio-with-video playback. Like the DVD video format, AVI files support multiple streaming audio and video, although these features are seldom used. Most AVI files also use the file format extensions developed by the Matrox OpenDML group in February 1996. These files are supported by Microsoft, and are unofficially called "AVI 2.0".

Format

AVI is a derivative of the Resource Interchange File Format (RIFF), which divides a file's data into blocks, or "chunks." Each "chunk" is identified by a FourCC tag. An AVI file takes the form of a single chunk in a RIFF formatted file, which is then subdivided into two mandatory "chunks" and one optional "chunk".

The first sub-chunk is identified by the "hdrl" tag. This sub-chunk is the file header and contains metadata about the video, such as its width, height and frame rate. The second sub-chunk is identified by the "movi" tag. This chunk contains the actual audio/visual data that make up the AVI movie. The third optional sub-chunk is identified by the "idx1" tag which indexes the offsets of the data chunks within the file.

By way of the RIFF format, the audio-visual data contained in the "movi" chunk can be encoded or decoded by software called a codec, which is an abbreviation for (en)coder/decoder. Upon creation of the file, the codec translates between raw data and the (compressed) data format used inside the chunk. An AVI file may carry audio/visual data inside the chunks in virtually any compression scheme, including Full Frame (Uncompressed), Intel Real Time (Indeo), Cinepak, Motion JPEG, Editable MPEG, VDOWave, ClearVideo / RealVideo, QPEG, and MPEG-4 Video.

Metadata

As a derivative of the Resource Interchange File Format (RIFF), AVI files are commonly tagged with metadata in the INFO chunk. In addition, AVI files can embed Extensible Metadata Platform (XMP). By design, any RIFF file can legally include additional chunks of data, each identified by a four-character code; software which does not understand that particular code should skip the chunk. As such, it is theoretically possible to expand any RIFF file format, including AVI, to support almost any conceivable metadata. Some of the limitations of AVI in modern use relate to a lack of standardization in this metadata (see Limitations below).