SemAntic

ANNOTATION TOOL

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SemAntic, a web-based application for semantically annotating images. It accepts a variety of image formats, enables the user to mark parts of the image using circular, rectangular and polygonal regions and to associate them with user loaded RDF ontology classes, and finally, export the resulting annotations in JSON according to the W3C Recommendation Web Annotation Data Model.

Context

SemAntic was developed in the context of Neoclassica, in order to create annotations used for automated image segmentation of material culture form the Age of Classicism (ca. 1760-1860), according to the specifically developed Neoclassica domain ontology. Basic requirements included built-in support for ontologies, polygonal annotations, and standardized export format.
However, **SemAntic** is conceived as a generic tool to be used with any RDF Ontology, independently of the application domain.

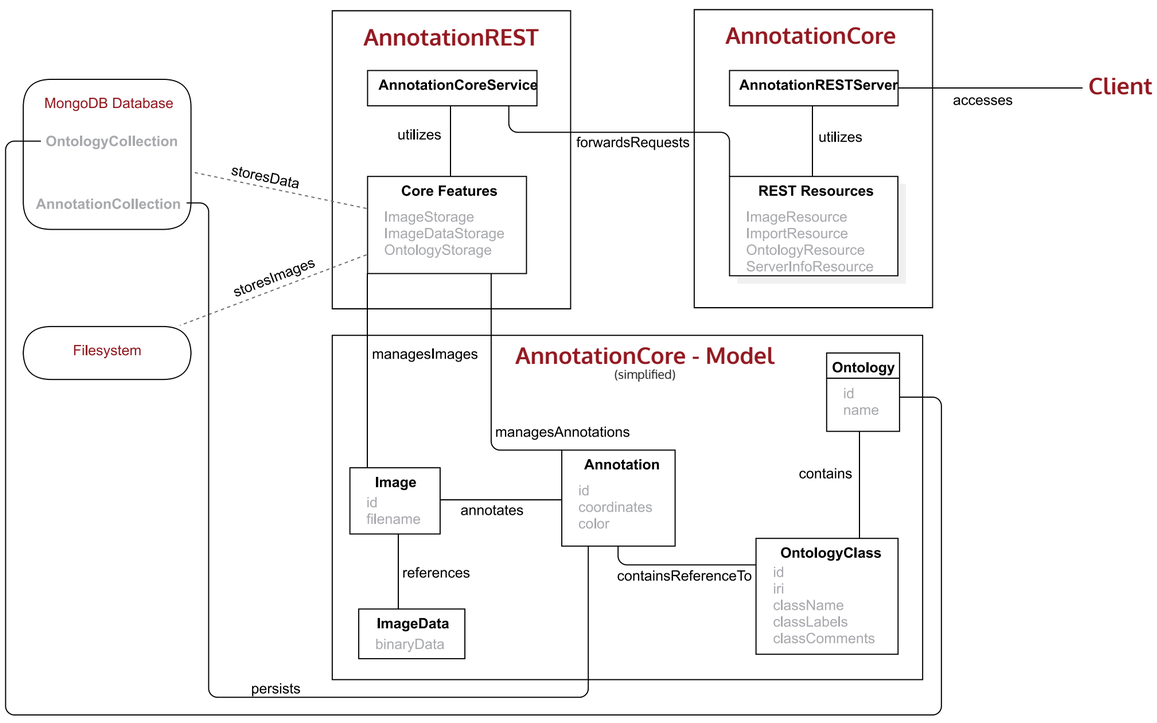

Fig. 1 | Architecture

Architecture

SemAntic is composed of

- **a backend server component** written in Java. Data persistence for storing the ontology and annotation data is realized through a MongoDB database

- **a web front-end,** based on Bootstrap and VueJS frameworks with the component used for drawing the actual annotations being based on the Fabric. jscanvas library.

The current high-level server architecture is illustrated in Figure 1

Functions

- browse ontologies in a tree view
- class labels in multiple languages
- search function for class names, labels in all languages used, and class definitions
- marking circular, rectangular and polygonal regions
- support for resizing and moving of annotation regions
- creating copies of existing annotations (regions and/or assigned classes)
- automatic alignment of existing annotations with the loaded ontology
- re-aligning annotation to updated ontology
- easily extendable import function for annotations created using other software
- export function containing the binary image and the annotation data in JSON-LD

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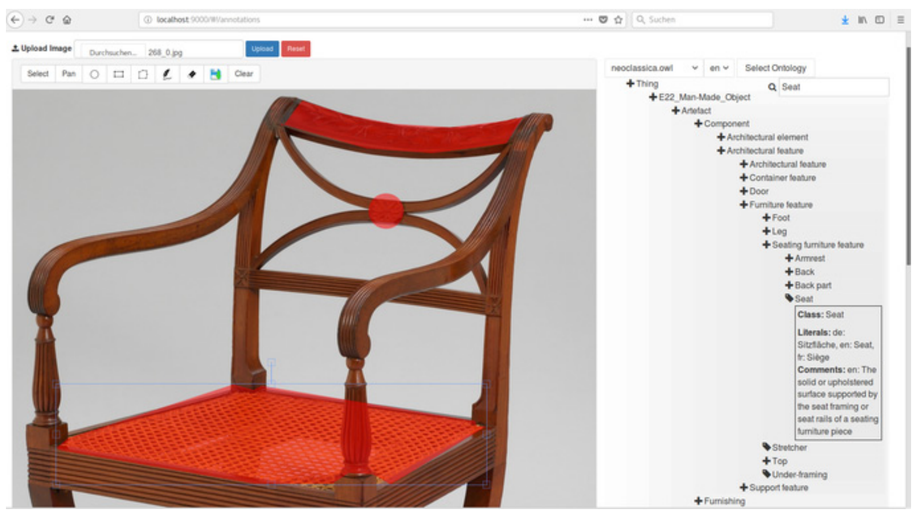

Fig. 2 | Web interface