Significant Properties

Content

Further information

Technical Metadata

Significant properties

Definition of significant properties

TIB understands significant properties to be properties of a homogenous group of objects that have to be preserved, taking into account the resources available, in order to preserve the object in the most authentic state possible, irrespective of format. This reflects the objective of the digital archive of securing the long-term accessibility of objects.

The Digital Preservation team derives the designated communities' requirements concerning digital preservation and the significant properties from the main use scenario and the designated community requirements for three exemplarily object groups.

A differentiation is made between technical significant properties and organisational significant properties.

- Technical significant properties are defined in Rosetta Format Library, and can be extracted. Format Library is a module of the Rosetta digital preservation software; the module is being refined by the Format Library Working Group, comprising employees of institutions that use Rosetta. Since technical significant properties are defined on the basis of extracted technical metadata, the conversion is dependent on the availability of appropriate metadata extractors for the file formats and on the existence of the relevant metadata in the files. The pool of technical significant properties represents as best as possible the current structural, functional and conceptual characteristics of digital objects.
- Organisational significant properties are general requirements applying to preservation processes; these can only be checked manually. They can be defined as alternative evaluation criteria in the preservation planning process.

At present, TIB writes all extractable technical metadata as significant properties. All significant properties are indexed, and can be used as search parameters in the event of queries. It is assumed that access requirements will change over time, and significant properties may not be defined in advance with regard to a particular target format or a particular preservation strategy.

Static text documents

Designated community requirement	Conversion based on significant property / requirement governing preservation	Organisational	Technical
Availability and simple access	Standardised, open format	x	
	Common format within the community	x	
Citability	Is covered by means of access platforms	x	
	Accompanying metadata	x	
Trustworthiness of objects as a scientific source	Logging of all modifications in the accompanying metadata	x	
Preservation of representation	Preservation of representation	x	
Content elements (text)	Embedded fonts		x
	Text stream length (number of characters)		x
Content elements (tables, images)	Number and position of content elements (text, tables, images, …)		x
Colour	Colour space		x
Number of pages and page layout	Number of pages, page size and orientation		x
No loss of quality	No lossy compression		x
	Choice of an appropriate target format / emulation environment	x	
Portability and platform-independent representation	Choice of an appropriate presentation format in consultation with the access platform	x	

Image files

Designated community requirement	Conversion based on significant property / requirement governing preservation	Organisational	Technical
Availability and simple access	Standardised, open format	x	
	Common format within the community	x	
Citability	Is covered by means of access platforms	x	
	Accompanying metadata	x	
Trustworthiness of objects as a scientific source	Logging of all modifications in the accompanying metadata	x	
Preservation of the representation		x	
Length and width	Length x, width y		x
Quality	Resolution		x
	Bit depth		x
Colour	Colour space		x
No loss of quality	No lossy compression		x
	Choice of an appropriate target format / emulation environment	x	
Portability and platform-independent representation	Choice of an appropriate presentation format	x	

Audio files

Designated community requirement	Conversion based on significant property / requirement governing preservation	Organisational	Technical
Availability and simple access	Standardised, open format	x	
	Common format within the community	x	
Citability	Is covered by means of access platforms	x	
	Accompanying metadata	x	
Trustworthiness of objects as a scientific source	Logging of all modifications in the accompanying metadata	x	
Preservation of acoustic representation		x	
Duration	Length in HH:MM:SS		x
Quality	Bit depth		x
	Bit rate		x
	Bitrate – Mode (constant / variable)		x
Mono/stereo/surround	Number of channels		x
No loss of quality	No lossy compression		x
	Choice of an appropriate target format / emulation environment	x	
Portability and platform-independent representation	Choice of an appropriate presentation format	x	

Video files

Designated community requirement	Conversion based on significant property / requirement governing preservation	Organisational	Technical

Availability and simple access	Standardised, open format	x	
	Common format within the community	x	
Citability	Is covered by means of access platforms	x	
	Accompanying metadata	x	
Trustworthiness of objects as a scientific source	Logging of all modifications in the accompanying metadata	x	
Preservation of all separate streams	Number and order of videostreams, audiostreams, datastreams	x	
	Descriptive metadata like language version, title		x
Preservation of the visual appearance			x
duration	duration in HH:MM:SS.fff		x
Heigth and width	heights x, width y		x
	Display Aspect Ratio		x
	Pixel Aspect Ratio		x
quality	Bitdepth		x
	framerate		x
Rendering	Standard (NTSC/PAL)		x
	ScanType (progressive, interlaced)		x
	ScanOrder (Top Field First, Bottom Field First)		x
Colour	Colour Space		x
	ChromaSubsampling		x
	Colour Range		x
	Colour Transfer		x
	Colour Primaries		x
	Chroma Location		x
Preservation of the audible appearance	See: Significant Properties of Audio Files		x
Preservation of all data streams			x
Subtitles	Subtitles		x
	Closed Captions		x
TimeCode	TimeCode		x
	Other data streams (e.g. menus, text,…)		x
No loss of quality	No lossy compression		x
	Choice of an appropriate target format / emulation environment	x	
Portability and platform-independent representation	Choice of an appropriate presentation format	x	