The Standardization Survival Kit (SSK)

Bringing best practices to research communities in the Humanities

PARTHENOS

What are standards?

3 keywords

- They express a **consensus**
- They are published and easily **accessible**
- They are **maintained**

Data formats

- XML : https://www.w3.org/TR/xml/
- TIFF : ISO 12639:1998

Protocols

- ISO 11554:2017 : Test methods for laser beam power, energy and temporal characteristics

What are standards?

Present at each step of the research process (examples)

- **Production**: ALTO XML, standard for recording layout and logical structure of OCRed text;
- **Processing**: Linguistic annotation encoded in XML TEI (Text Encoding Initiative);
- **Archiving**: OAIS (Open Archival Information System, ISO 14721:2012) => conceptual model dedicated to the management, archiving and long-term preservation of digital documents.

Parthenos & the SSK

Initial goal of the ***Standardization Survival Kit*** in **PARTHENOS** :

Support and provide expertise to researchers in their use of standards

Which communities?

- Humanities
- Social Sciences
- Heritage Science

Parthenos & the SSK

Positive context of an European project:

- **Diversity**: many experts from different disciplines
- **Synergy**: willingness to cooperate

⇒ Opportunity to build use cases, inspired from real life.

Parthenos & the SSK

Development team

Inria ALMAnaCH

- Laurent Romary (DR, WP leader, supervisor)
- Marie Puren, Charles Riondet (project management, data model)
- Dorian Seillier (UI/UX Design)
- Lionel Tadjou, Damien Biabiany (development web)

Iterations, beta tests

PARTHENOS WP4 on Standardization:

- Klaus Illmayer (OEAW),
- Karolien Verbrugge (NIOD),
- Roberta Giacomi (SISMEL),
- Panos Siozos (FORTH),
- and many more

Concept Evolution

1. **Support and provide expertise to researchers in their use of standards;**
2. Give context to standards;
3. Link them to a concrete research activity (TaDirah – Taxonomy of Digital Research Activities in the Humanities);
4. Link activities between them –> Describe a research process built on the use of standards.

Concept Evolution

Not every research step is related to a standard:

- Ethics and legal issues;
- Evaluation and comparison of results;
- …

But the notion of **Best practices** is always relevant

Concept Evolution

When standards are protocols :

- Normative texts are very formal documents, difficult to read;
- A protocol = A suite of tasks using tools and techniques.

Concept Evolution

1. Support and provide expertise to researchers in their use of standards;
2. Give context to standards;
3. Link them to a concrete research activity ([TaDirah – Taxonomy of Digital Research Activities in the Humanities]);
4. Link activities between them -> Describe a research process built on the use of standards.
5. **A platform for:**
   a. **Documenting research best practices in digital environment**
   b. **"Human readable" expression of protocol standards**

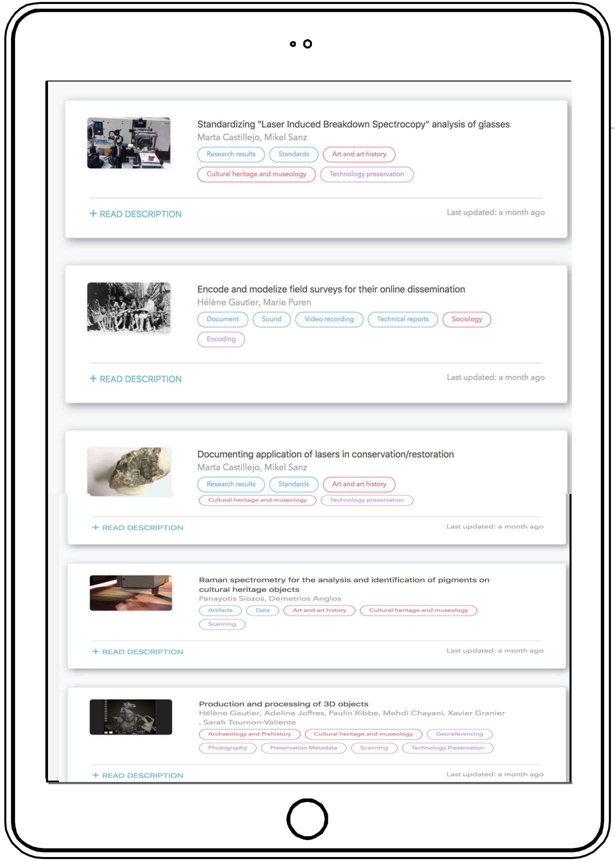
In PARTHENOS and beyond

Propose a pleasant, sustainable and adaptable service

- UI/UX designer
- "agile" method: brainstorming, user/usability tests
- "soft" modeling of data
- Meet the potential user communities.

The scenarios

Providing **contextual information** and **relevant examples** on how standards can be applied in a given research project.



Standardizing "Laser Induced Breakdown Spectrocopy" analysis of glasses
Marta Castillejo, Mikel Sanz
Research results · Standards · Art and art history · Cultural heritage and museology · Technology preservation
+ READ DESCRIPTION
Last updated: a month ago

Encode and modelize field surveys for their online dissemination
Hélène Gautier, Marie Puren
Document · Sound · Video recording · Technical reports · Sociology · Encoding
+ READ DESCRIPTION
Last updated: a month ago

Documenting application of lasers in conservation/restoration
Marta Castillejo, Mikel Sanz
Research results · Standards · Art and art history · Cultural heritage and museology · Technology preservation
+ READ DESCRIPTION
Last updated: a month ago

Raman spectrometry for the analysis and identification of pigments on cultural heritage objects
Panayotis Siozos, Demetrios Anglos
Artifacts · Data · Art and art history · Cultural heritage and museology · Scanning
+ READ DESCRIPTION
Last updated: a month ago

Production and processing of 3D objects
Hélène Gautier, Adeline Joffres, Paulin Ribbe, Mehdi Chayani, Xavier Granier , Sarah Tournon-Valiente
Archaeology and Prehistory · Cultural heritage and museology · Georeferencing · Photography · Preservation Metadata · Scanning · Technology Preservation
+ READ DESCRIPTION
Last updated: a month ago

Three layers

Scenario

A complete and generic research use case composed of several steps to be followed.

Step

A unique task to be performed inside a scenario with the help and recommendation of one or several resources.

Resource

A standardized tool / service / document guiding the researcher in her/his tasks completion.

3-level Structure

Scenario description (*techniques, disciplines, objets)*

1. Step description *(activities, standards)*
   a. *resource*
   b. *resource*
2. Step description *(activities, standards)*
   a. *resource*
   b. *resource*
3. Step description *(activities, standards)*
   a. *etc.*

Resources about standards

Standards documentation (ISO, TEI)

Official publications and reports (D4Science, HAL, Zenodo)

Documentation

Reference libraries organised by domains and standards

Maintenance with Zotero

Bibliography

Code snippets (GitHub)

Tools & services (D4Science)

Technical resources

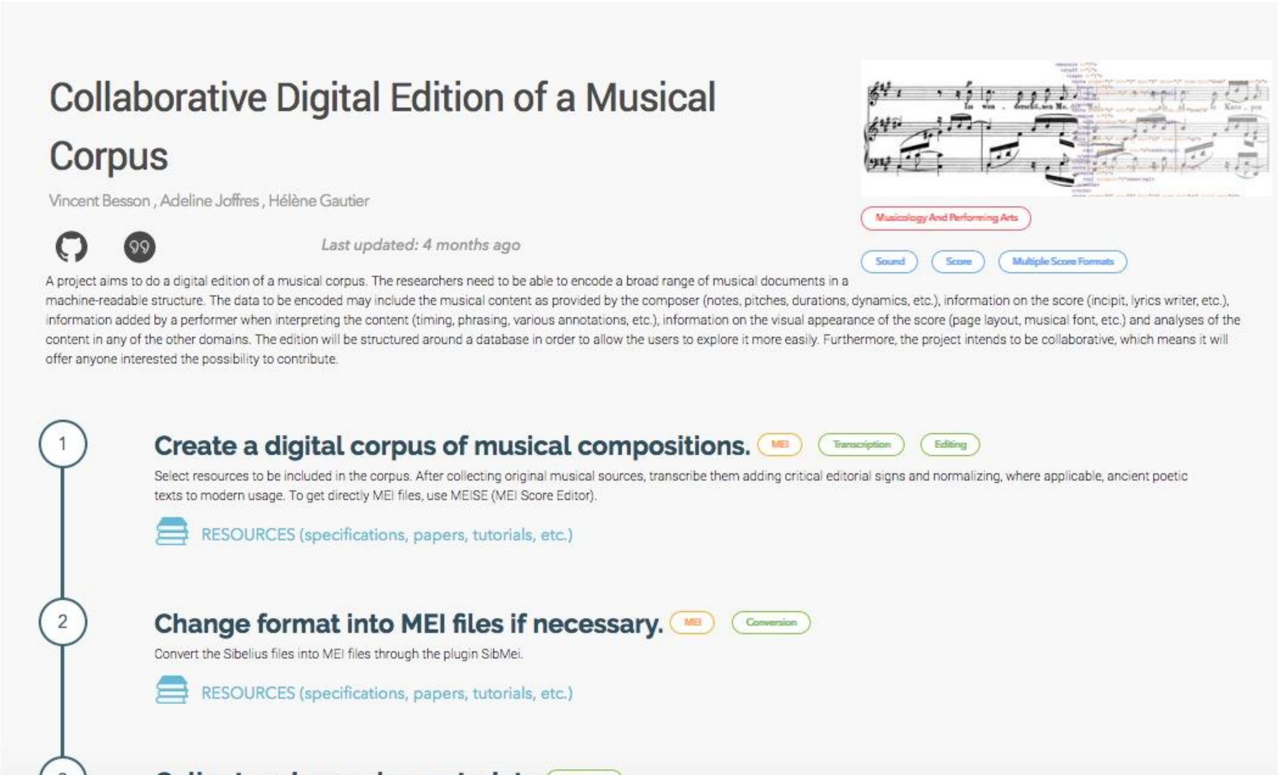
Wikis

Blog posts (Hypotheses.org)

Discussion lists

User communities

A high-level research guide



Collaborative Digital Edition of a Musical Corpus

Vincent Besson , Adeline Joffres , Hélène Gautier

Last updated: 4 months ago

A project aims to do a digital edition of a musical corpus. The researchers need to be able to encode a broad range of musical documents in a machine-readable structure. The data to be encoded may include the musical content as provided by the composer (notes, pitches, durations, dynamics, etc.), information on the score (incipit, lyrics writer, etc.), information added by a performer when interpreting the content (timing, phrasing, various annotations, etc.), information on the visual appearance of the score (page layout, musical font, etc.) and analyses of the content in any of the other domains. The edition will be structured around a database in order to allow the users to explore it more easily. Furthermore, the project intends to be collaborative, which means it will offer anyone interested the possibility to contribute.

1 **Create a digital corpus of musical compositions.** MEI Transcription Editing

Select resources to be included in the corpus. After collecting original musical sources, transcribe them adding critical editorial signs and normalizing, where applicable, ancient poetic texts to modern usage. To get directly MEI files, use MEISE (MEI Score Editor).

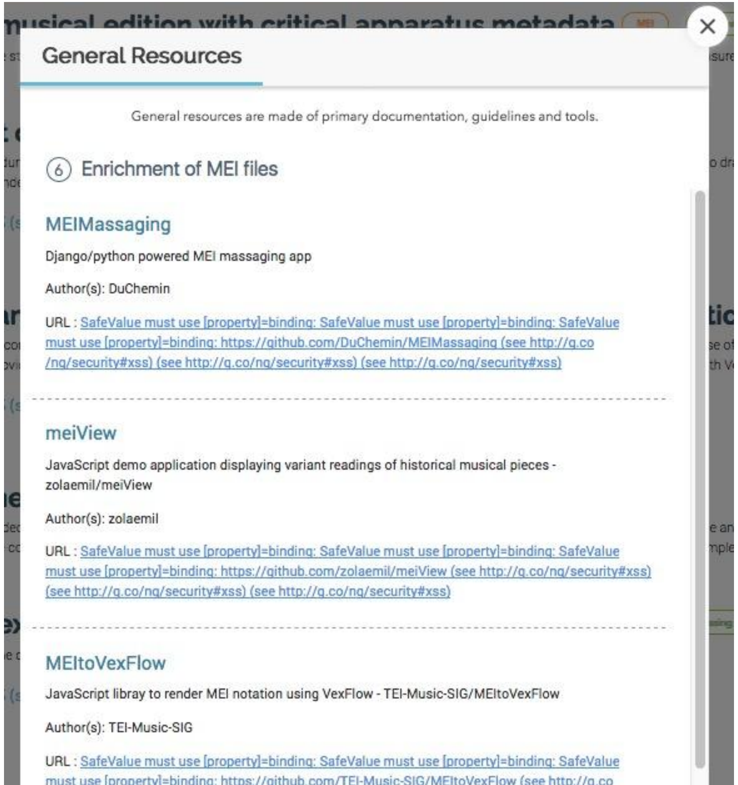
RESOURCES (specifications, papers, tutorials, etc.)

2 **Change format into MEI files if necessary.** MEI Conversion

Convert the Sibelius files into MEI files through the plugin SibMei.

RESOURCES (specifications, papers, tutorials, etc.)

Resources and best practices



musical edition with critical apparatus metadata

General Resources

General resources are made of primary documentation, guidelines and tools.

6 Enrichment of MEI files

MEIMassaging

Django/python powered MEI massaging app

Author(s): DuChemin

URL : SafeValue must use [property]=binding: SafeValue must use [property]=binding: SafeValue must use [property]=binding: https://github.com/DuChemin/MEIMassaging (see http://g.co/ng/security#xss) (see http://g.co/ng/security#xss) (see http://g.co/ng/security#xss)

meiView

JavaScript demo application displaying variant readings of historical musical pieces - zolaemil/meiView

Author(s): zolaemil

URL : SafeValue must use [property]=binding: SafeValue must use [property]=binding: SafeValue must use [property]=binding: https://github.com/zolaemil/meiView (see http://g.co/ng/security#xss) (see http://g.co/ng/security#xss) (see http://g.co/ng/security#xss)

MEItoVexFlow

JavaScript libray to render MEI notation using VexFlow - TEI-Music-SIG/MEItoVexFlow

Author(s): TEI-Music-SIG

URL : SafeValue must use [property]=binding: SafeValue must use [property]=binding: SafeValue must use [property]=binding: https://github.com/TEI-Music-SIG/MEItoVexFlow (see http://g.co

Easy-to-use & collaborative platform

- Consult and follow the guidelines expressed in the scenarios
- Propose new scenarios

Why contributing ?

- Make your research project align with the best practices in your community
- Get peer review and visibility
- Share a project in another form than the usual blog/article (a new way to disseminate your work)

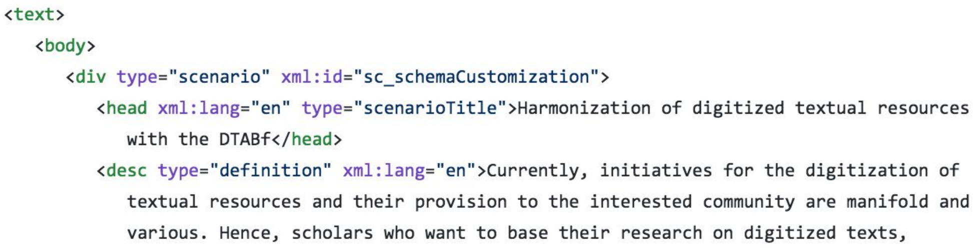
Coherence with our principles

The SSK, a 100% standards web app

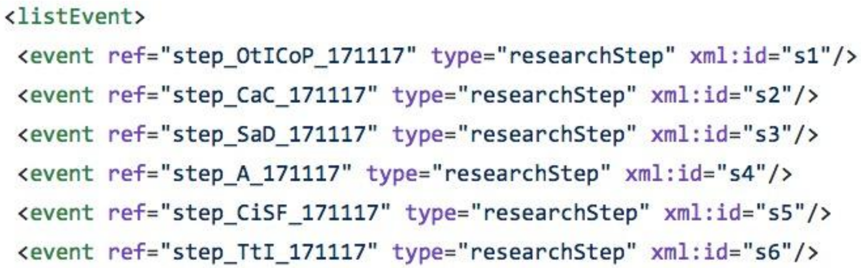
Scenarios in TEI

The scenarios are described using the TEI format (Text Encoding Initiative). All the information displayed within the SSK proceed from TEI files.

http://github.com/ParthenosWP4/SSK/tree/master



```
<text>
   <body>
      <div type="scenario" xml:id="sc_schemaCustomization">
         <head xml:lang="en" type="scenarioTitle">Harmonization of digitized textual resources
            with the DTABf</head>
         <desc type="definition" xml:lang="en">Currently, initiatives for the digitization of
            textual resources and their provision to the interested community are manifold and
            various. Hence, scholars who want to base their research on digitized texts,
```

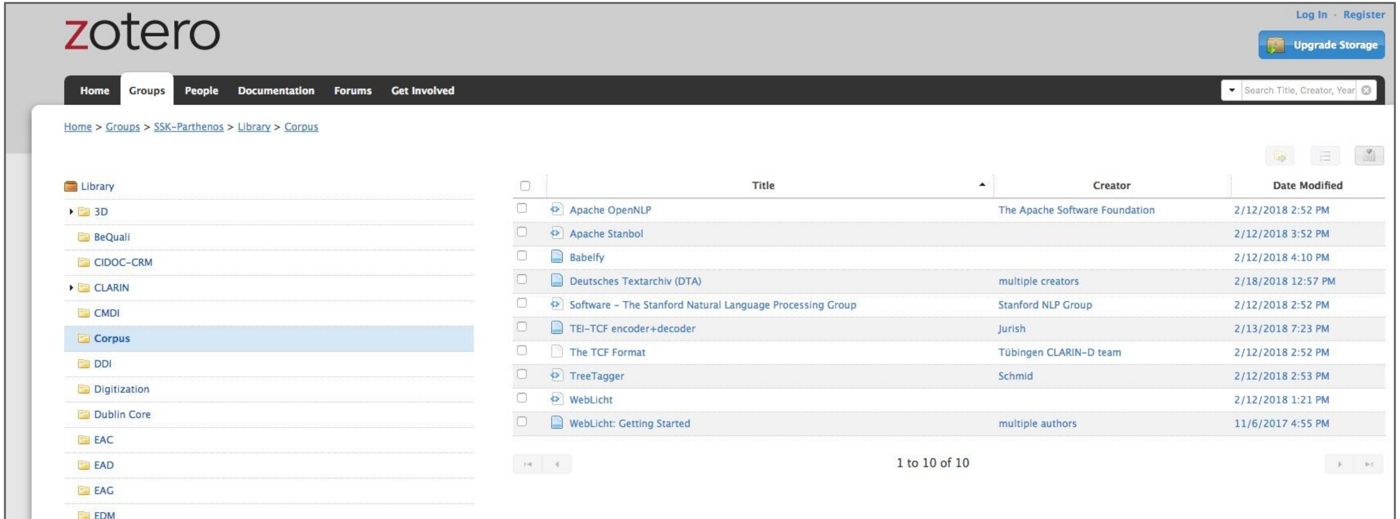


```
<listEvent>
 <event ref="step_OtICoP_171117" type="researchStep" xml:id="s1"/>
 <event ref="step_CaC_171117" type="researchStep" xml:id="s2"/>
 <event ref="step_SaD_171117" type="researchStep" xml:id="s3"/>
 <event ref="step_A_171117" type="researchStep" xml:id="s4"/>
 <event ref="step_CiSF_171117" type="researchStep" xml:id="s5"/>
 <event ref="step_TtI_171117" type="researchStep" xml:id="s6"/>
```

Managing resources with bibliographic standards

All the references are managed by the open source management software Zotero, and can be found in the a dedicated library.

https://www.zotero.org/groups/427927/ssk-parthenos/



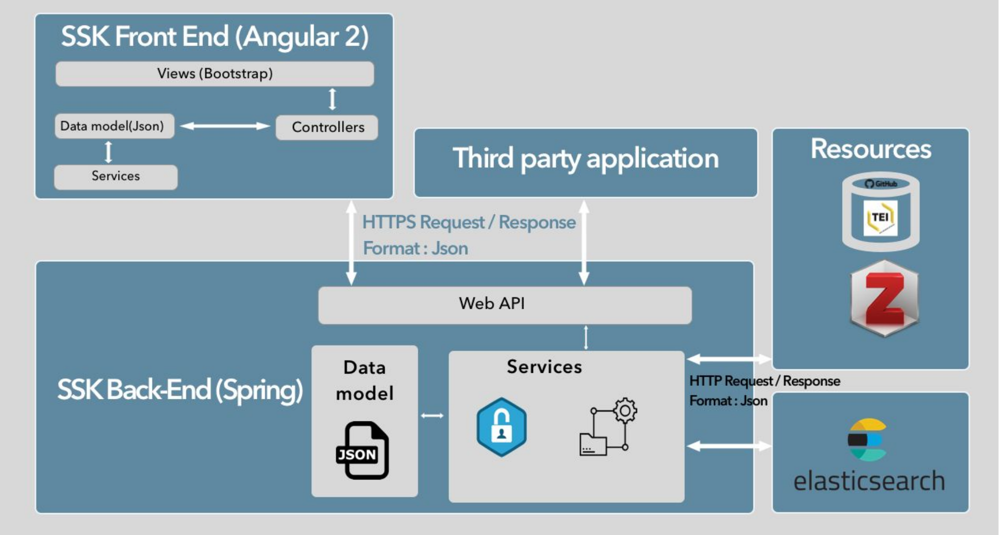
Home > Groups > SSK-Parthenos > Library > Corpus

□	Title	Creator	Date Modified
□	Apache OpenNLP	The Apache Software Foundation	2/12/2018 2:52 PM
□	Apache Stanbol		2/12/2018 3:52 PM
□	Babelfy		2/12/2018 4:10 PM
□	Deutsches Textarchiv (DTA)	multiple creators	2/18/2018 12:57 PM
□	Software - The Stanford Natural Language Processing Group	Stanford NLP Group	2/12/2018 2:52 PM
□	TEI-TCF encoder+decoder	Jurish	2/13/2018 7:23 PM
□	The TCF Format	Tübingen CLARIN-D team	2/12/2018 2:52 PM
□	TreeTagger	Schmid	2/12/2018 2:53 PM
□	WebLicht		2/12/2018 1:21 PM
□	WebLicht: Getting Started	multiple authors	11/6/2017 4:55 PM

1 to 10 of 10

RESTful architecture

http://github.com/ParthenosWP4/SSK/tree/dev



- Flexible, easy to deploy and maintain architecture
- Independent entities communicating via REST services.

SSK data in details

Same model for describing scenarios and steps

Information
Authors
Title
Description
Keywords

SSK data in details

Information	*Tei element*
Authors	titleStmt/author/
Title	head
Description	desc type="definition"
Keywords	desc type="terms"

SSK data in details

Same model for describing scenarios and steps

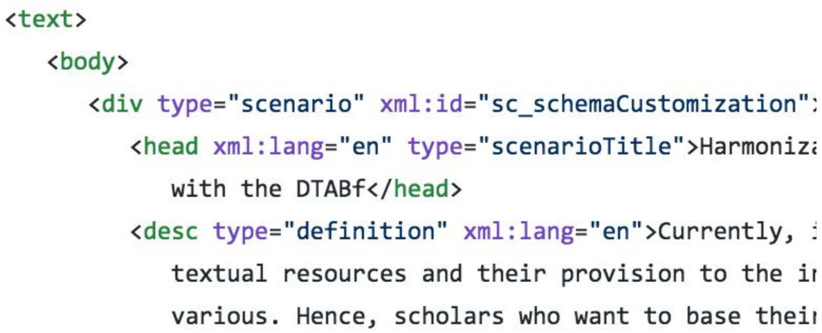
But in different contexts

The scenarios description is "above" the steps description

Scenarios in TEI

The scenarios are described using the TEI format (Text Encoding Initiative). All the information displayed within the SSK proceed from TEI files.

A scenario is a list of events (**<tei:listEvent>**), each step in a scenario is an event (**<tei:event>**).



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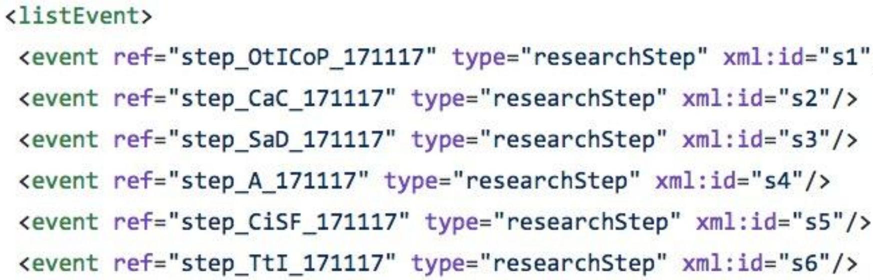
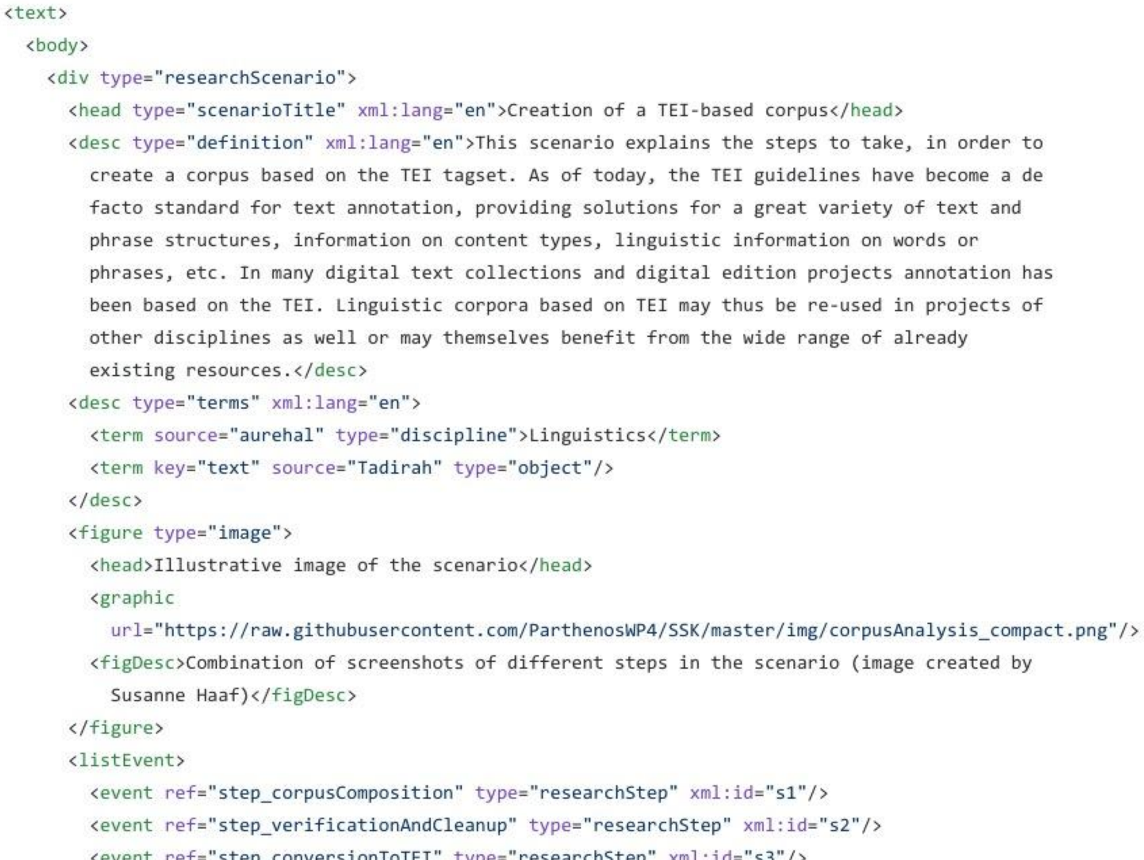
            various. Hence, scholars who want to base their
```



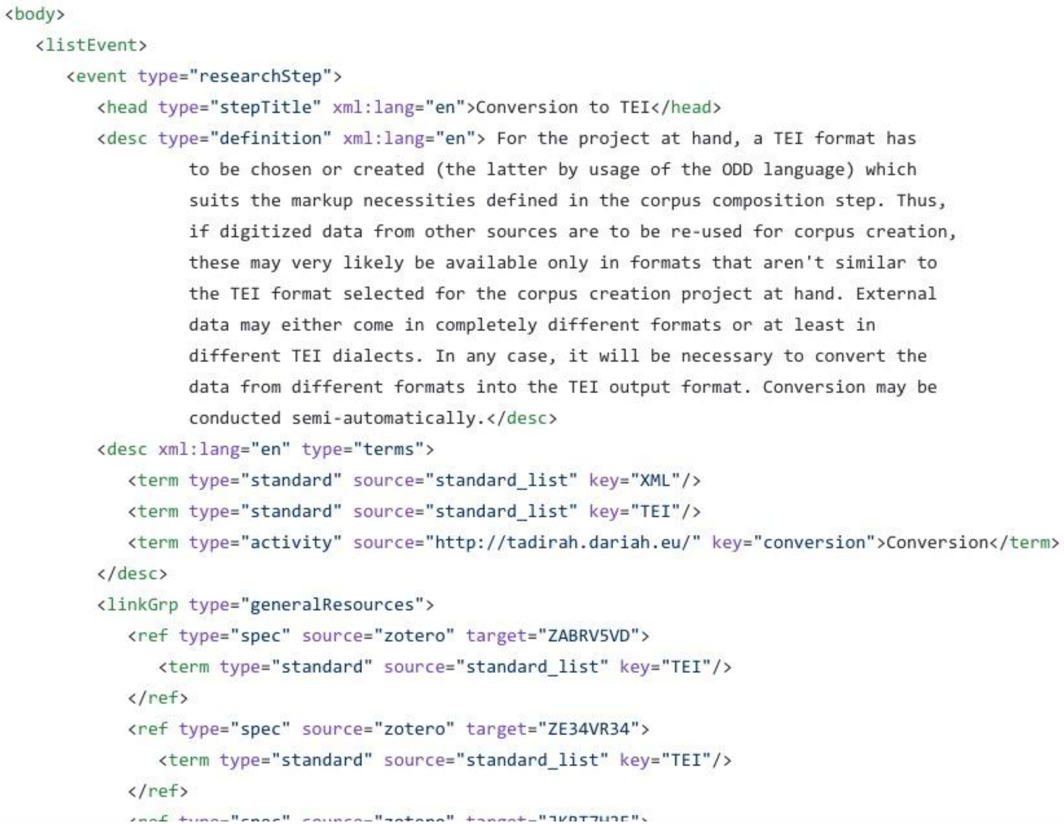
```
<listEvent>
 <event ref="step_OtICoP_171117" type="researchStep" xml:id="s1"
 <event ref="step_CaC_171117" type="researchStep" xml:id="s2"/>
 <event ref="step_SaD_171117" type="researchStep" xml:id="s3"/>
 <event ref="step_A_171117" type="researchStep" xml:id="s4"/>
 <event ref="step_CiSF_171117" type="researchStep" xml:id="s5"/>
 <event ref="step_TtI_171117" type="researchStep" xml:id="s6"/>
```

Scenarios in TEI



```
<text>
  <body>
    <div type="researchScenario">
      <head type="scenarioTitle" xml:lang="en">Creation of a TEI-based corpus</head>
      <desc type="definition" xml:lang="en">This scenario explains the steps to take, in order to
        create a corpus based on the TEI tagset. As of today, the TEI guidelines have become a de
        facto standard for text annotation, providing solutions for a great variety of text and
        phrase structures, information on content types, linguistic information on words or
        phrases, etc. In many digital text collections and digital edition projects annotation has
        been based on the TEI. Linguistic corpora based on TEI may thus be re-used in projects of
        other disciplines as well or may themselves benefit from the wide range of already
        existing resources.</desc>
      <desc type="terms" xml:lang="en">
        <term source="aurehal" type="discipline">Linguistics</term>
        <term key="text" source="Tadirah" type="object"/>
      </desc>
      <figure type="image">
        <head>Illustrative image of the scenario</head>
        <graphic
          url="https://raw.githubusercontent.com/ParthenosWP4/SSK/master/img/corpusAnalysis_compact.png"/>
        <figDesc>Combination of screenshots of different steps in the scenario (image created by
          Susanne Haaf)</figDesc>
      </figure>
      <listEvent>
        <event ref="step_corpusComposition" type="researchStep" xml:id="s1"/>
        <event ref="step_verificationAndCleanup" type="researchStep" xml:id="s2"/>
        <event ref="step_conversionToTEI" type="researchStep" xml:id="s3"/>
```

Steps in TEI



```
<body>
   <listEvent>
      <event type="researchStep">
         <head type="stepTitle" xml:lang="en">Conversion to TEI</head>
         <desc type="definition" xml:lang="en"> For the project at hand, a TEI format has
                  to be chosen or created (the latter by usage of the ODD language) which
                  suits the markup necessities defined in the corpus composition step. Thus,
                  if digitized data from other sources are to be re-used for corpus creation,
                  these may very likely be available only in formats that aren't similar to
                  the TEI format selected for the corpus creation project at hand. External
                  data may either come in completely different formats or at least in
                  different TEI dialects. In any case, it will be necessary to convert the
                  data from different formats into the TEI output format. Conversion may be
                  conducted semi-automatically.</desc>
         <desc xml:lang="en" type="terms">
            <term type="standard" source="standard_list" key="XML"/>
            <term type="standard" source="standard_list" key="TEI"/>
            <term type="activity" source="http://tadirah.dariah.eu/" key="conversion">Conversion</term>
         </desc>
         <linkGrp type="generalResources">
            <ref type="spec" source="zotero" target="ZABRV5VD">
               <term type="standard" source="standard_list" key="TEI"/>
            </ref>
            <ref type="spec" source="zotero" target="ZE34VR34">
               <term type="standard" source="standard_list" key="TEI"/>
            </ref>
            <ref type="spec" source="zotero" target="JKBI7H2F">
```

Keywords in TEI

<term> element. Doc: https://ssk.readthedocs.io/en/latest/2_ssktei.html#term-element

@type	activity, technique, object	standard	discipline
@source	tadirah	ssk	aurehal
@key **See glossary**	ex: Annotating Encoding Manuscript	ALTO-XML CMDI EAD	Communication sciences Geography Literature

```
<term type="activity" source="tadirah"
key="Encoding"/>
```

Resources in TEI

Inside <linkGrp> elements. Doc:
https://ssk.readthedocs.io/en/latest/2_ssktei.html#linkGrp-element

@type	generalResources	projectResources	projectResources
@source		CODATA	DTA
@corresp		http://www.codata.org	http://www.deutschestextarchiv.de

```
<linkGrp type="projectResources" source="DTA"
corresp="http://www.deutschestextarchiv.de"/>
```

Resources in TEI

<ref> element. Doc: https://ssk.readthedocs.io/en/latest/2_ssktei.html#ref-element

@type	spec	service	paper
@source	zotero	zotero	zotero
@target **See Zotero**	T7672NJ8	8BD6FDKR	DVKJRRVU

```
<ref type="spec" source="zotero" key="T7672NJ8"/>
```

What's next? (early 2019)

- Browsing **bibliography**
- Creating an **account** :
  - to manage **bookmarks**
  - to customize **scenarios** (by combining existing steps from SSK's research scenarios)
- **Contributing** directly on the interface:
  - creation
  - edition
  - customization
- Accessing a **multilingual** interface

Sustainability

- Open-source code and GPL licence.
- Underlying data described in TEI and hosted on GitHub under the licence CC-BY
- Bibliographical resources are part of a Zotero open library.
- DARIAH working groups: take over intellectual maintenance.

Test the SSK!

http://ssk.huma-num.fr

http://ssk.readthedocs.io

ssk@inria.fr