

File-OS

// Metadata

Name	File-OS
Keywords	Regular file, Special file, Text file, XML file, Binary file, PDF file, JPEG file, Medical image file, Compressed file
Creation date	September 23 th , 2008
Has contributor	Frédéric Fürst, Gilles Kassel, Pascal Lando, Anne Lapujade
Used ontology engineering methodology	OntoSpec
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Has ontology language	OntoSpec
Has formality level	Semi-informal
Ressource locator	http://www.laria.u-picardie.fr/IC/site/IMG/pdf/File-OS.pdf
Version	1.0
Number of concepts (classes)	30
Number of relations (properties)	2

// Relations

Is located by

Properties

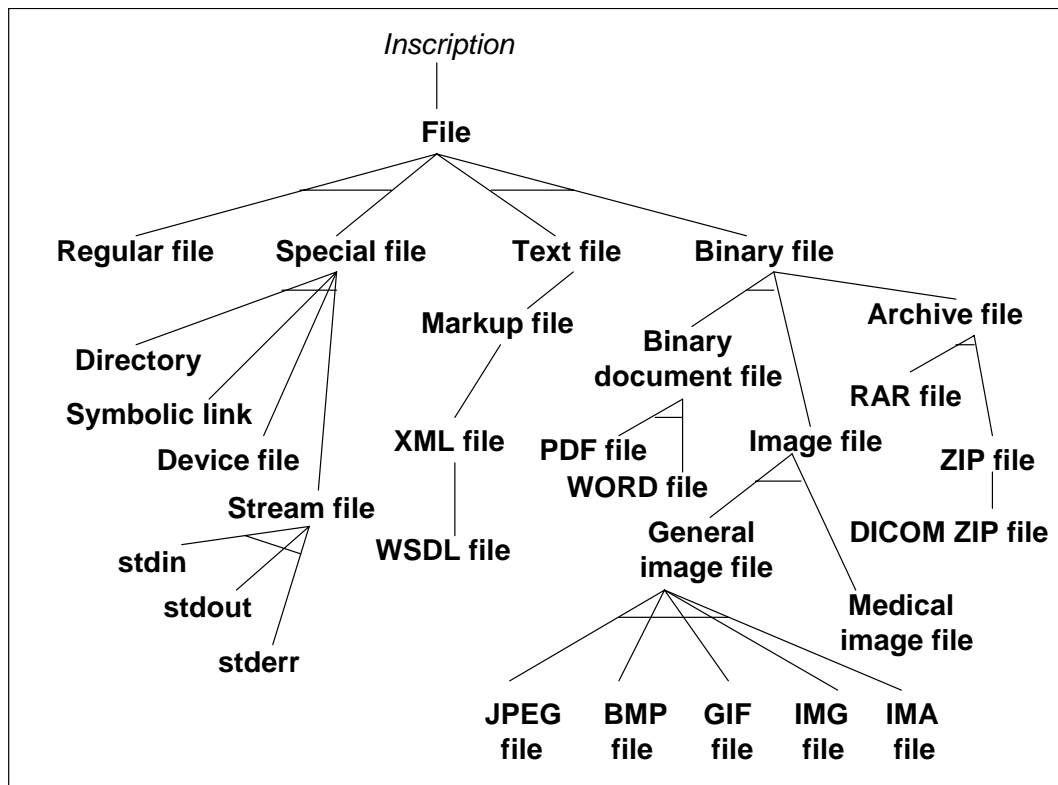
[EP/DR & RR] A FILE *is located by* a RESOURCE LOCATION DESCRIPTION FORMAT EXPRESSION. [EP/IVL] *Is located by* mutually implies *locates*.

Is the compression of

Properties

[EP/DR & RR] An ARCHIVE FILE *is the compression of* a FILE.

// Concepts



File

Meta-properties

FILE is RIGID (+**R**). FILE is EXTERNALLY-DEPENDENT (+**D**). REGULAR FILE and SPECIAL FILE is a non-trivial partition of FILE. TEXT FILE and BINARY FILE is a non-trivial partition of FILE.

Properties

[EP/SL] A FILE is an INSCRIPTION. [EP/ER] Every FILE is located by a RESOURCE LOCATION DESCRIPTION EXPRESSION. [EP/ER] Every FILE is referred to by exactly one DIRECTORY.

Comment

[DEF & CIT] Article “Computer File” of Wikipedia: “A computer file is a block of arbitrary information, or resource for storing information, which is available to a computer program and is usually based on some kind of durable storage. A file is durable in the sense that it remains available for programs to use after the current program has finished. Computer files can be considered as the modern counterpart of paper documents which traditionally were kept in offices' and libraries' files, which are the source of the term.”

Regular file

Meta-properties

REGULAR FILE is RIGID (+**R**). REGULAR FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SL] A REGULAR FILE is a FILE.

Comment

[DEF & CIT] Article “Regular File” of Wikipedia: “A regular file is a file that is an ordinary file containing zero or more bytes of data.”

Special file, System file

Meta-properties

SPECIAL FILE is RIGID (+**R**). SPECIAL FILE is EXTERNALLY-DEPENDENT (+**D**). DIRECTORY, SYMBOLIC LINK, DEVICE FILE and STREAM FILE *is a disjunctive sub-division of* SPECIAL FILE.

Properties

[EP/SL] A SPECIAL FILE, or SYSTEM FILE, is a FILE.

Comment

[DEF] A SPECIAL FILE is a FILE which is used by an operating system for specific usages.

Directory, Catalog, Folder

Meta-properties

DIRECTORY is RIGID (+**R**). DIRECTORY is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SL] A DIRECTORY, or CATALOG, or also FOLDER, is a SPECIAL FILE.

Comment

[DEF & CIT] Article “Directory” of Wikipedia: “In computing, a directory, catalog, folder or drawer is an entity in a file system which contains a group of files and/or other directories. A typical file system may contain thousands (or even hundreds of thousands) of directories. Files are kept organized by storing related files in the same directory. A directory contained inside another directory is called a subdirectory of that directory.”

Symbolic Link, Alias, Soft link

Meta-properties

ALIAS is RIGID (+**R**). ALIAS is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SL] A SYMBOLIC LINK, or ALIAS, or also SOFT LINK, is a SPECIAL FILE.

[EP/ER] Every SYMBOLIC LINK *refers to* exactly one FILE.

Comment

[DEF & CIT] Article “Symbolic Link” of Wikipedia: “In computing, a symbolic link (also symlink or soft link) is a special type of file that contains a reference to another file or directory in form of an absolute or relative path and that affects pathname resolution.”

Device File

Meta-properties

DEVICE FILE is RIGID (+**R**). DEVICE FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SL] A DEVICE FILE is a SPECIAL FILE.

Comment

[DEF & CIT] Article “Device File” of Wikipedia: “A device file or special file is an interface for a device driver that appears in a file system as if it were an ordinary file. This allows software to interact with the device driver using standard input/output system calls, which simplifies many tasks.”

Stream file

Meta-properties

STREAM FILE is RIGID (+**R**). STREAM FILE is EXTERNALLY-DEPENDENT (+**D**).
STDIN, STDOUT and STDERR *is a disjunctive sub-division of* STREAM FILE.

Properties

[EP/SL] A STREAM FILE is a SPECIAL FILE.

Stdin, Standard input

Meta-properties

STDIN is RIGID (+**R**). STDIN is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SL] A STDIN is a STREAM FILE.

Comment

[DEF & CIT] Article “Standard Streams” of Wikipedia: A STANDARD INPUT FILE is a special data file (often text) going into a program.

Stdout, Standard output

Meta-properties

STDOUT is RIGID (+**R**). STDOUT is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SL] A STDOUT is a STREAM FILE.

Comment

[DEF & CIT] Article “Standard Streams” of Wikipedia: A STANDARD OUTPUT FILE is the stream where a program writes its output data.

Stderr, Standard error

Meta-properties

STDERR is RIGID (+**R**). STDERR is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SL] A STDERR is a STREAM FILE.

Comment

[DEF & CIT] Article “Standard Streams” of Wikipedia: A STANDARD ERROR FILE is an output stream typically used by programs to output error messages or diagnostics. It is a stream independent of standard output and can be redirected separately.

Text File

Meta-properties

TEXT FILE is RIGID (+**R**). TEXT FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SL] A TEXT FILE is a FILE.

Comment

[CIT] Article “Text File” of Wikipedia: “Text files are sequences of readable characters such as letters, digits, punctuation, or white space; and control characters such as section boundaries, rendering instructions for different languages, line feeds and carriage returns.”

Markup file

Meta-properties

MARKUP FILE is RIGID (+**R**). MARKUP FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SLD] A MARKUP FILE is a TEXT FILE which *realizes* a MARKUP LANGUAGE EXPRESSION *at* a TIME INTERVAL.

XML file

Meta-properties

XML FILE is RIGID (+**R**). XML FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SLD] A XML FILE is a MARKUP FILE which *realizes* an XML EXPRESSION *at* a TIME INTERVAL.

WSDL file

Meta-properties

WSDL FILE is RIGID (+**R**). WSDL FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SLD] A WSDL FILE is a XML FILE which *realizes* a WSDL DESCRIPTION *at* a TIME INTERVAL.

Binary File

Meta-properties

BINARY FILE is RIGID (+**R**). BINARY FILE is EXTERNALLY-DEPENDENT (+**D**). BINARY DOCUMENT FILE and IMAGE FILE *is a disjunctive sub-division of* BINARY FILE.

Properties

[EP/SL] A BINARY FILE is a FILE.

Comment

[DEF & CIT] Article “Binary File” of Wikipedia: “A binary file is a computer file which may contain any type of data, encoded in binary form for computer storage and processing purposes.”

Archive File

Meta-properties

ARCHIVE FILE is RIGID (+**R**). ARCHIVE FILE is EXTERNALLY-DEPENDENT (+**D**). RAR FILE and ZIP FILE *is a disjunctive sub-division of* ARCHIVE FILE.

Properties

[EP/SLD] An ARCHIVE FILE is a BINARY FILE which *is the result of* a FILE ARCHIVING *at* a TIME INTERVAL. [EP/ER] Every ARCHIVE FILE *realizes* exactly one ARCHIVE FORMAT EXPRESSION *at* a TIME INTERVAL. [EP/ER] Every ARCHIVE FILE *is the compression of* at least one FILE.

Comment

[DEF & CIT] Article “Archive File” of Wikipedia: “An archive file is a file that is composed of one or more files along with metadata that can include source volume and medium information, file directory structure, error detection and recovery information, file comments, and usually employs some form of lossless compression.”

ZIP file

Meta-properties

ZIP FILE is RIGID (+**R**). ZIP FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SLD] A ZIP FILE is an ARCHIVE FILE that *realizes* a ZIP EXPRESSION *at* a TIME INTERVAL.

Comment

[DEF & CIT] Article “ZIP File Format” of Wikipedia: “The ZIP file format is a lossless data compression and archival format. A ZIP file contains one or more files that have been compressed, to reduce their file size, or stored as-is.”

DICOM ZIP file

Meta-properties

DICOM ZIP FILE is RIGID (+**R**). DICOM ZIP FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SLD] A DICOM ZIP FILE is a ZIP FILE that *realizes* a DICOM EXPRESSION *at* a TIME INTERVAL.

RAR file

Meta-properties

RAR FILE is RIGID (+**R**). RAR FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SLD] A RAR FILE is an ARCHIVE FILE that *realizes* a RAR EXPRESSION *at* a TIME INTERVAL.

Binary document file

Meta-properties

BINARY DOCUMENT FILE is RIGID (+**R**). BINARY DOCUMENT FILE is EXTERNALLY-DEPENDENT (+**D**). PDF FILE and WORD FILE *is a disjunctive sub-division of* BINARY DOCUMENT FILE.

Properties

[EP/SLD] A BINARY DOCUMENT FILE is a BINARY FILE that *realizes* a DOCUMENT DESCRIPTION LANGUAGE EXPRESSION *at* a TIME INTERVAL.

PDF file

Meta-properties

PDF FILE is RIGID (+**R**). PDF FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SLD] A PDF FILE is a BINARY DOCUMENT FILE that *realizes* a PDF EXPRESSION *at* a TIME INTERVAL.

WORD file

Meta-properties

WORD FILE is RIGID (+**R**). WORD FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SLD] A WORD FILE is a BINARY DOCUMENT FILE that *realizes* a WORD EXPRESSION *at* a TIME INTERVAL.

Image File

Meta-properties

IMAGE FILE is RIGID (+**R**). IMAGE FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SLD] An IMAGE FILE is a BINARY FILE that *realizes* an IMAGE DESCRIPTION LANGUAGE EXPRESSION *at* a TIME INTERVAL.

General image file

Meta-properties

GENERAL IMAGE FILE is RIGID (+**R**). GENERAL IMAGE FILE is EXTERNALLY-DEPENDENT (+**D**). JPEG FILE, GIF FILE, BMP FILE, IMG FILE, and IMA FILE *is a disjunctive sub-division of* GENERAL IMAGE FILE.

Properties

[EP/SLD] A GENERAL IMAGE FILE is a BINARY FILE that *realizes* A GENERAL IMAGE DESCRIPTION LANGUAGE EXPRESSION *at* a TIME INTERVAL.

JPEG file

Meta-properties

JPEG FILE is RIGID (+**R**). JPEG FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SLD] A JPEG FILE is a GENERAL IMAGE FILE that *realizes* a JPEG EXPRESSION *at* a TIME INTERVAL.

GIF file

Meta-properties

GIF FILE is RIGID (+**R**). GIF FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SLD] A GIF FILE is a GENERAL IMAGE FILE that *realizes* a GIF EXPRESSION *at* a TIME INTERVAL.

BMP file

Meta-properties

BMP FILE is RIGID (+**R**). BMP FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SLD] A BMP FILE is a GENERAL IMAGE FILE that *realizes* a BMP EXPRESSION *at* a TIME INTERVAL.

IMG file

Meta-properties

IMG FILE is RIGID (+**R**). IMG FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SLD] An IMG FILE is a GENERAL IMAGE FILE that *realizes* an IMG EXPRESSION *at* a TIME INTERVAL.

IMA file

Meta-properties

IMA FILE is RIGID (+**R**). IMA FILE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SLD] An IMA FILE is a GENERAL IMAGE FILE that *realizes* an IMA EXPRESSION *at* a TIME INTERVAL.

Medical image file

Meta-properties

MEDICAL IMAGE FILE is RIGID (+**R**). MEDICAL IMAGE FILE is EXTERNALLY-DEPENDENT (+**D**). ANALYZE HEADER FILE, DICOM FILE, GIS HEADER FILE, NIfTI HEADER FILE, NII FILE and INRIMAGE FILE *is a disjunctive sub-division of* MEDICAL IMAGE FILE.

Properties

[EP/SLD] A MEDICAL IMAGE FILE is a BINARY FILE that *realizes* A MEDICAL IMAGE DESCRIPTION LANGUAGE EXPRESSION *at* a TIME INTERVAL.