Cantus Network – eine semantisch angereicherte digitale Edition von Libri ordinarii der Kirchenprovinz Salzburg

Introduction

For many centuries, the metropolitan province of Salzburg played a key role in the cultural history of Austria. The digital availability of the many surviving liturgical musical sources which form an important part of this cultural heritage is therefore of great importance. This research project aims at investigating the records that survived as manuscripts and describe the practice of liturgical and musical acts of worship. Liturgical ordinals, called libri ordinarii (LOi), are key sources for this transmission, as they include a short form of the entire rite of a diocese or a monastery.

This presentation examines the technical background to the project and specifically the creation of semantic web knowledge representations of the liturgical occasions/functions and the chants based on existing relational databases.

The object: Liturgy and music in the medieval metropolitan province of Salzburg

A liber ordinarius usually includes all the information required by an individual institution (church,

monastery) or a group (diocese, group of monasteries) for their services. This includes the incipits of chants, readings and prayers for the liturgy of the hours, mass and processions as well as rubrics that provide instructions on how and when particular liturgical acts should be carried out.

The rubrics often contain indications of how the chant is to be performed and are thus able to provide important information on chant performance practice. However, this information cannot be utilized without in-depth examination of the LOi.

The aim: Reconstruct the development of the liturgy in the Salzburg metropolitan province by Semantic Enrichment

The research project's aim is to reconstruct and produce a synoptic study of the emergence and development of the liturgy in the Salzburg metropolitan province, based on the surviving LOi in the region. The encoding in TEI allows a detailed transcription of textual phenomena and the reference between texts. This is the basis for an in-depth analysis of the different traditions and variants of the LOi.

The LOi as a textual genre need enriched editions which cannot be fully provided in printed forms. The project will provide the multi-layered texts and facsimiles digitally using technologies like IIIF for easy exchange of the digitized books. An ontology will be set on top of the edition. This resource will be of particular interest for the international efforts on cataloguing the manuscript heritage and research on the history of liturgy which will be able to refer to the ontology via Semantic Web technologies and Linked Open Data. The data from the existing relational databases cantusplanus.at and cantusdatabase.org will be converted into semantic web knowledge representations (SKOS, OWL). With the usage of these standards we can secure the long term use of the data created.

The long term perspective: The technical infrastructure

The digitized and enriched objects will be managed, published and long-time archived in GAMS (Geisteswissenschaftliches Asset Management System). GAMS is an OAIS-compliant Asset Management System based on the Open Source software FEDORA and further developed by the Austrian Centre for Digital Humanities at the University of Graz.

GAMS focuses on the long-term availability and flexible use of digital content. The repository builds upon a webservice-based (SOAP, REST), platform-independent and distributed system architecture, a largely XML based content strategy, the support of XML based import and export standards (METS, DIDL, etc.) and the use of standardized data and metadata formats. All data objects in the system receive a persistent identifier (PID) and can thus be explicitly cited.

During the ingest process of the objects into the repository, the TEI documents can be semantically enriched through content-specific controlled vocabularies. Information will be extracted from the content document, for instance Dublin Core metadata or user-generated RDF triples for subsequent processing like complex search requests, the generation of indices and data visualization. For the storage and retrieval of RDF triples, the triplestore Blazegraph is accessed through a web service.

The manuscripts in the project will be presented with an interface which allows navigating the data in the ways mentioned above, including elaborate multi-criteria search support by drill down methods. GAMS includes an efficient Imageserver (IIPImage) which allows seamless navigation and zoom in high resolution images.