



**CCS**  
**Content Conversion Specialists**

METS / ALTO introduction

# Why would I use METS and ALTO?

- “I digitize lots of different items and each type is digitized to a different format. Some are Word, some are PDF, some are XML, some are just JPG – I need it all to be the same, but what is the best way?”
- “I’d like to offer full text search to the scientists and researchers in the complete collection, so I need to build a text index of the complete collection – and I might want to change the presentation system in three years, so I need the source data in a non-proprietary format”
- “I need to organize my digitization project accordingly to long term preservation standards – how long will PDF exist? I might need something more robust”

# What is METS?

- METS -> Metadata Encoding and Transmission Standard
- Established in 2001
- XML based open standard
- Schema is hosted at Library of Congress (LOC)
- Maintained by METS Editorial Board
- Current version: 1.10
- Used for longterm preservation

# What does METS do?

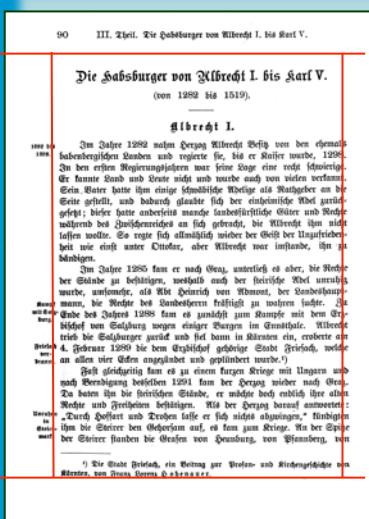
- METS files are used to describe a digital object
  - printed media (book, newspaper, journal), audio or video media
  - any other item
- METS usually embeds different kinds of metadata / metadata standards
  - Descriptive metadata (DC, MODS, MARC21)
  - Administrative metadata (Mix, PREMIS, ...)
- May contain structural information
  - Physical structure (page based / file based)
  - Logical structure (chapter based / article based / track based)
- May link to any other digital objects
  - Image files, Audio / video files, Text files
  - External metadata objects

# What is ALTO?

- ALTO → Analyzed Layout and Text Object
- XML based open standard
- Schema is hosted at Library of Congress (LOC)
- Maintained by ALTO Board
- Current version: 2.1 (Draft 3.0)

# What does ALTO do?

- Contains the content of a single page
- Describes the layout of a printed page to re-build the original page
- Describes the styles, layout and block type information
- May contain tags which contain more information about content (e.g. **named entities**)



ALTO

```
<xmt version="1.0" encoding="UTF-8" >
<alto xmlns:xsi="http://www.w3.org/2000/10/XMLSchema#
  e.ukb.ac.at/schemas/alto.xsd" xmlns:ain="http://www
  -><Styles>
    <TextStyle ID="TXT_1" FONTSIZE="11" FONTFAMILY="Times
      <TextStyle ID="TXT_1" FONTSIZE="11" FONTFAMILY="Times
      <TextStyle ID="TXT_2" FONTSIZE="9" FONTFAMILY="Times
        <ParagraphStyle ID="PAR_RIGHT" ALIGN="Right" />
        <ParagraphStyle ID="PAR_CENTER" ALIGN="Center" />
        <ParagraphStyle ID="PAR_LEFT" ALIGN="Left" />
        <ParagraphStyle ID="PAR_BLOCK" ALIGN="Block" />
      </Styles>
    <Layout>
      <Page ID="PAGE001" PHYSICAL_IMG_NR="29" HEIGHT="2460
        <TopMargin ID="P23_TB00001" HPOS="0" VPOS="0" WID
          <TextBlock ID="P23_TB00001" HPOS="1228" VPOS="2"
            <TextLine ID="P23_TL00001" HPOS="1228" VPOS="2
              <String ID="P23_ST00001" HPOS="1229" VPOS="2
                <TextLine>
                  <TextBlock ID="P23_TB00002" HPOS="462" VPOS="28
                    <TextLine ID="P23_TL00002" HPOS="463" VPOS="28
                      <String ID="P23_ST00002" HPOS="464" VPOS="28
                        <TextBlock ID="P23_TB00001" HPOS="500" VPOS="307" />
                        <String ID="P23_ST00003" HPOS="536" VPOS="28
                          <TextBlock ID="P23_TB00002" HPOS="561" VPOS="307" />
                          <String ID="P23_ST00004" HPOS="587" VPOS="28
                            <TextBlock ID="P23_TB00003" HPOS="765" VPOS="307" />
                            <String ID="P23_ST00005" HPOS="792" VPOS="28
                            <TextBlock ID="P23_TB00004" HPOS="818" VPOS="307" />
                            <TextBlock ID="P23_TB00005" HPOS="844" VPOS="307" />
                          </TextBlock>
                        </TextLine>
                      </TextBlock>
                    </TextLine>
                  </TextBlock>
                </TextLine>
              </TextBlock>
            </TextLine>
          </TextBlock>
        </TopMargin>
      </Page>
    </Layout>
  </alto>
```

# Why would you use XML standards?

- Fully documented XML format
- Can be used by any IT party later on
- Can be transformed to other formats in the future (for longterm preservation)
- Readable by humans

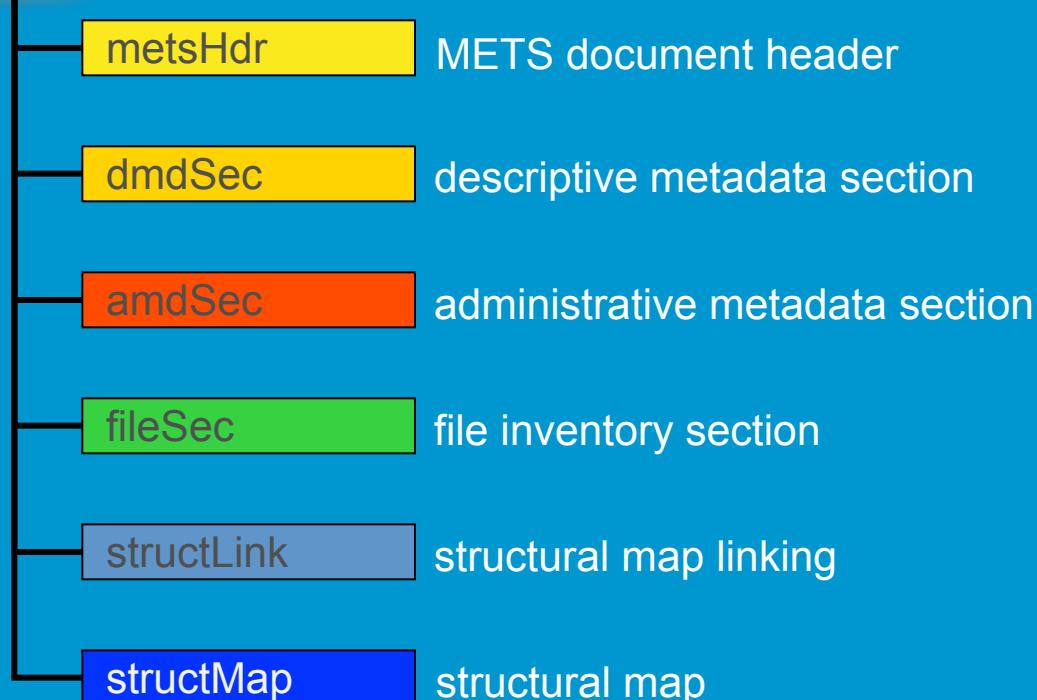
# What are your benefits using METS/ALTO?

- It is the current industry standard for digitization used by hundreds of libraries and content providers
- The long-term sustainability of your digital objects is greatly enhanced
- Supports article and chapter segmentation
- You can handle objects in an easy way and exchange them with other parties
- You can create PDF, EPUB, DAISY and other formats from METS/ ALTO
- It is constantly maintained and developed (hosted by the Library of Congres)

# How does a METS file looks like?



METS consists of five sections plus the METS header



# What information include the METS sections?

- dmdSec – Descriptive Metadata Section, per logical unit
  - title and author, publishing date, language, copyright details, etc
- amdSec – Administrative Metadata Section, per image
  - resolution, bit depth, dimensions, source file name, scanner name, etc
- fileSec – File Inventory Section
  - File inventory and referencing (pointers to each image file, each ALTO file, derivatives)
- StructLink – Structural Link
  - Describes the logical structure of a complex digital object
- StructMap – StructuralMap
  - Describes page by page the structure of the digital object

# Summary | METS and ALTO

- Established for the description of digitization of printed material
- The idea was to split the descriptive information and the content itself
- In order to handle objects in an easy way
- If all data would be in one XML file (e.g. TEI) the XML file would be huge
- METS and ALTO are maintained and continuously developed by libraries (hosted at Library of Congress)
- METS/ALTO data can be exchanged with other parties
- Many vendors are offering products for handling METS/ALTO data
- You can make PDF, EPUB, DAISY and other formats from METS/ALTO

# More Information

- <http://www.loc.gov/standards/mets/>
- <http://www.loc.gov/standards/alto/>
- [http://en.wikipedia.org/wiki/ALTO\\_\(XML\)](http://en.wikipedia.org/wiki/ALTO_(XML))
- <http://www.veridiansoftware.com/knowledge-base/metsalto/>
- [http://www.nla.gov.au/ndp/project\\_details/documents/ANDP\\_Use\\_of\\_METSV2.pdf](http://www.nla.gov.au/ndp/project_details/documents/ANDP_Use_of_METSV2.pdf)

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