D 5.2 Report on pilot full integration and
publication of selected partner's metadata in
Manuscriptorium

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Report on pilot full integration and publication of selected partner's metadata in Manuscriptorium

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[1] OJ L 79, 24.3.2005, p. 1.

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Document Version Control

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Document Review

Reviewer	Institution	Date and result of the review
Lou Bernard	OUCS	12 December 2008 Comments made on TEI P5
Adolf Knoll, Zdenek Uhlír	NKP	Document approved for submission to EC 19 December 2008

Approved By (signature)	Date

Accepted by at European Commission (signature)	Date

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1   Executive Summary

Deliverable 5.2 summarises the progress of work done and the results achieved during the process of integration of selected partner's sources into the Manuscriptorium platform. Two different associated partners were chosen for this integration in order to demonstrate the two most important ways of cooperation with non TEI P5 based sources.

We decided to prepare the first pilot full integration with *associated* partners due their readiness for cooperation and in order to demonstrate the practical outcomes of associated partnership to other potential associated partners.

The full integration has been completed and now both the partners routinely cooperate with the ENRICH and Manuscriptorium platform and continuously contribute with their documents to the digital library.

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CONTENT

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2   Introduction

This deliverable links to all the previous deliverables, both those prepared within WP2 and the subsequent deliverables from WP5:

- D2.1: Survey results and their interpretation (Month 3), responsible partner: NKP
- D2.2: Description of the standards used by the partners, definition of collaboration principles, data and metadata standards (Month 8), responsible partner: NKP
- D5.1: Definition of basic conditions for sharing of large data sets in the frame of Manuscriptorium (Month 10), responsible partner AIP

Therefore in D5.2 we will focus to the most concrete practical information about the way of cooperation with the two selected partners.

These partners are:

- National Library of Romania (http://www.bibnat.ro/)
- Heidelberg University Library (http://www.ub.uni-heidelberg.de/Englisch/)

These two partners were selected due following reasons:

- their willingness and readiness for cooperation enabled to achieve good real results in a relatively short time
- the partners cooperate within ENRICH using two different ways of cooperation; this enabled us to verify and fine-tune the intended methods of cooperation; these ways of cooperation will be used by majority of future associated partners
- the partners are associated partners – their example and experience can serve as a good demonstration to other potential associated partners

The two mentioned ways of cooperation are as follows:

- the way of using dedicated tool for the creation of digital documents metadata for individual documents with their subsequent upload into the Manuscriptorium platform
- the way of OAI-PMH based harvesting and subsequent large-extent batch processing of metadata within the Manuscriptorium input tools ("Connectors")

Both these ways are described in previous deliverables.

3   Integration of partners metadata

3.1   *Heidelberg University Library*

3.1.1   Short collection description

Heidelberg University Library has contributed its most valuable collection of medieval and early modern manuscripts to the ENRICH project. The manuscripts in the German language

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of the 9th to the 17th centuries belong to the famous "*Bibliotheca Palatina*". Its origins date back to 1386, when the University of Heidelberg was founded by Elector Ruprecht I. During the following centuries the collegiate library of the Heidelberg Heiliggeistkirche (Church of the Holy Spirit) and the private book collection of the Palatinate Electors were incorporated into the growing University Library, making it the biggest and most famous library in Germany. During the Thirty Years' War it was taken as booty to the Vatican Library in Rome, where today nearly all non-German manuscripts and all prints are still kept. In 1816, after the Napoleonic wars, 848 German manuscripts were returned to Heidelberg, where they are kept in the University Library. About one third of the codices are medical works; the remainder deal with history, religion or literature.

Since 2006 Heidelberg University Library has been digitising this collection of German manuscripts in its digitisation centre with two camera tables that are especially developed for the handling of fragile objects. This ambitious project is sponsored by the Manfred Lautenschläger Foundation. In the spring of 2009 all 848 codices will be digitised and made available on the Internet.

One of the most valuable items is the so-called "*Heidelberger Sachsenspiegel*" (Cod. Pal. germ. 164), written and illuminated at the beginning of the 14th century. It is the oldest of the four illuminated codices contained in that important statute book.

The best-known manuscript of Heidelberg University Library, the "*Codex Manesse*" (Cod. Pal. germ. 848), the most comprehensive collection of ballads and love poetry in Middle High German, will also be contributed to the Manuscriptorium project in the near future.

Actual number of documents: 570

Actual number of pages: 190 419

3.1.2 Metadata

The Heidelberg University Library operates its own digital library and uses the Open Archives Initiative Protocol for Metadata Harvesting, protocol version 2.0 (see documentation at http://www.openarchives.org/OAI/openarchivesprotocol.html, see the Cooperation details chapter for the detailed connection information).

The library provided a specific set of documents for the harvesting purposes. The available profile works with METS format, which is used to wrap all the descriptive and structural metadata (see http://www.loc.gov/standards/mets/ for METS details).

The METS structural maps carry the structural metadata. To carry the other types of metadata the following formats are used within the METS:

- MODS (see http://www.loc.gov/standards/mods/) for the bibliographic descriptions
- UBHD (local format) for the non-bibliographic project related and digital document related administrative-like (and often internal and original system related) information

Following schemas are provided here as an example demonstrating the extent of information provided via the OAI interface - see the Appendix A – Source metadata for detail on partner's metadata.

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3.1.3 Data

The data consist of five quality levels JPEG images. The qualities are as follows:

- MIN (minimal for work)
- MINplus (better than minimal for work)
- DEFAULT (default quality for work)
- DEFAULTplus (better than default quality for work)
- THUMB (small thumbnails)

All the qualities are reachable by direct URL located in the fileSec section.
All images are available to the users of Manuscriptorium platform.

3.1.4 Cooperation details

The OAI set named "handschriften" is available at
http://diglit.ub.uni-heidelberg.de/cgi-bin/digioai.cgi
and routine harvest is processed using the "mets" metadata prefix.

The appropriate XSL transformation is applied within the connector. The XSL transformation converts the METS record to the TEI P4 based MASTER which is at present the format applied within the Manuscriptorium platform.

At present the Manuscriptorium platform migrates to TEI P5 ENRICH schema, therefore all the already fully integrated sources (approximately 180 000 records) including the two associated partners will have to be converted to the TEI P5 schema. The dedicated XSL transformation is being prepared and the current results for the Heidelberg University Library are also attached as an Appendix of this deliverable (to demonstrate the current progress).

The XSL transformation was designed and fine-tuned in close cooperation with the responsible staff members of the Heidelberg University Library.

See the Appendix B - TEI based converted outputs for more information on the results of conversion.

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3.1.5 Results

During the cooperation no serious problems arise thanks to the availability, consistency and overall quality of the available metadata and the accessibility to the data files in the partner's repository.

As the properties of the metadata exceed the basic requirements for the cooperation (these are described in the previous deliverables) the cooperation was very efficient and the results are highly usable. The partner's documents are now fully integrated.
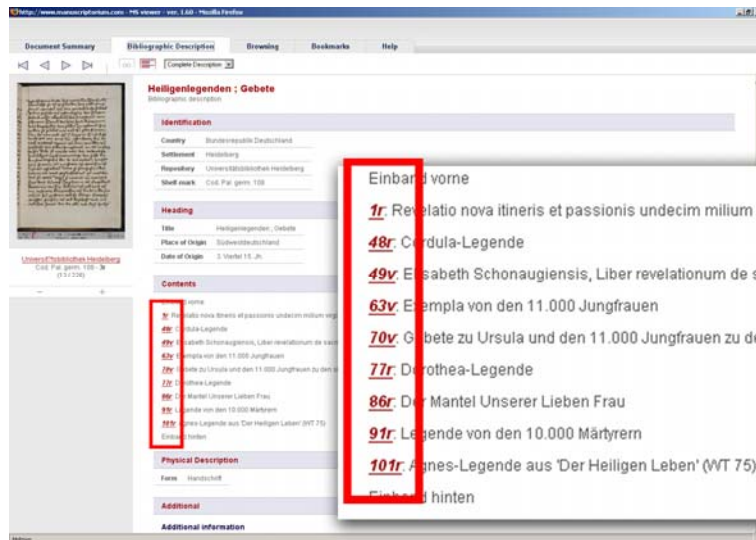
The records are searchable via the Manuscriptorium catalogue research interface. An example of search for „Dorothea,Legende" results:
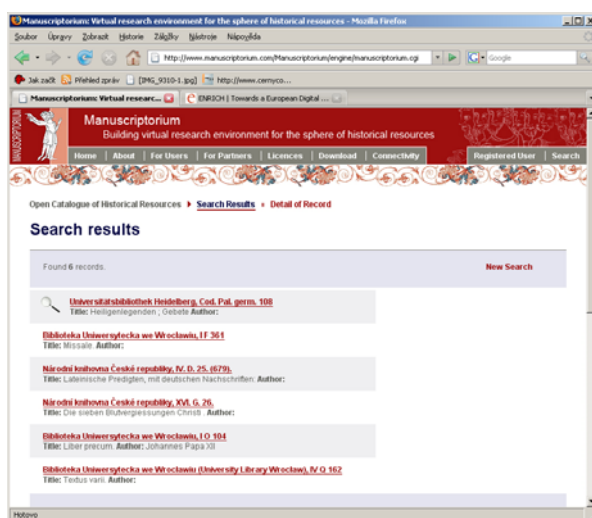

After opening the digital document it is fully browsable and all the available qualities are available to the end user. The processed metadata serve to display the document in a desired way and the distributed data transfers in any way do not affect the end-user:

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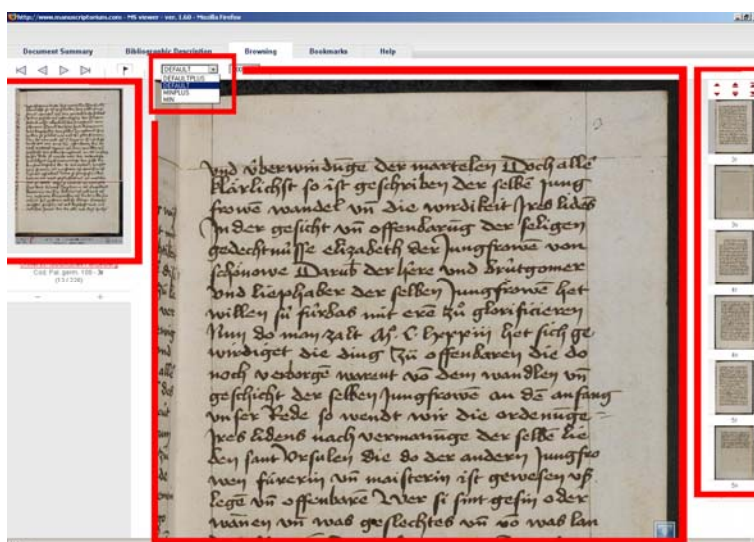
Thanks to the metadata content it was possible (during the automated processing) to create direct links from the bibliographic description to particular pages. This enables an easy access to quoted text or referred page:

Also a link to an alternate copy of the digital document is available directly from the description:

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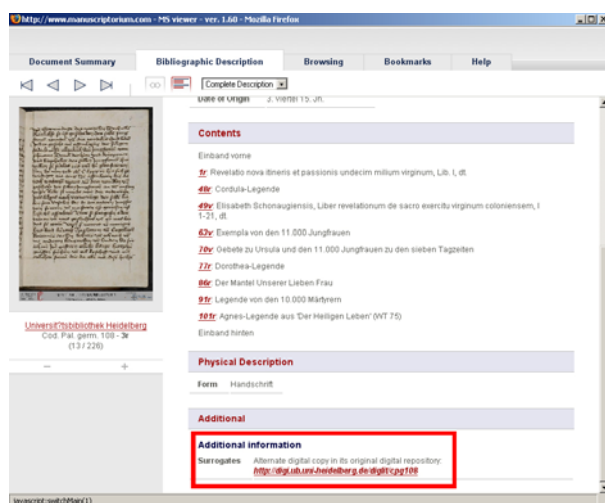
3.2 National Library of Romania

3.2.1 Short collection description

The National Library of Romania has made a contribution to the ENRICH project in the form of old Romanian books dating from the XVI and XVII centuries. These are items of outstanding cultural, historical and artistic value. Most of these treasures are religious works, but amongst them there are also law and history books. One of the most valuable items is the first book printed on Romanian territory – the *Slavonic Book of Liturgies / Liturghierul slavonesc* - printed in the year 1508 at the Dealul Monastery (Hill Monastery) by monk Macarie. This printing is notable for its special graphic presentation, capital letters, and elaborate frontispieces.

Another very important document is *Apostolul* printed in 1547 at Târgovişte by Dimitri Liubavici; only one copy is extant in the country.

Some volumes still retain the original bindings. They are extremely refined and carefully executed, with special engravings, original capital letters and frontispieces. Other documents contain various notes made over the years by various owners.

Actual number of documents: 109

Actual number of pages: approx. 40 000 pages (21 999 files)

3.2.2 Metadata

The National Library of Romania cooperates with the Manuscriptorium and the ENRICH project using a different way. The library staff uses M-Tool – a standalone application that enables to create primary TEI based metadata records for digital documents.

The application enables to create both descriptive and structural metadata and the metadata format ensures that the digital documents are not only well prepared (XML based therefore are SW and HW independent and have high longevity etc) but also (and this is important from the ENRICH point of view) are directly compatible with the Manuscriptorium platform. Therefore there is no need for connectors and conversions and the records are directly passed through the M-Can online service to the Manuscriptorium system (the M-Can /Manuscriptorium for Candidates/ enables to upload of the metadata, check of correctness and testing of the documents using common viewing tools of the Manuscriptorium platform).

The information has to be created individually for each of the documents selected for aggregation. Therefore this approach is applied to either partners providing a content of smaller extent or to projects where no metadata exist yet.

At present the preceding version of the M-Tool is used – it will be later replaced by the new on-line services (originated within T5.1). During the successful cooperation some technical problems were revealed, especially in the field of character encoding therefore this cooperation provided an important feedback to the T5.1.

See the Appendix A – Source metadata for detail on partner's metadata.

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3.2.3 Data

The data consist of three quality levels JPEG images. The qualities are as follows:

- normal (normal quality for work)
- low (lower quality for work)
- prev (preview and/or thumbnail quality)

Image files contain two scanned pages due a specific approach to their capturing.

All the qualities are reachable by direct URL located in the pgImage element.
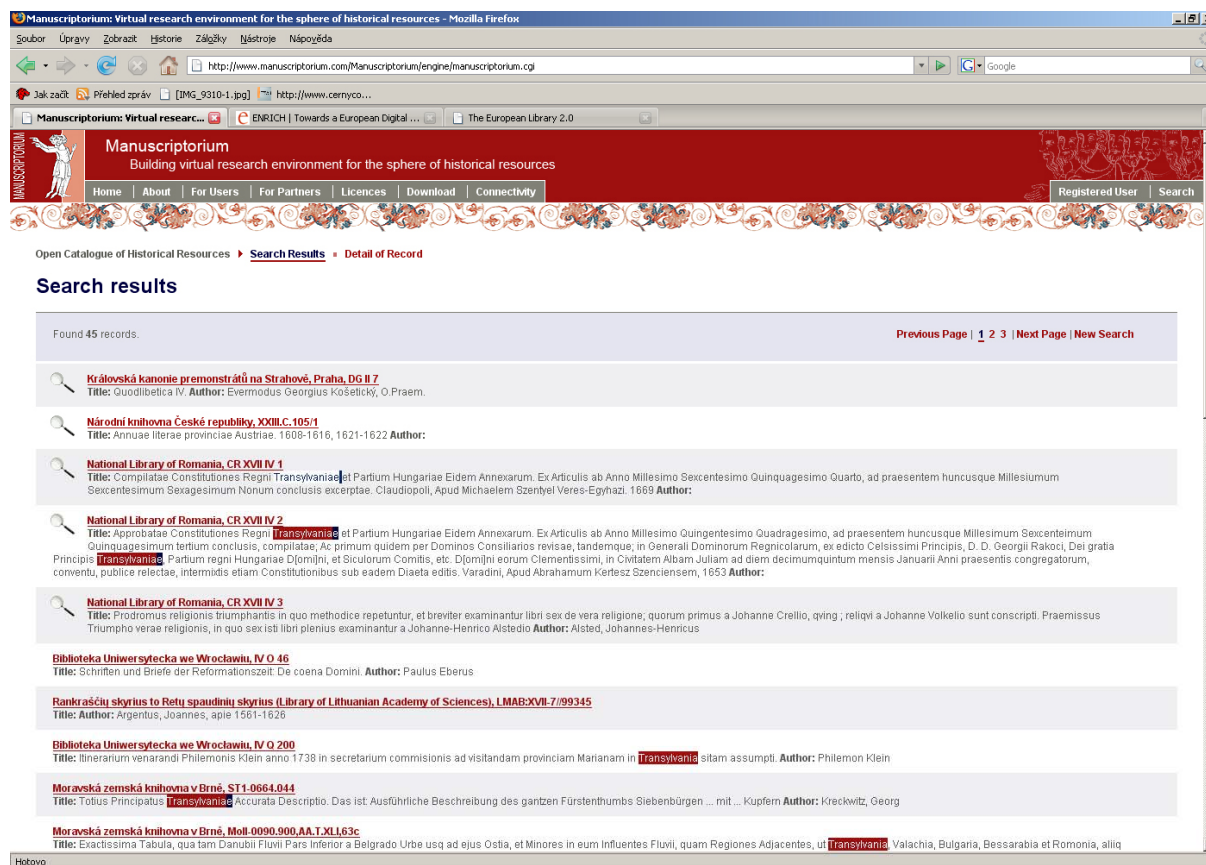All the images are available to the users of Manuscriptorium platform.

3.2.4 Cooperation details

The routine cooperation runs smoothly and new documents periodically update the Manuscriptorium platform database.

3.2.5 Results

The results are very similar to the results achieved with the Heidelberg University Library.

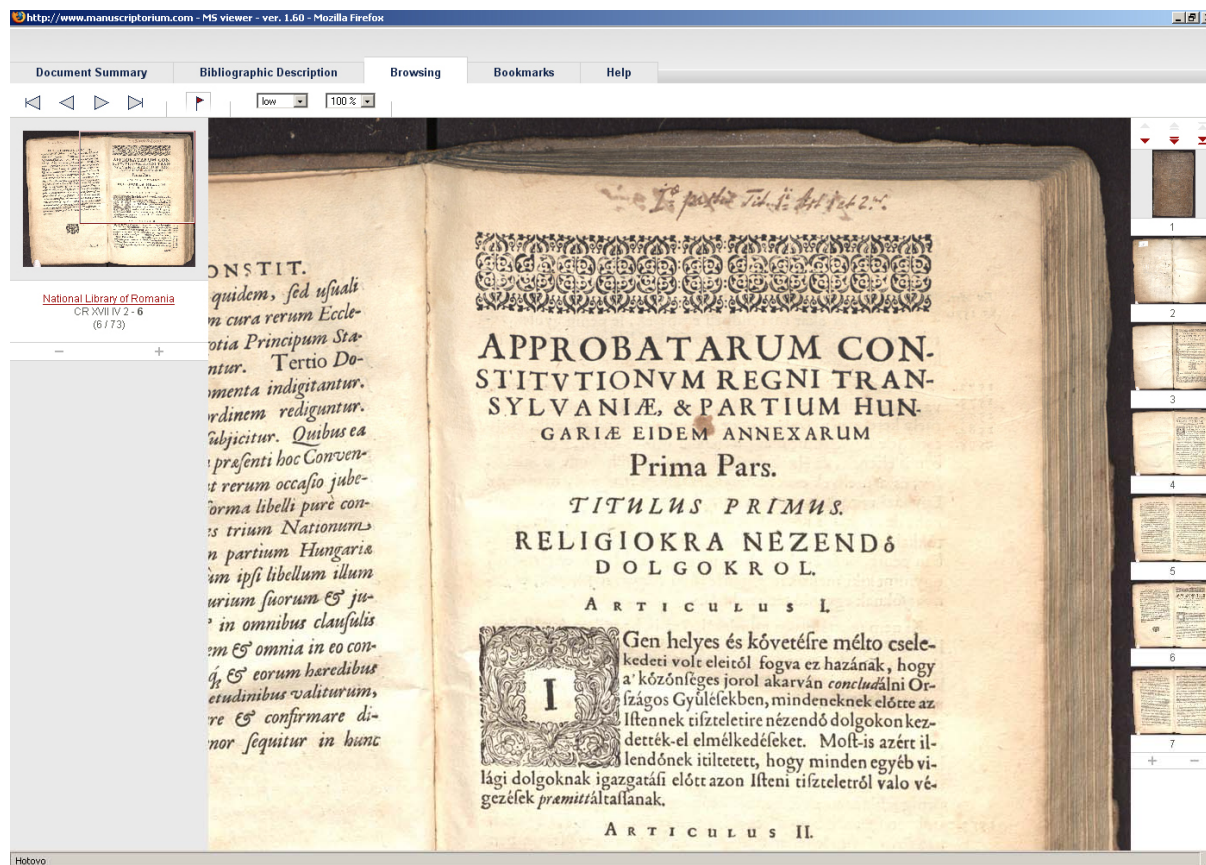The results are again searchable – search results for the word "Transylvania" are at present as follows:

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The document is fully browsable and the main difference against the preceding partner's metadata is the lack of link to the alternate digital document (though this kind of information can be prepared using M-Tool for partners where the alternate digital is available) and the lack of direct links to pages (it is not possible to create this very detailed information using the present version of M-Tool).

Note the two pages per file do not affect the functionality of the interface in any way.

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4 Cooperation with Europeana

An important example of the benefits of the full integration represents the integration to the
TEL portal. As Manuscriptorium is harvested via OAI-PMH all records are now available via
the cooperating portal systems:
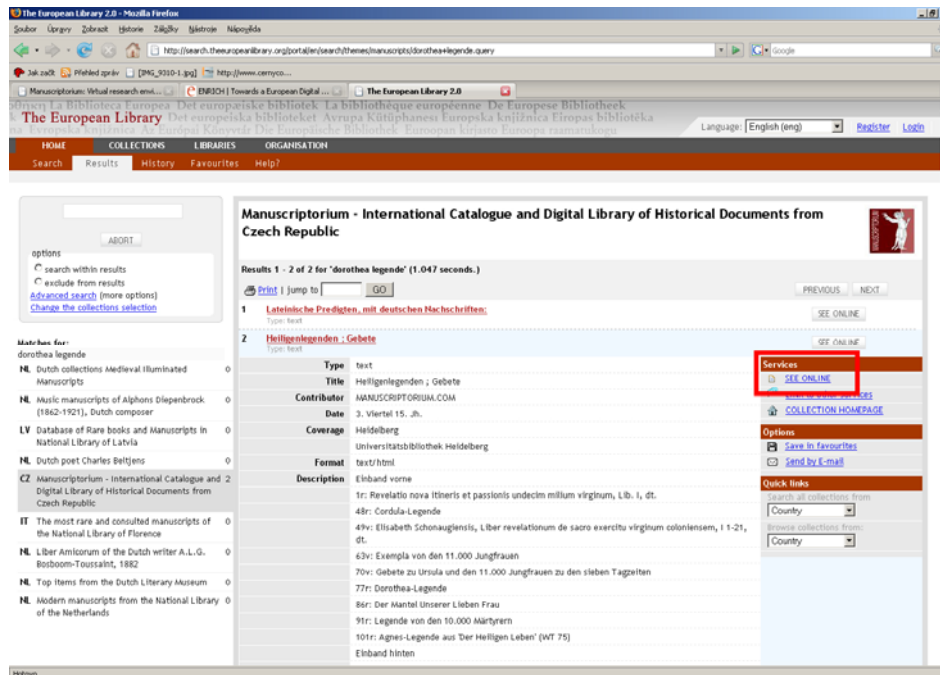
By clicking the "SEE ONLINE" link the users will be redirected to the Manuscriptorium
platform and can continue their research there (or may decide to see the alternate digital copy
in the partners local digital library - where available).

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5 Conclusion

Results achieved with both the partners using the different ways of cooperation are very similar. This indicates that the approaches are well designed for individual needs of different partners and their different digitisation approaches and particular digitisation projects results.

The end users of the presentation platform are provided with the documents in a homogenous interface and can work efficiently with the European digital content related to the cultural heritage. The users work without being affected by the original form of the digital documents, all the processes hidden behind the presentation interface and without being disturbed by the searching for shattered content.

The availability of the documents in the TEL portal and other systems is also a very important step forward in the field of sharing and efficient usage of available European digital content.

The pilot solution confirmed the intended ways of cooperation as properly designed and all the present and future cooperating partners will cooperate on the basis of the same principles.

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Appendix A – Source metadata

Heidelberg University Library

METS

Generated by XMLSpy   www.altova.com
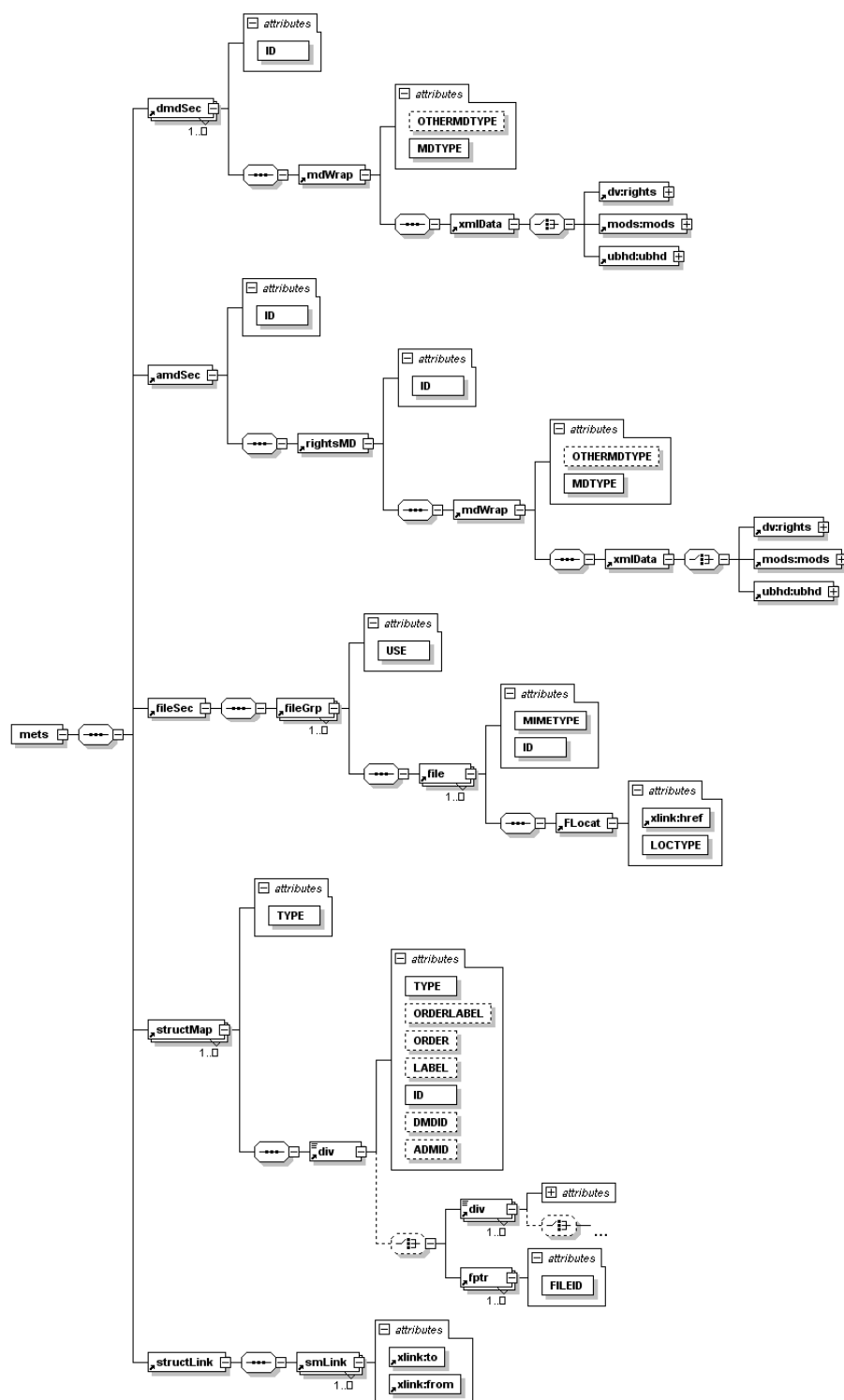
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The structural metadata consist of both the logical map (records the structure of chapters of
the document), physical map and all related files are grouped in the file section.

Different mets:fileGrp elements are used to group files of available qualities, appropriate
@USE attribute is applied:

```
<mets:fileSec>
<mets:fileGrp USE="MIN">
<mets:file ID="filemin00001" MIMETYPE="image/jpg">
      <mets:FLocat LOCTYPE="URL" xlink:href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/1/000_A_Vorderdeckel.jpg"/>
</mets:file>
<mets:file ID="filemin00002" MIMETYPE="image/jpg">
      <mets:FLocat LOCTYPE="URL" xlink:href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/1/000_A_Vorderspiegel.jpg"/>
</mets:file>
<mets:file ID="filemin00003" MIMETYPE="image/jpg">
      <mets:FLocat LOCTYPE="URL" xlink:href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/1/000_B_1ar.jpg"/>
</mets:file>
.........
.........
.........
</mets:fileGrp>
</mets:fileSec>
```

Following physical structural map is applied. Please note the @ORDERLABEL attributes
that carry the information about applicable foliation of the Manuscript (which is very valuable
information for efficient and original document compatible refferences).

```
<mets:structMap TYPE="PHYSICAL">
      <mets:div ID="phys0" TYPE="pageSequence">
            <mets:div ID="phys00001" ORDER="00001" TYPE="page"
ORDERLABEL="Vorderdeckel">
                  <mets:fptr FILEID="filemin00001"/>
                  <mets:fptr FILEID="fileminplus00001"/>
                  <mets:fptr FILEID="filedefault00001"/>
                  <mets:fptr FILEID="filedefaultplus00001"/>
                  <mets:fptr FILEID="filethumb00001"/>
            </mets:div>
            <mets:div ID="phys00002" ORDER="00002" TYPE="page"
ORDERLABEL="Vorderspiegel">
                  <mets:fptr FILEID="filemin00002"/>
                  <mets:fptr FILEID="fileminplus00002"/>
                  <mets:fptr FILEID="filedefault00002"/>
                  <mets:fptr FILEID="filedefaultplus00002"/>
                  <mets:fptr FILEID="filethumb00002"/>
            </mets:div>
            <mets:div ID="phys00003" ORDER="00003" TYPE="page"
ORDERLABEL="1ar">
                  <mets:fptr FILEID="filemin00003"/>
                  <mets:fptr FILEID="fileminplus00003"/>
                  <mets:fptr FILEID="filedefault00003"/>
                  <mets:fptr FILEID="filedefaultplus00003"/>
                  <mets:fptr FILEID="filethumb00003"/>
            </mets:div>
.........
.........
.........
</mets:structMap>
```

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The logical maps bring information about chapters in the document.

```
<mets:structMap TYPE="LOGICAL">
      <mets:div ID="log0" DMDID="dmd0" TYPE="Monograph"
ADMID="amdSec_complete_01">
            <mets:div ID="log00192" DMDID="dmd00192" LABEL="Einband vorne"
TYPE="chapter"></mets:div>
            <mets:div ID="log00193" DMDID="dmd00193" LABEL="1r Revelatio
nova itineris et passionis undecim milium virginum, Lib. I, dt."
TYPE="chapter"></mets:div>
            <mets:div ID="log00194" DMDID="dmd00194" LABEL="48r Cordula-
Legende" TYPE="chapter"></mets:div>
            <mets:div ID="log00195" DMDID="dmd00195" LABEL="49v Elisabeth
Schonaugiensis, Liber revelationum de sacro exercitu virginum coloniensem,
I 1-21, dt." TYPE="chapter"></mets:div>
.........
.........
.........
</mets:structMap>
```

And finaly the structLink element maps the logical map to the physical map:

```
<mets:structLink>
      <mets:smLink xlink:to="phys0" xlink:from="log0"/>
      <mets:smLink xlink:to="phys00001" xlink:from="log00192"/>
      <mets:smLink xlink:to="phys00002" xlink:from="log00192"/>
      <mets:smLink xlink:to="phys00003" xlink:from="log00192"/>
      <mets:smLink xlink:to="phys00004" xlink:from="log00192"/>
      <mets:smLink xlink:to="phys00005" xlink:from="log00192"/>
      <mets:smLink xlink:to="phys00006" xlink:from="log00192"/>
.........
.........
.........
</mets:structLink>
```

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MODS

Generated by XMLSpy   www.altova.com
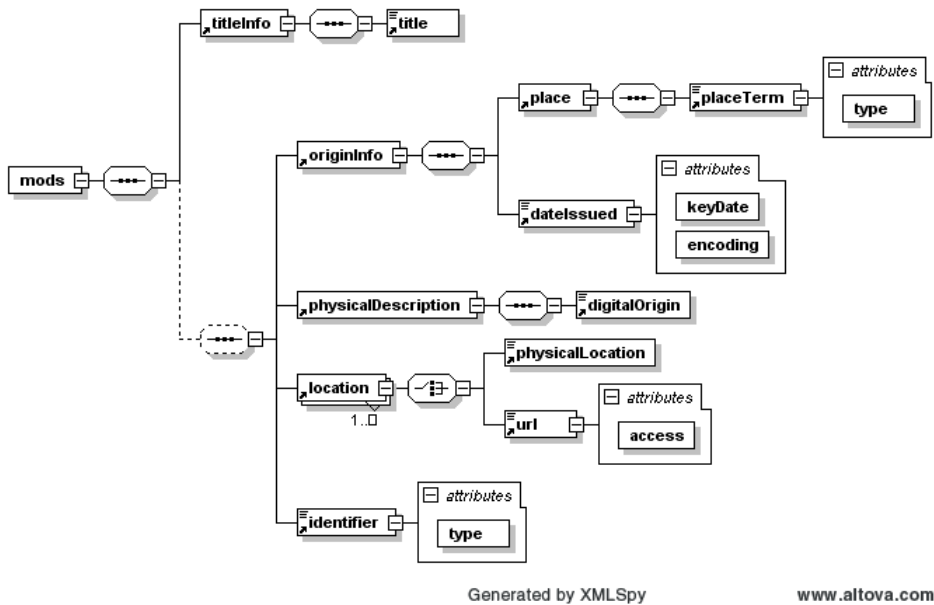
A short example of the MODS content:

```
<mods:mods>
      <mods:titleInfo>
            <mods:title>Heiligenlegenden ; Gebete</mods:title>
      </mods:titleInfo>
      <mods:originInfo>
            <mods:place>
                  <mods:placeTerm
type="text">Südwestdeutschland</mods:placeTerm>
            </mods:place>
            <mods:dateIssued keyDate="yes" encoding="w3cdtf">3. Viertel 15.
Jh.</mods:dateIssued>
      </mods:originInfo>
      <mods:physicalDescription>
            <mods:digitalOrigin>reformatted digital</mods:digitalOrigin>
      </mods:physicalDescription>
      <mods:location>
            <mods:physicalLocation>Universitätsbibliothek Heidelberg, Cod.
Pal. germ. 108</mods:physicalLocation>
      </mods:location>
      <mods:location>
            <mods:url access="object in context">http://digi.ub.uni-
heidelberg.de/diglit/cpg108</mods:url>
      </mods:location>
      <mods:identifier type="urn">urn:nbn:de:bsz:16-diglit-
339</mods:identifier>
</mods:mods>
```

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UBHD

Generated by XMLSpy   www.altova.com

A short example of UBHD metadata:

```
<ubhd:ubhd>
      <ubhd:projectname>cpg108</ubhd:projectname>
      <ubhd:sammlung>sammlung2</ubhd:sammlung>
      <ubhd:introImageUrl>http://diglit.ub.uni-
heidelberg.de/diglitData/introimage/cpg108.jpg</ubhd:introImageUrl>
      <ubhd:projecturl>http://palatina-digital.uni-hd.de</ubhd:projecturl>
      <ubhd:pdfkat>http://digi.ub.uni-
heidelberg.de/sammlung2/werk/pdf/cpg108.pdf</ubhd:pdfkat>
      <ubhd:layoutTemplate>hs</ubhd:layoutTemplate>
      <ubhd:signatur>Cod. Pal. germ. 108</ubhd:signatur>
</ubhd:ubhd>
```

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National Library of Romania

TEI P4 based MASTER+

The information structure as produced by M-Tool for the partner's digital documents is as follows:
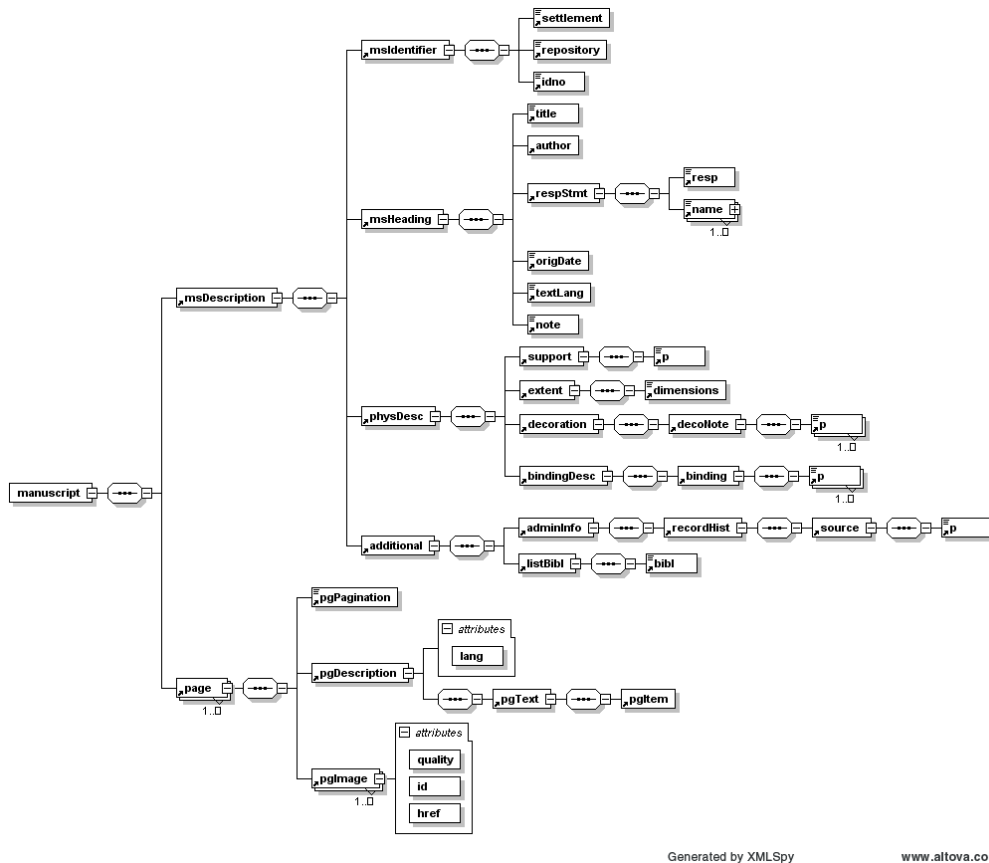
Generated by XMLSpy   www.altova.com

A real example of the usage of the structure follows.

```
<?xml version="1.0" encoding="utf-8"?>
<!--generated by M-Tool ver. 1.2, for more info visit www.aipberoun.cz-->
<manuscript><msDescription>
        <msIdentifier>
            <settlement>Bucharest</settlement>
            <repository>National Library of Romania</repository>
            <idno>CR XVII IV 2</idno>
        </msIdentifier>
        <msHeading>
            <title>Approbatae Constitutiones Regni Transylvaniae et
Partium Hungariae Eidem Annexarum. Ex Articulis ab Anno Millesimo
Quingentesimo Quadragesimo, ad praesentem huncusque Millesimum Sexcenteimum
Quinquagesimum tertium conclusis, compilatae; Ac primum quidem per Dominos
Consiliarios revisae, tandemque; in Generali Dominorum Regnicolarum, ex
edicto Celsissimi Principis, D. D. Georgii Rakoci, Dei gratia Principis
Transylvaniae, Partium regni Hungariae D[omi]ni, et Siculorum Comitis, etc.
D[omi]ni eorum Clementissimi, in Civitatem Albam Juliam ad diem
decimumquintum mensis Januarii Anni praesentis congregatorum, conventu,
```
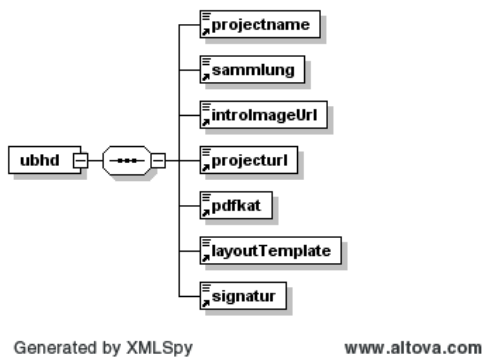
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```
publice relectae, intermixtis etiam Constitutionibus sub eadem Diaeta
editis. Varadini, Apud Abrahamum Kertesz Szenciensem, 1653</title>
                <author/>
                <respStmt>
                        <resp>printer</resp>
                        <name type="place" role="printer">Varadini
(Oradea)</name>
                        <name type="person" role="printer">apud Abrahamum
Kertesz Szenciensem</name>
                </respStmt>
                <origDate>1653</origDate>
                <textLang>maghiară</textLang>
                <note>Text în limba maghiară, cu tipar negru şi caractere
de diferite mărimi şi forme. Primele 4 pagini, nenumerotate, cuprind
"Praefatio et Approbatio Constitutionum regni nostri Transylvaniae, et
annexarum Partium Hungariae", în limba latină. Cartea este alcătuită din
Partea 1, p. 1-174 şi Partea a 2-a, p. 174-250 şi se încheie cu
"Conclusio", în latineşte, şi "Index". Ex-libris manuscris, cu cerneala
neagră, pe pagina de titlu: "Andrea Walthütter. Comparat A. 1731".</note>
        </msHeading>
        <physDesc>
                <support>
                        <p>Hârtie.</p>
                </support>
                <extent>[4], 250, [26] p.  <dimensions>In 2ş (30
cm.).</dimensions>
                </extent>
                <decoration>
                        <decoNote>
                                <p>Pe pagina de titlu: emblema editurii şi
deviza "Non solus".</p>
                                <p>Titlul în chenar negru, cu ornamente de
compoziţie tipografică.</p>
                                <p>Frontispicii înguste, cu ornamente
tipografice stilizate, iniţiale în chenar, bogat ornamentate cu motive
vegetale, viniete.</p>
                        </decoNote>
                </decoration>
                <bindingDesc>
                        <binding>
                                <p>Legătura originală, din piele bej pe
suport de carton, cotor cu 4 nervuri. Coperţile în stare relativ bună de
conservare, cu pete de var, păstrează urmele unor încuietori metalice din
piele, probabil cu capăt metalic.</p>
                                <p>Bogat ornamentate cu chenare multiple,
umplute cu motive florale.</p>
                        </binding>
                </bindingDesc>
        </physDesc>
        <additional>
                <adminInfo>
                        <recordHist>
                                <source>
                                        <p/>
                                </source>
                        </recordHist>
                </adminInfo>
                <listBibl>
                        <bibl>Bibliografia română-ungară. Vol. 1 : Românii
în literatura ungară şi ungurii în literatura română (1473-1780)., p. 82,
poz. 170.</bibl>
                </listBibl>
        </additional>
    </msDescription>
```

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```xml
    <page>
        <pgPagination>0001</pgPagination>
        <pgDescription lang="">
            <pgText>
                <pgItem/>
            </pgText>
        </pgDescription>
        <pgImage id="ID0001"
href="http://virtual.bibnat.ro/manuscriptorium/CR_XVII_IV_2/normal/CR
XVII.IV2 -Compilatae Constitutiones Regni 1653- 00000001.jpg"
quality="normal" />
        <pgImage id="ID0001"
href="http://virtual.bibnat.ro/manuscriptorium/CR_XVII_IV_2/low/CR XVII.IV2
-Compilatae Constitutiones Regni 1653- 00000001.jpg" quality="low" />
        <pgImage id="ID0001"
href="http://virtual.bibnat.ro/manuscriptorium/CR_XVII_IV_2/prev/CR
XVII.IV2 -Compilatae Constitutiones Regni 1653- 00000001.jpg"
quality="prev" />
    </page>
.........
.........
.........
</manuscript>
```

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Apendix B – TEI based converted outputs

Heidelberg University Library – MASTER+

The final MASTER+ structure example is as follows:
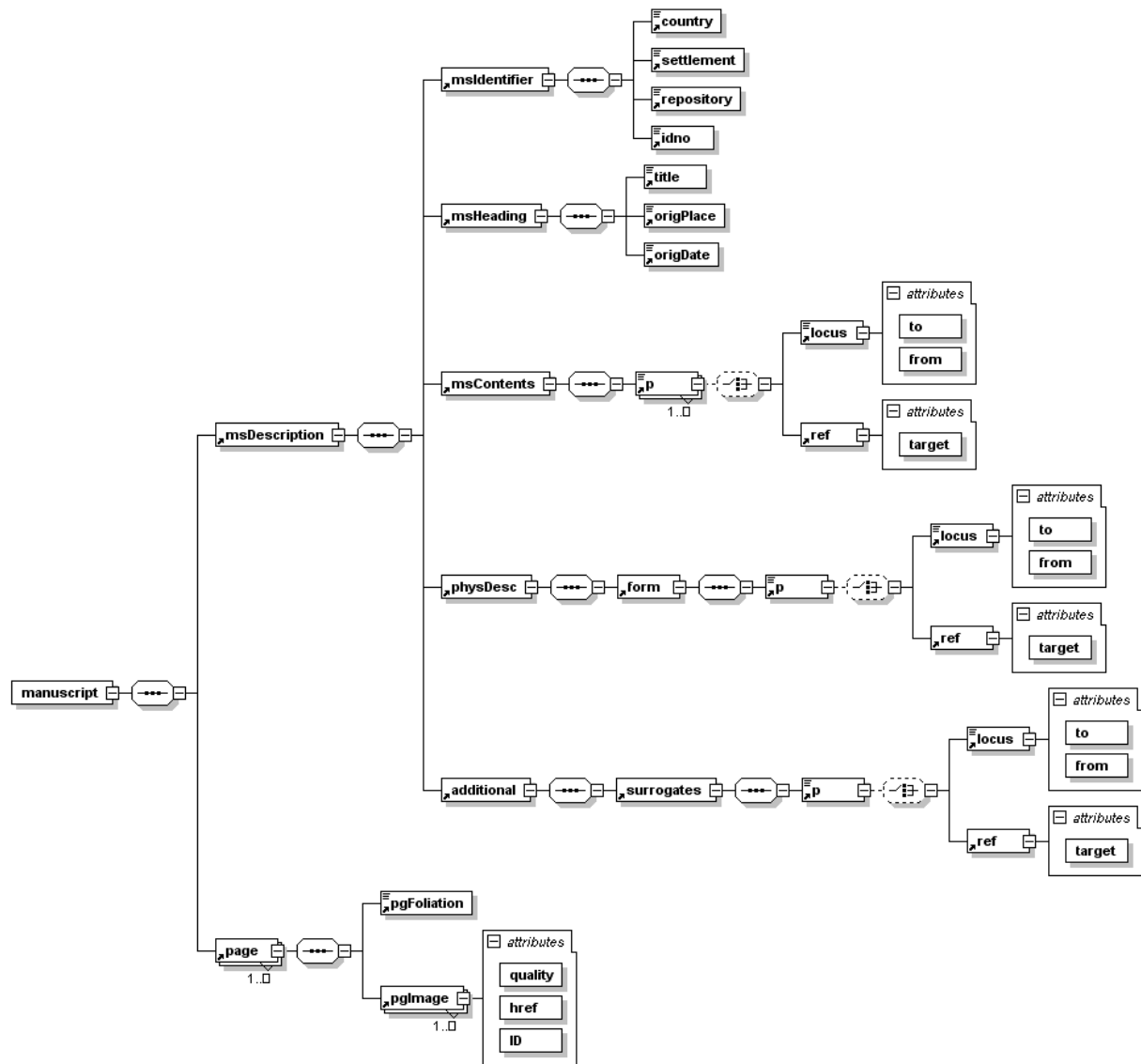
Generated by XMLSpy   www.altova.com

An example of content of the structure follows:

```
<manuscript>
     <msDescription>
          <msIdentifier>
                <country>Bundesrepublik Deutschland</country>
                <settlement>Heidelberg</settlement>
                <repository>Universitätsbibliothek
Heidelberg</repository>
                <idno>Cod. Pal. germ. 108</idno>
```

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```
                    </msIdentifier>
                    <msHeading>
                            <title>Heiligenlegenden ; Gebete</title>
                            <origPlace>Südwestdeutschland</origPlace>
                            <origDate>3. Viertel 15. Jh.</origDate>
                    </msHeading>
                    <msContents>
                            <p>Einband vorne</p>
                            <p><locus from="1r" to="1r">1r</locus>: Revelatio nova
itineris et passionis undecim milium virginum, Lib. I, dt.</p>
                            <p><locus from="48r" to="48r">48r</locus>: Cordula-
Legende</p>
                            <p><locus from="49v" to="49v">49v</locus>: Elisabeth
Schonaugiensis, Liber revelationum de sacro exercitu virginum coloniensem,
I 1-21, dt.</p>
                            <p><locus from="63v" to="63v">63v</locus>: Exempla von
den 11.000 Jungfrauen</p>
                            <p><locus from="70v" to="70v">70v</locus>: Gebete zu
Ursula und den 11.000 Jungfrauen zu den sieben Tagzeiten</p>
                            <p><locus from="77r" to="77r">77r</locus>: Dorothea-
Legende</p>
                            <p><locus from="86r" to="86r">86r</locus>: Der Mantel
Unserer Lieben Frau</p>
                            <p><locus from="91r" to="91r">91r</locus>: Legende von
den 10.000 Märtyrern</p>
                            <p><locus from="101r" to="101r">101r</locus>: Agnes-
Legende aus 'Der Heiligen Leben' (WT 75)</p>
                            <p>Einband hinten</p>
                    </msContents>
                    <physDesc>
                            <form>
                                    <p>Handschrift</p>
                            </form>
                    </physDesc>
                    <additional>
                            <surrogates>
                                    <p>Alternate digital copy in its original digital
repository: <ref target="http://digi.ub.uni-
heidelberg.de/diglit/cpg108"/></p>
                            </surrogates>
                    </additional>
            </msDescription>
            <page>
                    <pgFoliation>Vorderdeckel</pgFoliation>
                    <pgImage ID="filedefaultplus00001" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/4/000_A_Vorderdeckel.jpg"
quality="DEFAULTPLUS"/>
                    <pgImage ID="filedefault00001" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/3/000_A_Vorderdeckel.jpg"
quality="DEFAULT"/>
                    <pgImage ID="fileminplus00001" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/2/000_A_Vorderdeckel.jpg"
quality="MINPLUS"/>
                    <pgImage ID="filemin00001" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/1/000_A_Vorderdeckel.jpg"
quality="MIN"/>
                    <pgImage ID="filethumb00001" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/thumb/000_A_Vorderdeckel.jpg"
quality="THUMBS"/>
            </page>
            <page>
                    <pgFoliation>Vorderspiegel</pgFoliation>
```

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```
        <pgImage ID="filedefaultplus00002" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/4/000_A_Vorderspiegel.jpg"
quality="DEFAULTPLUS"/>
        <pgImage ID="filedefault00002" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/3/000_A_Vorderspiegel.jpg"
quality="DEFAULT"/>
        <pgImage ID="fileminplus00002" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/2/000_A_Vorderspiegel.jpg"
quality="MINPLUS"/>
        <pgImage ID="filemin00002" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/1/000_A_Vorderspiegel.jpg"
quality="MIN"/>
        <pgImage ID="filethumb00002" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/thumb/000_A_Vorderspiegel.jpg"
quality="THUMBS"/>
    </page>
    <page>
        <pgFoliation>1ar</pgFoliation>
        <pgImage ID="filedefaultplus00003" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/4/000_B_1ar.jpg"
quality="DEFAULTPLUS"/>
        <pgImage ID="filedefault00003" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/3/000_B_1ar.jpg" quality="DEFAULT"/>
        <pgImage ID="fileminplus00003" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/2/000_B_1ar.jpg" quality="MINPLUS"/>
        <pgImage ID="filemin00003" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/1/000_B_1ar.jpg" quality="MIN"/>
        <pgImage ID="filethumb00003" href="http://diglit.ub.uni-
heidelberg.de/diglitData/image/cpg108/thumb/000_B_1ar.jpg"
quality="THUMBS"/>
    </page>
.........
.........
.........
</manuscript>
```

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Heidelberg University Library – TEI P5

The following example demonstrates the record as will be presented in the Manuscriptorium
platform after the migration to TEI P5 will be completed. The TEI P5 structure is a result of
XSL transformation above the same input metadata.

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The final structure may differ according to the ongoing discussions with the technical partners of the ENRICH project.

The latest information on TEI P5 migration of the Manuscriptorium platform may be found on the ENRICH project website.