Accessibility Metadata

Making Accessible Content in Repositories Discoverable

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The 20th Munin Conference on Scholarly Publishing, 18–20 November 2025 in Tromsø
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Introduction: Accessibility in Repositories

Accessibility in Repositories

In order for a repository to be accessible and usable for everyone,
certain aspects of accessibility are essential:

- **User interface and core features:**
  navigation, search, upload, online retrieval, download

- **Backend:**
  a repository should also be accessible for staff members to operate

- **Content:**
  digital objects, in whatever format they appear, should be designed to be as accessible as possible

- **Metadata:**
  information on accessibility features of individual digital objects should be provided

Labeling Accessible Content

Accessible by Default?

Position | 11/2025

Good Opportunity for Reform

Implementation of the EU Anti-trafficking Directive in Germany

Germany has until mid-2026 to implement the revised EU Anti-trafficking Directive and introduce the corresponding amendments to its criminal law. This creates an opportunity for additional action to remedy the long-standing deficits in German criminal law in...
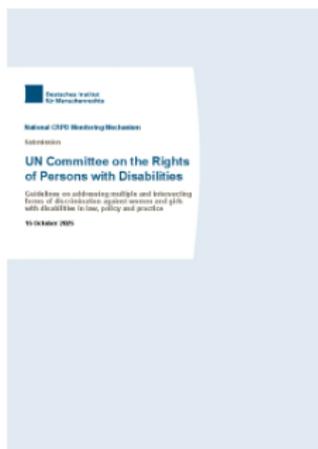
Download PDF ⭳

Not barrier free → **Not barrier free**

Other publications | 10/2025

UN Committee on the Rights of Persons with Disabilities

Guidelines on addressing multiple and intersecting forms of discrimination against women and girls with disabilities in law, policy and practice

The German Institute for Human Rights submitted a contribution to the UN Committee on the Rights of Persons with Disabilities in response to the call for input on the draft guidelines on addressing multiple and intersectional forms of discrimination against...

Download PDF ⭳

Example 1: Publications of the German Institute for Human Rights

• publications are accessible by default

• a corresponding note is provided if this is not the case

https://www.institut-fuer-menschenrechte.de/en/publications
(*accessed on 10 November 2025*)

Accessible by Default? – Collections of Accessible Materials

Literature service for blind and visually impaired people

The literature service for blind and visually impaired people is a service provided by the Vienna University Library as an infrastructure for its users. It aims at improving inclusion and facilitating access to literature.

The Library converts its print material and electronic resources to Word or PDF files. As a result, a document that was originally only available in the form of a book can be

- read using Braille displays;
- displayed on a monitor in a magnified or high-contrast version;
- or read via screen reader.

The amount of time needed to process your request depends on the availability of the source material and the number of requests made at the same time. The texts will be processed according to a standardised procedure, but we can meet individual requirements if necessary.

■ Our holdings of accessible literature ↗

To use this service, a library ID (u.card) and the acceptance of the terms of use of the literature service are required.

Example 2:
Vienna University Library,
holdings of accessible literature

https://bibliothek.univie.ac.at/en/literaturservice.html
(accessed on 10 November 2025)

Accessible by Default? – Collections of Accessible Materials

Sehkon - Catalog for the Visually Impaired Online

Suchbegriff

Information about the Sehkon

The Catalog for the Visually Impaired Online (Sehkon) is a directory of media for the visually impaired with citable converted literature in German-speaking countries. It currently has over 14,000 references. Sehkon also lists planned conversions so that costly duplicate productions can be avoided.

You can research directly in the Sehkon yourself or we can do the research for you and tell you how and where you can get your desired literature.

Example 3: Sehkon –
Catalog for the Visually Impaired Online

Sehkon – Catalog for the Visually Impaired Online
(accessed on 10 November 2025)

Accessible by Default? – Collections of Accessible Materials

Helen Keller Archive

A fully accessible digital collection from the American Foundation for the Blind

Example 4: Helen Keller Archive
- various resource types have been made accessible
- measures taken for different types of resources are summarized in the Accessibility Statement ("Accessible Content Means")

Helen Keller Archive – Accessibility Statement (excerpt)
(accessed on 10 November 2025)

Accessible Content Means:

- We used optical character recognition (OCR) to create an initial transcript of thousands of Helen Keller's papers — letters, draft speeches, receipts, and more.
- A massive volunteer effort helped correct the errors that inevitably occur during OCR — and is still an ongoing effort!
- We also are working hard, with both volunteer and professional help, transcribing all the handwritten and braille documents OCR technology can't handle.
- Trained staff created detailed descriptions of every photo to make the visual contents of the archive searchable, and accessible to people with visual impairments.
- We are very lucky to have films of Helen Keller in the archive, and to make those accessible for all users we created digital videos that are captioned, transcribed, and audio-described.
  - **Captioning** makes the audio content accessible to users who are deaf or hard-of-hearing, or simply in a setting where it's hard to hear. Everything that is said aloud in a video is also displayed as text onscreen.
  - **Video description** is similar to captioning, but for blind people — it is an additional audio track that provides an audible description of what is happening visually. Try listening to a video without watching it. Does it still make sense? What information is missing, that was only conveyed visually? That's what needs to be audio-described.
    Here's how it works: someone watches the video and writes short verbal descriptions of the action or other key visual information such as the setting, costumes, and facial expressions. A narrator then records those descriptions, and an editor inserts the audio descriptions into pauses within a program's dialogue. (Sometimes it is easier to insert the descriptions at the very beginning or very end of a shorter video.) You can learn more at afb.org/videodescription.
  - **Transcripts** help everyone — they are important not only for searchability, but also accessibility. A person who is deafblind could navigate the Helen Keller Archive and access all of the information in photos and videos by using a refreshable braille display to read the transcripts in dynamic braille output.

Collections of Accessible Materials

- All materials are created following established accessibility procedures

- Accessibility measures are described only once for the entire collection

- No metadata describing the accessibility features of individual documents

But what if not all materials meet the same accessibility standards?

What Is Accessible?

What information applies and how can it be displayed?

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Case: Easy-to-Read materials display

Example 1: Stockholm Public Library
- "Easy-to-Read" under "*Subject*"

Sverige en lättläst faktabok

📖 Bok

Övriga upphovspersoner: Bengt Fredrikson
Utgiven: 2013, 8 sidor
Målgrupp: För vuxna
Språk: Svenska
Ämne: 2000-talet, Lättläst, Sverige
Antal sidor: 130 s.
Illustrationer: Ja
ISBN: 9789163738654, 9163738651
Klassifikation: Nc

Stockholms stadsbibliotek, metadata of a book
(*accessed on 10 November 2025*)

Example 2: LIBRIS – the Swedish libraries search service
- "Easy-to-Read" or "Easy-to-Read books" under "*Genre*"

Genre
Lättläst (saogf)
Science fiction (saogf)
Lättlästa böcker (barngf)

LIBRIS, excerpt from the metadata of a book
(*accessed on 10 November 2025*)

Example 3: Publications of the German Institute for Human Rights
- "Easy Read" and "Plain Language" under the "*Languages*" menu

Sprache

Bitte wählen ⌃

☐ Alle

☐ Leichte Sprache

☐ Einfache Sprache

☐ Deutsch

☐ Englisch

Search within the publications of the German Institute for Human Rights
(*accessed on 10 November 2025*)

Example 4: Legimus
- filter option in the advanced search: "Show only Easy-to-Read"

☐ Kurslitteratur

☐ Visa bara lättläst

☐ Dölj böcker som är under produktion

Advanced search in Legimus (excerpt)
(*accessed on 10 November 2025*)

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What Is Accessible?

What information applies and how can it be displayed?

Example 5: Stockholm Public Library
- accessibility-related information under „Format"

Format ^   Språk ˅   Bibliotek

- ☐ Bok (491 182)
  - ☐ Lättläst (4 063)
  - ☐ Storstil (2 349)
  - ☐ Punktskrift (67)
- ☐ Musik, CD, vinyl (30 653)
- ☐ Tidning, tidskrift (18 898)
- ☐ Talbok, DAISY (11 630)
  - ☐ Talbok, DAISY och text (2 267)
- ☐ Film, DVD och VHS (7 711)
- ☐ Ljudbok, CD och mp3 (6 094)
- ☐ Kombinerat material (2 819)
- ☐ Tv/dataspel (441)
- ☐ Annat (150)
- ☐ Multimedia (126)
- ☐ Föremål (80)

Stockholms stadsbibliotek, filtering options under "Format" (*accessed on 10 November 2025*)

Case: Display of diverse accessibility facets under "Format"

Example 6: Aurora – Search Bibliothèque et Archives Canada / Library and Archives Canada and beyond
- accessibility-related information under "Format"

Filter by

☐ Open access

Format

All   ^

- ☐ Book
  - ☐ Braille
  - ☐ Continually updated resource
  - ☐ eBook
  - ☐ Large print
  - ☐ Microform
  - ☐ Manuscript
  - ☐ Print book
  - ☐ Thesis, dissertation

Aurora, filtering options under "Format" (excerpt) (*accessed on 10 November 2025*)

What is Accessible?

What information applies and how can it be displayed?

Accessibility Information ⌄

Audio Description (266)

Braille (494)

Captions (4,254)

English Subtitles (2,883)

Large Print (73)

Sign Language (21)

Subtitles for the deaf and hard of hearing (633)

Tactile Material (1)

Transcript (2)

Case: Section "Accessibility Information" bringing together all accessibility features

Example 7: Maureen and Mike Mansfield Library (University of Montana)

• information on accessibility is available in a separate filter option

• targeted search for audio description, braille, captions, English subtitles, large print, sign language, subtitles for the deaf and hard of hearing, tactile material, transcript

Sort by Relevance ▾

Availability ⌄
Resource Type ⌄
Select Libraries ⌄
Location ⌄
Accessibility Information ⌄
Publication Date ⌄
Subject ⌄
Online Collections ⌄
Author/Contributor ⌄
Journal Title ⌄
Language ⌄
Awards Note ⌄
Donor ⌄
External Search ⌃

https://www.umt.edu/library/ (*accessed on 10 November 2025*)

What Is Accessible?

What information applies and how can it be displayed?

Filters

| Reset all filters |

Certified Accessible:
- ☐ Yes (4248)

Filter by Accessibility:
- ☐ Described images (1152)
- ☐ Described math (14)
- ☐ Customizable display (1392)
- ☐ Print page numbers (846)
- ☐ Heading navigation (5167)

Show more

Filter by Format:
- ☐ MP3 (10114)
- ☐ EPUB 2 (9617)
- ☐ DAISY 202 - Audio (8897)
- ☐ EPUB 3 (3798)
- ☐ PDF (610)
- ☐ DOC (479)
- ☐ DAISY 202 - Full Text and Audio (371)
- ☐ EPUB 3 - Fixed-Layout (210)
- ☐ BRF - Electronic Braille (191)
- ☐ EPUB 3 - Full Text and Audio (130)
- ☐ RTF (128)
- ☐ DAISY 3 - Full Text and Audio (95)
- ☐ Hardcopy Braille (74)
- ☐ Print Braille (22)
- ☐ AZW3 (19)
- ☐ DAISY 3 - Audio (6)
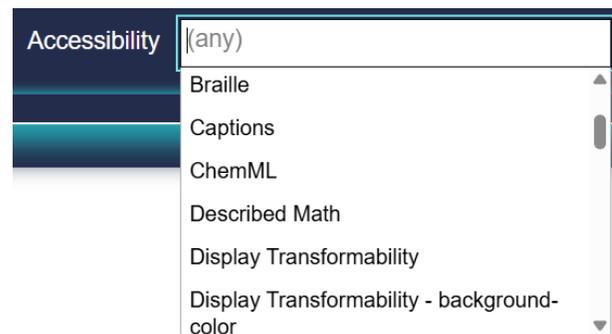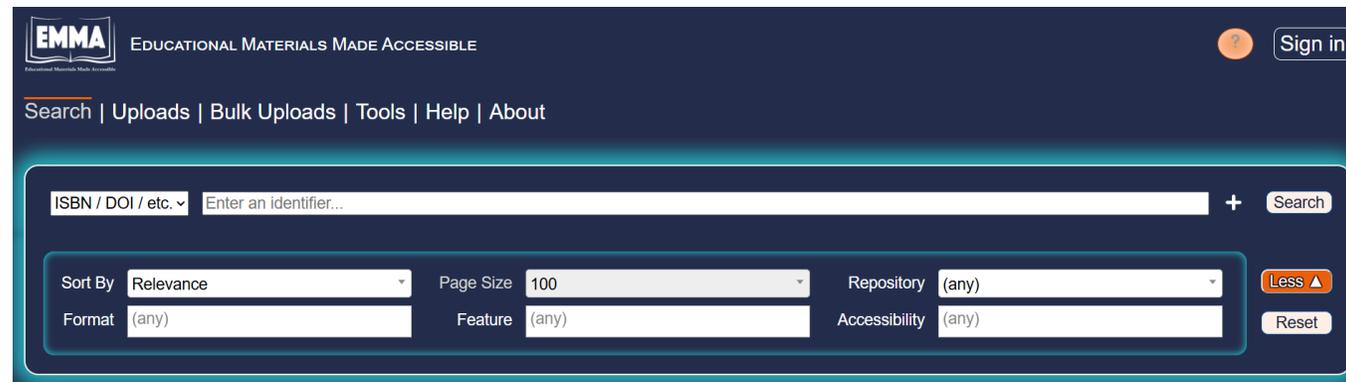- ☐ DAISY 3 - Full Text (2)
- ☐ DAISY 202 - Full Text (2)

NNELS **National Network for Equitable Library Service**
The Canadian Accessible Library System

Example 8: NNELS – National Network for Equitable Library Service
- owned and sustained by Canadian public libraries
- multiple accessibility categories and parameters can be filtered

EMMA — EDUCATIONAL MATERIALS MADE ACCESSIBLE   Sign in

Search | Uploads | Bulk Uploads | Tools | Help | About

ISBN / DOI / etc. ⌄   Enter an identifier...   +   Search

Sort By Relevance   Page Size 100   Repository (any)   Less ▲
Format   (any)   Feature   (any)   Accessibility (any)   Reset

Accessibility   (any)
- Braille
- Captions
- ChemML
- Described Math
- Display Transformability
- Display Transformability - background-color

Example 9: EMMA – Educational Materials Made Accessible
- search across 5 repositories or libraries in the USA
- Accessibility information under "Format", "Feature" und "Accessibility" (39 accessibility features)

https://emma.lib.virginia.edu/search (*accessed on 23 March 2025*)

https://nnels.ca/ (*accessed on 10 November 2025*)

Display of Accessibility Information in Practice

- The granularity of accessibility information can vary

- Accessibility-related information can be included under different categories (e.g., format, genre, subject, language) or assigned its own dedicated category

- Filtering options can be provided

Accessibility has many facets…

Accessibility has many facets

The provided information on the accessibility of digital objects should be able to answer various questions, e.g.:

- Is it possible to adjust the display of text content, such as font, font size, and spacing?
- Does the resource contain information delivered in audio form?
- Can the resource be fully operated using only keyboard input?
- Are special options available to improve readability for readers with dyslexia?
- Is alternative text provided for visual content?
- Are synchronized subtitles available for audio and video content?
- Does the resource contain any flashing elements that could negatively affect light-sensitive users?
- Are there any potentially disturbing sounds?
- Is the chemical information encoded using the ChemML markup language?
- Is the PDF document tagged?
- Does the resource conform to WCAG requirements (Level A, Level AA, or Level AAA)?
- …

Accessibility Metadata

What is „accessibility metadata"?

> "Accessibility metadata" is metadata that provides information about the accessibility features of a resource.

Users should

- be provided with sufficient information about the accessibility features of an object
- be able to search specifically for objects that meet their individual needs

A key challenge is to ensure that the exchange of information about the accessibility features of an object functions smoothly among all stakeholders.

Authors   Bookshops   Libraries   Search engines

Publishers   Aggregators   Repositories   Users

Metadata Standards

- MARC21 (**Ma**chine-**R**eadable **C**ataloging) → *libraries*

- ONIX (**On**line **I**nformation E**x**change) → *publishing supply chain*

- Schema.org → *web*

MARC21

- New metadata fields for accessibility (since 2018):
  - 341 – Accessibility Content: information about modes of access to the content of a resource, including its primary mode of access and alternative mode(s) of access or accessibility features
  - 532 – Accessibility Note: textual information describing the accessibility features, hazards, and deficiencies of a resource, including technical details relating to accessibility features

- Other relevant metadata fields:
  - 041 – Language Code
  - 506 – Restrictions on Access Note
  - 521 – Target Audience Note
  - 530 – Additional Physical Form Available Note
  - 546 – Language Note
  - 655 – Index Term – Genre/Form
  - ...

ONIX

- ONIX (**O**nline **I**nformation E**x**change)
  - the XML-based standard
  - internationally widespread in the publishing and book trade sector
  - developed by EDItEUR

- Information on accessibility:
  - Codelist 81 "Product Content Type"
  - Codelist 196 "E-publication Accessibility Details"
  - Other relevant code lists: 21, 143, 144, 150, 175, 198, 220

- Information on the possibilities of ONIX metadata for recording a book's accessibility, along with usage guidelines: ONIX for Books: Product information message

Liste	Code	Bezeichnung	?
196		E-publication Accessibility Details… Used with <ProductFormFeatureValue> <b335> See List 79	*
196	00	Accessibility summary <ProductFormFeatureDescription> contains a short explanatory summary of the accessibility of the product, or the URL of a web page comprising such a summary, consistent with the more specific conformance, feature and certification details provided. The summary should note both the accessibility features provided and any potential deficiencies. The summary does not remove the requirement for full structured accessibility data, but should be considered a fall-back option if more structured detail cannot be provided or used. Further detailed information may be provided in an external file using codes 94–96. Only for use in ONIX 3.0 or later	*
196	01	LIA Compliance Scheme	
196	02	EPUB Accessibility Specification 1.0 A Conforms with the requirements of EPUB Accessibility Spec 1.0 and WCAG level A. <ProductFormFeatureDescription> may carry a URL linking to a compliance report or certification provided by an independent third party certifier. In the absence of a URL, conformance with the requirements of the Accessibility Specification is self-certified by the publisher	*
196	03	EPUB Accessibility Specification 1.0 AA Conforms with the requirements of EPUB Accessibility Spec 1.0 and WCAG level AA. <ProductFormFeatureDescription> may carry a URL linking to a compliance report or certification provided by an independent third party certifier. In the absence of a URL, conformance with the requirements of the Accessibility Specification is self-certified by the publisher	*
196	04	Epub Accessibility Specification 1.1 Conforms with the requirements of EPUB Accessibility Spec v1.1 – see https://www.w3.org/TR/epub-a11y-11/. <ProductFormFeatureDescription> may carry a URL linking to a compliance report or certification provided by an independent third-party certifier. In the absence of a URL, conformance with the requirements of the Accessibility Specification is self- certified by the publisher. Use with other List 196 codes to indicate WCAG version and level, ARIA inclusion. Only for use in ONIX 3.0 or later	*
196	05	PDF/UA-1 Conforms with the requirements of ISO 32000-1:2008 plus ISO 14289-1:2014 – Portable Document Format for Universal Accessibility, for example, all content is tagged in logical reading order and correctly represents the document's semantic structure. Only for use in ONIX 3.0 or later	*
196	06	PDF/UA-2 Conforms with the requirements of ISO 32000-2:2020 (PDF 2.0) plus ISO 14289-2:2024 – Portable Document Format for Universal Accessibility v2, for example, the revised semantic tagging, MathML, Unicode support and associated documents from PDF 2.0. Only for use in ONIX 3.0 or later	*

https://ns.editeur.org/onix/en/196 (*accessed on 10 November 2025*)

Schema.org Accessibility Properties for Discoverability Vocabulary

- [Schema.org Accessibility Properties for Discoverability Vocabulary](#) was developed by the [Accessibility Discoverability Vocabulary for Schema.org Community Group](#) (successor of the [Accessibility Metadata Project](#))

- *Accessibility Properties* are arranged into the following categories:

  ○ accessibilityAPI
  ○ accessibilityControl
  ○ accessibilityFeature
  ○ accessibilityHazard
  ○ accessibilitySummary
  ○ accessMode
  ○ accessModeSufficient

Metadata Fields for Labeling Accessible Content in PHAIDRA

Neu Metadata Fields in PHAIDRA

- Basis: *Schema.org Accessibility Properties*, which have been
  - translated into German (metadata entry and display are available in both German and English, and users can switch between languages at any time),
  - adapted for digital content (for instance, *tactile terms* were not relevant for the digital objects in PHAIDRA),
  - condensed to facilitate metadata entry for members of the University of Vienna uploading their materials to PHAIDRA.

- Four metadata applicable to all resource types:
  - „Accessibility control" / „Barrierefreiheit: Steuerung"
  - „Access mode" / „Barrierefreiheit: Betriebsart"
  - „Accessibility hazard" / „Barrierefreiheit: Störung"
  - „Accessibility feature" / „Barrierefreiheit: Merkmal"

- All of these metadata fields are optional and each field allows multiple selections

- [Guidelines](#) offering detailed instructions on the use of accessibility metadata in PHAIDRA (in German)

Screenshot: "Accessibility"
among the optional
metadata fields in PHAIDRA

Screenshot: Values in the metadata field "Accessibility hazard" (multiple values may be selected)

	Title (deu)	Accessibility of research data

Title (deu) — Accessibility of research data

Author — Maria Guseva

Description (eng) — The cheatsheet "Accessibility of research data" is part of a series of training materials created in the "Shared RDM Services & Infrastructure" project (2023-2026).

Keywords (eng) — research data management   RDM   training materials   accessibility   Shared RDM project

Subject (eng) — ÖFOS 2012 -- 508003 -- Library science

Type (eng) — learning object

Language — English [eng]

Persistent identifier — https://phaidra.univie.ac.at/o:2123029

DOI — 10.25365/phaidra.572_02

Accessibility

Control	Feature	Hazard	Mode
fullKeyboardControl	bookmarks	none	textual
fullMouseControl	pageNavigation		
	structuralNavigation		
	taggedPDF		
	readingOrder		
	alternativeText		

Association (eng) — Universitätsbibliothek - PHAIDRA-Services

License — Public Domain Mark 1.0

Screenshot: Metadata view of an object in PHAIDRA, including accessibility metadata (in English)

https://doi.org/10.25365/phaidra.572_02

	Titel (deu)	Barrierefreiheit von Forschungsdaten
	Autor*in	Maria Guseva
	Beschreibung (deu)	Das Cheatsheet „Barrierefreiheit von Forschungsdaten" gehört zu einer Serie der Trainingsmaterialien, die im Projekt „Shared RDM Services & Infrastructure" (2023–2026) erstellt wurde.

Stichwort (deu)   Forschungsdatenmanagement   FDM   Trainingsmaterialien   Barrierefreiheit   Projekt Shared RDM

Schlagwort (deu)   ÖFOS 2012 -- 508003 -- Bibliothekswissenschaft

Typ (deu)   Lernobjekt

Sprache   Deutsch [deu]

Persistent Identifier   https://phaidra.univie.ac.at/o:2123027

DOI   10.25365/phaidra.572_01

Barrierefreiheit

Steuerung	Merkmal	Störung	Betriebsart
Keyboardsteuerung	Lesezeichen	Keine	Informationen in Textform kodiert
Maussteuerung	Seitennavigation		
	Dokumentenhierarchie		
	Getaggtes PDF		
	Lesereihenfolge		
	Alternativtext		

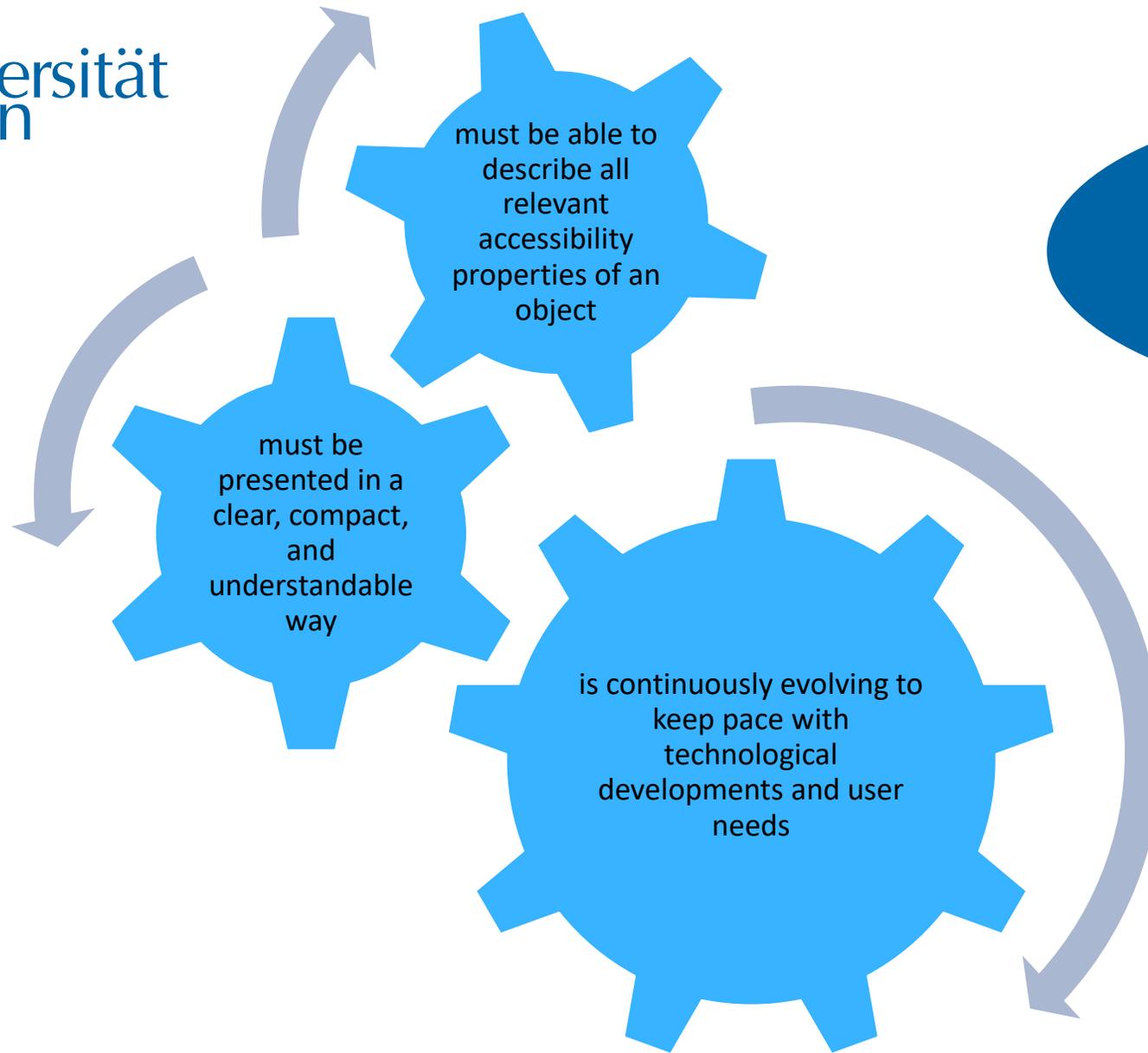Zuordnung (deu)   Universitätsbibliothek - PHAIDRA-Services

Lizenz   Public Domain Mark 1.0

Screenshot: Metadata view of an object in PHAIDRA, including accessibility metadata (in German)

https://doi.org/10.25365/phaidra.572_01

Next Steps

- Further developments in PHAIDRA: implementation of the filtered search function

- Ensuring correct display in the Vienna University Library catalog

- Providing guidance on using the new metadata fields (guidelines, training)

- Knowledge sharing among repository managers

Accessibility Metadata

- must be able to describe all relevant accessibility properties of an object
- must be presented in a clear, compact, and understandable way
- is continuously evolving to keep pace with technological developments and user needs

Thank you for your attention!

Maria Guseva (*University of Vienna*)

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